United States Department of the Interior
Bureau of Land Management

Burns District Office
28910 Highway 20 West
Hines, Oregon 97738

August 2003

Draft Resource Management Plan and Environmental Impact Statement

Volume 1 [of 2] - *Chapters 1 through 4 of Main Text*

Andrews Management Unit/Steens Mountain Cooperative Management and Protection Area

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. Administration.

Photo of Pueblo Mountain by Mark Armstrong

U. S. Department of the Interior
Bureau of Land Management

Draft Andrews Management Unit/ Steens Mountain Cooperative Management and Protection Area Resource Management Plan and Environmental Impact Statement

Prepared by

Burns District Office
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August 2003

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Draft Andrews Management Unit/Steens Mountain Cooperative Management and Protection Area Resource Management Plan/Environmental Impact Statement

1. Responsible Agency: United States Department of the Interior, Bureau of Land Management

2. Draft (X) Final ( )

3. Administrative Action (X) Legislative Action ( )

4. Abstract: The Steens Mountain Cooperative Management and Protection Act of 2000 created the Steens Mountain Cooperative Management and Protection Area (CMPA). A management plan is in preparation for the CMPA and the surrounding Andrews Management Unit (AMU), collectively called the Planning Area. The Draft Resource Management Plan (RMP)/Environmental Impact Statement (EIS) for the AMU/CMPA has identified five alternatives for managing approximately 1,649,470 acres of public lands, 1,221,314 acres of which are in the AMU and 428,156 acres in the CMPA, located primarily in Harney County, southeastern Oregon (Planning Area). Information provided by BLM personnel, other agencies and organizations, and the public have helped to develop the five alternatives described and analyzed in this Draft RMP/EIS. Alternative A is the continuation of present management. Alternative B minimizes human intervention in the ecosystem and minimizes commodity production. Alternative C emphasizes resource values and the functioning of natural systems. Alternative D, the agency preferred alternative, provides a balance with a high level of natural resource protection and improvement in ecological conditions while allowing commodity production. Alternative E emphasizes commodity production or extraction

Major RMP issues include the following: 1) management of the Steens Mountain Wilderness Area; 2) management of special designated areas; 3) management of riparian and wetland areas; 4) management of upland habitats; management of recreation in the Planning Area; 5) management of transportation in the CMPA; 6) and support for local tribes and communities.

The Draft RMP/EIS incorporates the scientific findings and assessments from the Interior Columbia Basin Ecosystem Management Project that are applicable to the Planning Area.

5. Date comments must be received: The close of the 90-day comment period will be announced in news releases, legal notices, individual mailings, and on the district planning web page (www.or.blm.gov/Burns/Planning/Andrews_Steens_RMP/Andrews_Steens_RMP-EIS.html)

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1610 (020) N

September 30, 2003

Dear Interested Party:

You are invited to assist the Bureau of Land Management (BLM) in a planning process that may be important to you and your interests. Enclosed for your review and comment is the Draft Resource Management Plan/Environmental Impact Statement (RMP/EIS) for the Andrews Management Unit/Steens Mountain Cooperative Management and Protection Area (AMU/CMPA).

This planning effort has been undertaken to provide the Burns District with a comprehensive framework for managing the BLM-administered public land described in this document. The purpose is to plan for and manage public land use in accordance with the Federal Land Policy and Management Act of 1976, consistent with the principles of multiple-use and sustained yield, and in accordance with the Steens Mountain Cooperative Management and Protection Act of 2000.

The Planning Area addressed in this document is located in southeastern Oregon and includes approximately 1,649,470 acres of public land, 1,221,314 acres of which are in the AMU and 428,156 acres in the CMPA. The Planning Area is located primarily in Harney County, but also includes 108,348 acres of public land in Malheur County.

Five management alternatives have been identified, described, and analyzed in this draft plan, each with a different emphasis and each addressing the planning issues. Public comment played an important role in shaping both the issues and the alternatives. Suggestions received (between February 2002 and June 2003) from private individuals, interest groups, other governmental entities, the Steens Mountain Advisory Council, cooperating agencies (including Harney County, cities of Burns and Hines, Malheur National Wildlife Refuge, U.S. Fish and Wildlife Service Ecological Services, Oregon Department of Environmental Quality, Burns Paiute Tribe, Oregon Department of Fish and Wildlife, and the Southeast Oregon Resource Advisory Council) were thoroughly considered. These suggestions were utilized to seek a reasonable balance between the expressed desires of the public to emphasize the production of various commodity resources; to maintain the current flow of resources from public land; and to protect, maintain, and improve resource values. With these considerations in mind, the BLM has identified Alternative D as the agency's Preferred Alternative.

The end product of this planning process will be an RMP which will integrate resources and their uses into a multiple-use framework for management of the AMU/CMPA for approximately the next 20 years. The process will also result in an amendment to the Three Rivers Resource Area RMP for

that portion (53,436 acres) included in the CMPA. Your participation is essential to help guide the future management of public land.

Your review and comments are needed at this time to ensure that your concerns are adequately addressed in the planning process. A 90-day public comment period is being provided for review of this document. Public meetings will be held in Burns, Frenchglen, Bend, and Portland, Oregon, during the comment period. The comment period closing date and specific dates and locations of public meetings will be announced through the local media, newsletters, and the Burns District Planning Web site at www.or.blm.gov/Burns/Planning/Andrews_Steens_RMP/Andrews_Steens_RMP-EIS.html.

Written comments should be sent to Gary Foulkes, RMP Project Manager, Bureau of Land Management, 28910 Hwy 20 West, Hines, Oregon 97738, or you may comment via the Burns District Planning Web site at the above address. All written comments will be fully considered and evaluated in the preparation of the Proposed RMP and Final EIS. Additional copies of the document and other supporting records may be obtained by contacting Mr. Foulkes at the above address, or from the Web site.

Comments, including the names and addresses of respondents, will be available for public review at the Burns District Office during regular business hours 7:45 a.m. to 4:30 p.m., Monday through Friday, except holidays, and may be published as part of the Final EIS. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review, or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comments. Such requests will be honored to the extent allowed by law. Anonymous comments will not be considered. All submissions from organizations and businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be available for public inspection in their entirety.

We would appreciate your review of this document and your help in this planning effort. We look forward to your continued interest and participation. For additional information or clarification regarding this document or the planning process, please contact Mr. Foulkes at (541) 573-4541.

Sincerely,

Karla Bird

Karla Bird
Andrews Resource Area Field Manager

Enclosure (as stated)

**DRAFT ANDREWS MANAGEMENT UNIT/
STEENS MOUNTAIN COOPERATIVE MANAGEMENT AND
PROTECTION AREA RESOURCE MANAGEMENT PLAN AND
ENVIRONMENTAL IMPACT STATEMENT**

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ABBREVIATIONS AND ACRONYMS

Reader note: *Refer to the list below for abbreviations or acronyms that may be used in this document.*

ACRONYM	DEFINITION
ACECs	Areas of Critical Environmental Concern
AML	Appropriate Management Level
AMP	Allotment Management Plan
AMS	Analysis of the Management Situation
AMU	Andrews Management Unit / The Planning Area outside of the Steens Mountain CMPA
Andrews RA	Andrews Resource Area
APHIS	Agricultural Plant and Animal Health Inspection Service
AUM	Animal Unit Month
BCB	Back Country Byway
BLM	Bureau of Land Management
BMPs	Best Management Practices
Burns DO	Burns District Office
CAA	Clean Air Act
CCD	Census County Divisions
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMPA	Steens Mountain Cooperative Management and Protection Area
CWA	Clean Water Act
DEQ	Oregon Department of Environmental Quality
DRC	Desired Range of Conditions
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERMA	Extensive Recreation Management Areas
ESA	Endangered Species Act
ESI	Ecological Site Inventory
FAR	Functional At Risk
FLPMA	Federal Land Policy and Management Act
FMP	Fire Management Plan
GIS	Geographic Information System
HMAs	Herd Management Areas
HUC	Hydrologic Unit Codes
ICBEMP	Interior Columbia Basin Ecosystem Management Project
ID Team	BLM interdisciplinary team
IMP	Steens Mountain CMPA Interim Management Policy
Andrews MFP	Andrews Management Framework Plan
MOAs	Memorandums of Agreement
MOU	Memorandum of Understanding
NEA	Northwest Economic Associates
NEPA	National Environmental Policy Act
NSO	No surface occupancy
ODA	Oregon Department of Agriculture
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
OHV	Off-highway vehicle
ONHP	Oregon Natural Heritage Database Program
ORV	Outstandingly Remarkable Values
OWRD	Oregon Water Resources Department
PFC	Proper functioning condition
PILT	Payment In Lieu of Taxes
Planning Area	The Entire Andrews Ra and the Portion of the Three Rivers Resource Area within the Steens Mountain CMPA
PNC	Potential Natural Community
PRIA	Public Rangelands Improvement Act of 1978

Protocol	USFS and BLM protocol for addressing CWA Section 303(d) listed waters (1998)
R&PP	Recreation & Public Purpose
RAC	Southeast Oregon Resource Advisory Council
RCA	Riparian Conservation Area
RMP	Resource Management Plan
RNA	Research Natural Area
ROD	Record of Decision
ROW	right-of-way
RTR	Donner Und Blitzen Redband Trout Reserve
S&Gs	Standards and Guidelines
SBR	subbasin review
SEORMP	Southeastern Oregon Resource Management Plan
SIP	State Implementation Plan
SMAC	Steens Mountain Advisory Council
SRMA	Special Recreation Management Areas
SRP	Special Recreation Permit
Steens Act	The Steens Mountain Cooperative Management and Protection Act of 2000
Steens Loop	Steens Mountain Loop Road
T&E	Threatened and Endangered Species
Three Rivers RA	Three Rivers Resource Area
TMDL	Total Maximum Daily Loads
TNC	The Nature Conservancy
TNR	Temporary Nonrenewable
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRM	Visual Resource Management
WIS	Wilderness Information Specialist
WJMA	Wildland Juniper Management Area
WQRP	Water Quality Restoration Plan
WSA IMP	Interim Management Policy for Lands Under Wilderness Review
WSAs	Wilderness Study Areas
WSR	Wild and Scenic River
WSR Act	Wild and Scenic Rivers Act
WUI	Wildland urban interface
ybp	years before present

Summary and Readers' Guide

Introduction

The Draft Resource Management Plan (RMP)/Environmental Impact Statement (EIS) for the Andrews Management Unit/Steens Mountain Cooperative Management and Protection Area (AMU/CMPA) addresses options for future management of approximately 1,649,470 acres of public lands (Planning Area) (federal surface and federal mineral estate), 1,221,314 acres of which are in the AMU and 428,156 acres in the CMPA located primarily in Harney County, southeastern Oregon. This area of public land is managed by the Bureau of Land Management (BLM), Burns District Office (DO). The RMP/EIS addresses a spectrum of major issues and analyzes five alternatives to resolve these issues. These alternatives represent different combinations of resource allocations proposed for future management of the Planning Area. The RMP/EIS amends the Three Rivers RMP.

After the 90-day public comment period on the Draft AMU/CMPA RMP/EIS closes, the BLM will analyze all comments and publish a Proposed RMP/Final EIS. The public will have an opportunity to review the proposed plan and to protest decisions believed adverse to their interests. After resolution of any protests, the Records of Decision (RODs) (one for the AMU and one for the CMPA) will be issued along with the approved plans.

The approved AMU/CMPA RMPs will replace the existing management framework plans that currently guide management in the Burns DO. Valid decisions and guidance contained in these plans are brought forward and will be incorporated into the approved plans. In addition, advances in resource management science, changes in laws, regulations, and public views will also be considered. Uses of public land, decisions, and directions will be identified for management of resources including vegetation; special status species; water resources and watershed; fish; wildlife and wildlife habitat; grazing management; wild horses; special designated areas; cultural and paleontological resources; social and economic values; fire management; wilderness; wilderness study areas (WSAs); recreation; off-highway vehicles (OHVs); energy and minerals; lands and realty; and transportation. Table S.1 has been prepared as a comparison summary of potential resource impacts by alternative. The reader needs to realize that this is only a summary and is not the complete analysis. The complete analysis can be found in Chapter 4.

In addition to the Maps published in this document, a CD is available to the public, by request, that includes various additional resource maps that were published in the Analysis of the Management Situation (AMS) or prepared as supplemental information for the RMP/EIS. These additional maps are also available on the BLM's website. A list of these maps can be found in the Table of Contents. The BLM contact information and website address are included in the Dear Reader letter that is included in this RMP/EIS.

The following is a brief overview of the document to assist in your review and help you better understand the planning process.

Chapter 1

Chapter 1 identifies the purpose of and need for the plan, defines the Planning Area, and explains public participation in the planning process. This chapter identifies the planning criteria used as guidelines influencing all aspects of the process. These guidelines are based on law, regulation, and policy. Also included in this chapter is a description of the involvement of state, local, federal and tribal agencies, and governments. The issues developed through public participation and the planning process are listed along with the management considerations for resolving conflicts.

In addition, Chapter 1 also explains the relationship of this planning document to the Interior Columbia Basin Ecosystem Management Project (ICBEMP) supplemental EIS. The integrated scientific assessment, the supplemental Draft EIS, and the proposed ROD from ICBEMP and the Interior Columbia Basin Strategy were considered, and where applicable, incorporated throughout this document. The subbasin review process, which was identified by ICBEMP, is also explained in this chapter and in Appendix B.

Chapter 2

Chapter 2 presents the various management strategies for achieving the desired range of conditions. This planning document identifies management for the 20-year life of the plan. However, the long-term vision for accomplishing objectives may be 50 years or longer and may not be completely achieved under any alternative during the life of the plan.

There is also an overview of the alternatives and a description of the theme of each alternative. Five alternatives are identified with different intensities of resource uses and management direction to resolve identified conflicts and achieve the desired range of conditions:

Alternative A – No action;

Alternative B – Minimal commodity production;
Alternative C – Resource restoration and protection;
Alternative D – (Agency Preferred Alternative) Balance between commodity production and resource protection; and
Alternative E – Emphasize commodity production.

Table 2.1 presents a summary of the alternatives. The management goals, objectives and management actions to reach those goals and objectives are briefly described for each resource (issue) by alternative.

Each alternative is a complete land use plan that provides a framework for multiple use management of the full spectrum of resources present in the Planning Area. The resource management goals address the desired future conditions of the various resources; are based on law, regulation, and policy; and project the direction management would follow. Management goals and objectives are constant across all alternatives. Each alternative (except Alternative B) would meet the management goal(s) of the various resources; however, the means for meeting each goal, the rate at which they would be met, and the impacts to resources may differ among the alternatives.

The alternatives in this RMP/EIS are designed to provide general management guidance in most cases. Specific projects for a given area or resource will be detailed in future activity plans or site-specific proposals developed as part of interdisciplinary project planning or other means. These plans and processes address more precisely how a particular area or resource is to be managed and ensure compliance with the approved RMP's management direction. Additional National Environmental Policy Act (NEPA) analysis and documentation would be conducted as needed.

Chapter 3

Chapter 3 provides an overview of the Planning Area and describes the existing situation for each of the resource programs. It describes both the living and nonliving components that may be affected by the proposed actions. Other components of the environment that will not be affected by the proposed actions such as climate and physical characteristics are also described. Current management direction is briefly summarized for each program. Statistics such as acres, numbers, resource condition, and designations, etc., are presented in a number of tables. Applicable findings from the ICBEMP's integrated scientific assessment are also presented for the pertinent resources.

Chapter 4

Chapter 4 analyzes the effects of the management strategies (Chapter 2) on the existing condition (Chapter 3). A summary of this analysis is provided in Table S-1. There are several general assumptions listed at the beginning of the chapter that apply to all alternatives. Also, there are assumptions at the beginning of some specific resource programs to help guide the reader through the thought process.

Each resource program is analyzed by management goal and objective through each of the alternatives, followed by an overall comparison summary of resource effects across all the alternatives. At the end of the analysis of each resource program is a summary of the effects and a discussion of the cumulative effects of all actions across all alternatives. Effects analyzed include direct effects and indirect effects. Direct effects on a resource include those which would result from management actions proposed for that resource. Indirect effects on a resource include those which would result from actions proposed under a different resource.

Chapter 5

Chapter 5 summarizes key events in the consultation and coordination process prior to and during preparation of the Draft RMP/EIS. It also lists those agencies, organizations, and individuals who were contacted or provided input. Also listed are the specialists who prepared this plan, and the supporting technical specialists.

Chapter 6

Chapter 6 contains the glossary and references cited in the document to assist the reader in the review process.

Table S.1: Comparison Summary of Resource Impacts by Alternative

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
AIR QUALITY (Section 4.2)				
Potential to emit between 350 and 700 tons of particulates per year from wildland fires. Additional amount of particulates emitted from prescribed fires. Emissions from mining would be proportional to the number of operations.	Emissions from mining operations would not occur. Emissions from prescribed fires would be less than Alternative A. Emissions from wildland fires would likely be somewhat greater than under Alternative A.	Emissions from prescribed and wildland fires would likely be greater than under Alternative A. Emissions from mining operations would not occur.	Emissions from prescribed and wildland fires would likely be somewhat greater than under Alternative A. Emissions from mining operations would be proportional to the number of operations.	Emissions from prescribed and wildland fires would likely be somewhat greater than under Alternative A. Emissions from mining operations would be proportional to the number of operations.
WATER RESOURCES (Section 4.3)				
Water resources would continue to be maintained or restored. Actions would be designed to increase bank stability and thermal buffering. Water quality improvements, restoration of riparian vegetation, and reduced erosion should result. Nonattainment of water temperature standards in current and potential future 303(d) listed water, as well as potential future listings associated to other water quality constituents, may continue.	Actions would maintain or improve attributes identified through assessments. RCAs would be designated for all streams on the 303(d) list. Water resources would improve over time. Short-term water quality effects, such as continued erosion or elevated stream temperatures, may occur.	Stream reaches or sites that provide cold water habitat in streams where temperature limits the distribution of aquatic species would be identified and protected. RCAs would be designated for all streams on the 303(d) list. Actions would initiate or increase the rate of progress toward an advanced ecological status. In disturbed or degraded areas, where natural rates of recovery may be slow, this action would increase vegetative cover and improve riparian community structure, reducing erosion and increasing shade.	Stream reaches or sites that provide cold water habitat in streams where temperature limits the abundance of aquatic species would be identified and protected. RCAs would be designated for all streams on the 303(d) list. Initiate or increase the rate of progress toward an advanced ecological status or other site/reach specific objectives.	Actions would maintain or improve attributes identified in PFC assessment, and management would consider ecologically significant cold water refuges. Riparian areas and adjacent uplands of 303(d) listed waterbodies would be managed according to site or reach management objectives.
SOILS AND BIOLOGICAL SOIL CRUSTS (Section 4.4)				
Actions would continue to reduce soil erosion. BMPs would be used to minimize effects caused by compaction from vehicle, recreation, livestock, or wild horse use; loss of soil offsite by water and wind erosion; and damage to biological soil crusts.	There are no direct effects.	There are no direct effects.	Effects on soils from increases in disturbances would be greater than Alternatives A, B, or C, and less than Alternative E. Management emphasis to rehabilitate soils and other resources would be greater than alternatives A, B, and E. An increase in new projects where activities disturb or compact soil crusts would cause an effect on soils.	More activities that affect soils would occur under this alternative. The greatest effect on biological soil crusts would be under this alternative to promote commodity uses, with its potential increase in grazing, mining, roads, OHVs, and recreation.

Alternative A - No action. Continues present management.	Alternative B - Excludes commodity production and limits other uses; maximizes natural processes.	Alternative C - Emphasizes protection of natural values.	Alternative D - Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	Alternative E - Emphasizes commodity production and public uses
VEGETATION (Section 4.5)				
Riparian and Wetlands (Section 4.5.1)				
Actions would increase vegetation cover on uplands and reduce erosion into riparian/wetland areas. Areas would be maintained or progress toward attainment of PFC. Flooding events and other management activities would continue to degrade riparian resources and stream channels in those systems that are not in PFC. BMPs to protect and manage soil would be implemented. Sources of localized riparian shrub and tree (e.g., cottonwood and willow) material would continue to be established and maintained for restoration and to preserve genetics. Protection of rehabilitated riparian/wetland areas with fencing. Beaver expansion could result in reduced bank stability and shade, as well as subsequent increases in sediment input and water temperature, or it could result in riparian vegetation expansion.	Active restoration through planting riparian vegetation would be limited. Flooding events and other effects could continue to degrade riparian resources and stream channels in those systems that are not in PFC and that are not included in the priority areas identified for rehabilitation/restoration. BMPs to protect and manage soil would be implemented. Beaver populations would have same effects as Alternative A.	Improvements would occur throughout the Planning Area. Areas would be maintained or progress toward attainment of PFC and in some cases to an advanced ecological status. Flooding events and other effects would continue to degrade riparian resources and stream channels in the systems that are not in PFC. BMPs to protect and manage soil would be implemented. Actions would actively restore native vegetation communities. Possible short-term effects to riparian/wetland species diversity and plant community structure, also stream channel integrity and decreased erosion. Beaver populations would have the same effects as in Alternatives A and B plus promote expansion of riparian vegetation, improved streambank stability, and increased cover and habitat complexity.	Increasing vegetation cover on uplands and reducing erosion into riparian/wetland areas would be the same as Alternative A and C. Areas would be maintained or progress towards attainment of PFC, while meeting multiple resource objectives. Ground disturbances caused by increased commodity and recreation uses, flooding events, and other effects would continue to degrade riparian resources and stream channels in those systems that are not in PFC. BMPs to protect and manage soil would be implemented. Upland and riparian/wetland habitats would be restored. Competition with desirable nonnative species could affect riparian/wetland vegetation diversity and community structure. Beaver populations would be managed as in Alternative C but would be removed if there is economic harm or other effects.	Ground disturbances caused by increased commodity and recreational uses, flooding events, and other activities/alternatives would continue to degrade riparian resources and stream channels in those systems that are not currently in PFC, and those systems where recreational and grazing uses increase. BMPs to protect and manage soil would be implemented. Upland and riparian/wetland habitats would be restored. Competition with desirable nonnative species could affect riparian/wetland vegetation diversity and community structure. As in Alternative A, beaver populations would be allowed to expand naturally as habitat conditions indicate, unless suitable habitat is not available or economic harm is demonstrated, with the same effects. Effects of beaver removal same as Alternative D.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
Woodlands (Section 4.5.2)				
Tree density and cover would continue to increase, further reducing understory vegetation. A larger number of older trees would be lost due to the potential for larger fires. Removal of western juniper from lower elevation quaking aspen and mountain mahogany stands would release resources for quaking aspen and mountain mahogany growth. Limited suckering would occur following cutting. Seedling establishment of mountain mahogany would be encouraged. Falling of western juniper may damage quaking aspen and mountain mahogany plants. Herbaceous and other woody understory vegetation cover would increase following cutting. In the absence of fire, existing quaking aspen and mountain mahogany would continue to be out-competed by western juniper, and stand dominance would shift to juniper. Fencing of stands would protect new seedlings from grazing by large herbivores. Post-settlement western juniper would be decreased in riparian and sagebrush habitats. Following burning, tree cover would be reduced. Herbaceous plant productivity would increase in response to tree removal in the short term, but would decline as shrubs reestablished onsite. The presence of western juniper established prior to 1870 would be deceased in riparian and sagebrush habitats.	Post-settlement western juniper trees would continue to establish and grow in the old growth stands. Cover and density of western juniper would increase as the younger trees grow. Mortality rates of ancient trees would increase due to intraspecific competition. Acreage burned and number of ancient trees lost to fire would be greatest in this alternative. Increased tree cover and density of post-settlement trees would occur at the expense of the associated understory vegetation. Quaking aspen and mountain mahogany would decline at the lower elevation due to increases in western juniper. Associated understory plants would also decline in response to the increases in western juniper. Ongoing increases in the number of post-settlement western juniper in riparian and sagebrush habitats would continue.	Post-settlement western juniper trees would be cut in old growth stands, but up to ten percent of these trees would be left to replace dead and dying trees. Disturbance to soils and the associated understory plant community in this alternative would be lower than Alternatives A and E. Cover and density of understory plants would increase, reducing the size and extent of bare ground patches. Reduction in post-settlement western juniper would also help to reduce live fuel loading and the potential for stand-replacement fires in the old growth stands. Effects of Alternative C would be similar to Alternative A, with the following exceptions: - All wildland fires would be evaluated for resource benefits. - Wildfires that would not threaten firefighter or public safety and private property would be managed for resource benefits. Post-fire plant community would be similar to Alternative A. As shrubs increase, herbaceous plant cover and density would decrease. Effects of cutting of western juniper would be similar to Alternative A.	Effects of Alternative D would be similar to Alternative C with the following exceptions: - Development of markets for byproducts of mechanical treatments would help boost the economy of Harney County. - The amount of material generated from the old growth stands would be minimal, but could help to create jobs and increase economic activity. Effects of western juniper cutting and prescribed burning would be similar to Alternative A and the effects of utilizing wildfire for resource benefits would be similar to Alternative B. Utilization of cut western juniper would reduce the fuel loading in quaking aspen and mountain mahogany. The greatest number of acres of quaking aspen and mountain mahogany would be restored in this alternative. Effects of Alternative D would be similar to Alternative A and C; yet, a greater number of acres may be cut in Alternative D than C.	Effects of mechanical treatments in Alternative E would be the same as in Alternative A. Effects of fire management in Alternative E would be similar to Alternative C with the following exceptions: - Areas burned in old growth stands would be seeded to plant species that maximize forage production. - Effects of market development of byproducts from mechanical treatments would be the same as Alternative D. Effects of Alternative E would be similar to Alternative A with the following exceptions: -Seeding of forage species following burning in quaking aspen stands would slow the recovery of native herbaceous and woody plants. - No fencing following burning would also slow recovery. - Wild and domestic larger herbivores would have ready access to the sites. - Use of desirable forage species could help to defray some grazing on new quaking aspen and mountain mahogany shoots. Other effects would be the same as Alternatives A, C, and D.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
Wildland Juniper Management Area (Section 4.5.3)				
Inventory of biological communities present in the WJMA would help provide information on past, current, and future management actions in the western juniper zone. Data would provide a baseline for future comparison. Signs would be placed adjacent to treatments to help display the type of treatment and the effects.	Effects would be similar to Alternative A.	Effects would be similar to Alternative A.	Effects would be similar to Alternative A.	Effects would be similar to Alternative A.
Rangelands (Section 4.5.4)				
Nonnative seedings would be managed or manipulated to meet S&Gs. Vegetation characteristics would probably be altered. Interseeding of only 200 acres would have no appreciable effect on vegetation in increasing the relative cover and biomass of herbaceous species.	Native species would colonize rangelands; weeds or desirable nonnative species could colonize and potentially dominate. Future sagebrush conditions would probably include a greater proportion of late-successional vegetation than exists at present.	20,000 acres of nonnative seedings would result in increases of native vegetation diversity and cover. Interseeding mix would result in competition with native species. Seeding 35,000 acres of deer winter range would increase the diversity of rangeland vegetation to a greater extent than any other alternative.	The results of seeding would be reduced in comparison with Alternative C, because only half the acreage would be treated (10,000 acres). Seeding 20,000 acres of deer winter range would similarly have smaller effects on vegetation as Alternative C.	Vegetation cover would be increased. Lower diversity of native species would occur due to competition with nonnative species and lower community and structural diversity.
Noxious Weeds (Section 4.5.5)				
Actions would eliminate the smaller, more easily eradicated infestations.	Actions would reduce the effects caused by noxious weed distribution. Priority to treat high quality resource lands for noxious weeds may allow for the establishment and spread of noxious weeds in other parts of the Planning Area. There will be no treatment to noxious weeds that do not respond positively to biological or mechanical methods.	Effects same as under Alternative B.	Actions would reduce effects on resource values from noxious weed infestations through cooperative management and information sharing. Control of the introduction and proliferation of noxious weeds would be emphasized on disturbed areas such as roads, ROWs, mineral materials sites, and recreation sites and in high quality natural resource areas. BMPs would be implemented to emphasize preventative measures to minimize weed spread.	Integrated management would be applied for the control of noxious weeds the same as Alternative D. The distribution of noxious weeds and the effects would be the same as under Alternative A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
FISH AND WILDLIFE (Section 4.6)				
Approximately 9,000 acres of deer winter range that are in unsatisfactory condition would be reseeded. This management action would contribute to increased habitat suitability for wildlife adapted to natural rangeland conditions. Opportunities would be identified for improvement and/or restoration of other fish and wildlife habitat. Forage for wildlife would be allocated at management objective levels.. Wildlife populations would be allowed to expand naturally or through limited transplants. Wildlife could establish populations outside their historic range. Transplants would be conducted by the ODFW in accordance with current species-specific management plans.	Aerial reseeding would be used for approximately 9,000 acres of deer winter range. Emphasis on sagebrush could improve winter forage conditions for deer and habitat conditions for other sagebrush dependent species. Opportunities would be identified and undertaken for improvement and restoration of fish and wildlife habitat. Forage would be allocated for wildlife above management levels. Wildlife populations would be allowed to expand naturally. Some wildlife species could establish populations outside their historic range.	Approximately 20,000 acres of nonnative seedings and all the native vegetation with low vegetative species diversity in deer winter range would be interseeded to establish native plant species. This action would improve forage productivity and availability. Wildlife habitat quality and quantity would be improved across a large expanse of the project area and could contribute to increases in populations of some wildlife species. Opportunities would be identified and undertaken to improve and/or restore fish and wildlife habitat. Additional types of projects compared to Alternatives A and B could include both active and passive methods and would provide more opportunities to improve habitat. Forage would be allocated for wildlife above management objective levels. Wildlife populations would be allowed to expand naturally or through limited transplants.	Approximately 10,000 acres or more of nonnative seedings and most of the native vegetation with low vegetative species diversity in deer winter range would be interseeded to establish native plant species. This would improve forage productivity and availability. Where sagebrush is successfully reestablished, suitable habitat for wildlife would improve. Opportunities for improvement and restoration of fish and wildlife habitat would be identified and implemented. Fences could potentially impede the movement of wildlife and cause mortality from entanglement. Continued compliance with BLM fencing requirements would reduce these effects. As with Alternative A, forage for wildlife would be allocated at management objective levels and wildlife populations would be allowed to expand naturally or through limited transplants.	5,000 acres of nonnative seedings and some native vegetation with low species diversity in deer winter range would be interseeded. This action would improve forage productivity and availability for wildlife. Minor effects to game species could occur. Effects of this management action are similar to those described for Alternative D. Opportunities to improve and restore fish and wildlife habitat would be identified and implemented. Improvements would also benefit livestock, and could thereby increase forage competition between wildlife and livestock. Forage for wildlife would be allocated at management objective levels and would be increased concurrent with improved range conditions and other improvements. Wildlife populations would be allowed to expand naturally or through limited transplants.
SPECIAL STATUS SPECIES (Section 4.7)				
Special Status Plants (Section 4.7.1)				
There are no effects associated with Alternative A.	This alternative could benefit special status plant species in the short term. In the long term, this alternative could potentially increase effects such as habitat degradation for special interest plant species.	Management emphasis to protect natural resources and cultural values would offer greater protection of special interest plant species and their habitats than would Alternatives A or B.	Management emphasis for the development of new projects that would cause more ground disturbance than Alternatives A, B, or C.	Management emphasis for commodity uses and the development of new projects that would cause more ground disturbance than Alternatives A, B, C or D.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
Special Status Animals (Section 4.7.2)				
Bat gates would be installed at the entrances to abandoned mines. This would protect bat colonies from disturbances. Sites most in need of structural improvement or most likely to increase habitat suitability for sagebrush dependent special status species would be targeted. This would result in better survival of fledglings. The need for habitat improvements, to create suitable habitat for reintroduced Columbia sharp-tailed grouse, mountain quail, and other species would be determined. Habitat improvements prior to reintroduction would increase the likelihood of establishing successful self-sustaining populations of these special status species. Transplants, reintroductions, and natural expansion of bighorn sheep populations would be allowed. These actions would maintain healthy viable herds of bighorn sheep populations. Poor quality habitat in historic bighorn sheep range would be improved. The ODFW would be authorized to trap bighorn sheep when they determine excess animals are available. This would protect the range from resource overuse. Development of water sources would increase the likelihood of viable bighorn becoming established in historic habitat.	Effects would be similar to Alternative A. However, sites where bat gates were installed would be withdrawn from mineral entry, minimizing additional disturbances. Natural processes would be allowed to determine future conditions of big sagebrush habitat except in areas of significant resource values. To the extent practicable, management would be in accordance with the Migratory Bird Executive Order and the Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Management Guidelines. This would result in better survival of fledglings. Reliance on passive methods could limit the ability to achieve the management goals. No habitat improvements would be conducted prior to reintroductions of Columbia sharp-tailed grouse, mountain quail, and other species. This would reduce the chances of establishing successful self-sustaining populations. Natural processes would be allowed to determine the natural range expansion of bighorn sheep populations. Bighorn numbers would be allowed to exceed management objectives. No additional introductions and/or transplants would be conducted into identified historic range. These actions could result in declines in the range from overuse, and declines in herd health and viability. Up to five sites would be identified for construction of water sources in historic bighorn sheep habitat. Development of water sources would increase the likelihood of viable herds in historic habitat.	Effects of bat gate installation would be the same as those described for Alternative B. Big sagebrush habitat would be managed for the benefit of special status species to meet the DRC. Management would be in accordance with the Migratory Bird Executive Order and the Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Management Guidelines. The effects of this management action are similar to those described for Alternative A. The effects of the management actions on Columbia sharp-tailed grouse, mountain quail, and other species, are similar to those described for Alternative A. Transplants, reintroductions, and natural expansion of bighorn sheep would be allowed. The effects would be similar to those described for Alternative A. No habitat improvements in historic bighorn range would be conducted. This could reduce the likelihood of establishing viable herds in these transplant and reintroduction locations. Bighorn population numbers would be allowed to exceed management objectives. ODFW would be authorized to trap bighorn sheep if they determine that excess animals are available for removal. Effects of water development would be the same as those described in Alternative A.	Bat gates would be installed at the entrances of abandoned mines to protect known roost sites from disturbance by recreationists. Specific crucial sites would be considered for withdrawal from mineral entry. Management would be in accordance with the Migratory Bird Executive Order and the Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Management Guidelines. The effects of this management action are similar to Alternatives A. Big sagebrush habitat would be managed for the benefit of special status species to meet the DRC. Habitat management would be coordinated across agency boundaries, which would increase the likelihood of successfully accomplishing goals and objectives relating to sage-grouse and other special status species. The effects of the management actions on Columbia sharp-tailed grouse, mountain quail, and other species, are similar to those described for Alternative A. Management actions associated with bighorn sheep populations are the same as for Alternative A. Effects of these management actions are similar to those described for Alternative A. The management action to identify up to ten sites for construction of water sources or wildlife guzzlers in historic bighorn sheep habitat is the same as for Alternative A. Effects of this are similar to those described for Alternative A.	Effects of bat gate installation would be the same as those described for Alternative A. Big sagebrush would be reestablished where economically important special status species are present. Management would occur to the extent practicable with the Migratory Bird Executive Order and the Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Management Guidelines. The need for habitat improvements create suitable habitat for reintroduced Columbia sharp-tailed grouse, mountain quail, and other species would be determined. Implementation of any necessary habitat improvements prior to reintroductions would increase the likelihood of establishing successful, self-sustaining populations. Introductions would not occur in areas where economic effects are demonstrated. This could potentially limit the number of suitable locations for reintroductions. Management actions associated with bighorn sheep are the same as for Alternative A. Effects of these management actions are similar to those described for Alternative A. The management action to identify up to ten sites for construction of water sources or wildlife guzzlers in historic bighorn sheep habitat is the same as for Alternative A. Effects of this are similar to those described for Alternative A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
Special Status Fish (Section 4.7.3)				
Promote viable populations of special status fish, which may preclude future listings.	Except for critical habitat, natural processes would be allowed to define special status species habitat. Erosion may continue, and noxious weeds may spread, both of which lead to increased sedimentation and reduced available habitat. In other areas, natural processes should provide for maintenance or continued improvement of habitat conditions. The Borax Lake chub would likely be eligible for down-listing to "threatened" or delisted from the ESA as a result of permanent protection from threats identified in the Recovery Plan for the Borax Lake Chub.	As in Alternative A, special status species habitat would be managed for conservation and/or recovery, with the same effects. As in Alternative B, permanent protection of designated critical habitat for the Borax Lake chub would be pursued.	As in Alternative A, special status species habitat would be managed for conservation and/or recovery, with the same effects. Permanent protection of designated critical habitat for the Borax Lake chub would be pursued. This action would likely promote the protection of the Borax Lake chub and designated habitat in the event that TNC wished to dispose of the property.	Special status species habitat would be managed with an emphasis on game species. For most special status species, this would have the same effects as under Alternative A. Management for redband trout would also benefit the Malheur sculpin. This alternative may not provide the same level of conservation for Alvord chub. As in Alternative A, current management of designated critical habitat for the Borax Lake chub would continue, with the same effects.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
Redband Trout Reserve (Section 4.7.4)				
The boundaries of the RTR would be delineated independent of this RMP through coordination between the BLM, ODFW and SMAC. Management for PFC would allow for ecological progression of riparian vegetation that would promote increased fish habitat values. The RTR would be managed in accordance with the Wilderness Act and the WSR Act, as appropriate. This may preclude some restoration activities for fish. The Page Springs gauging station weir may be removed, which may increase the ability of redband trout to migrate upstream and downstream. Complete removal may increase the opportunity for nonnative fish to migrate into the RTR, and increase the effects of competition and predation on redband trout and other native species.	The RTR would consist of public lands on the Donner und Blitzen River and its tributaries upstream of the confluence with Fish Creek to the longitudinal extent of current and future redband trout distribution. This alternative would include all potential habitat and potential populations, and would maximize conservation and protection for Donner und Blitzen redband trout. Riparian and aquatic habitats would be managed for an advanced ecological status, which may promote increased fish habitat values. The RTR would be managed in accordance with the Wilderness Act and the WSR Act, as appropriate. This may preclude some restoration activities. Removal or modification of the Page Springs gauging weir may occur. This action retains the option of no modification if analysis indicates greater benefit to the redband trout population.	As in Alternative B, the RTR would consist of public lands on the Donner und Blitzen River and its tributaries upstream of the confluence with Fish Creek to the longitudinal extent of current and future redband trout distribution. As in Alternative B, riparian and aquatic habitats would be managed for an advanced ecological status, with the same effects. The RTR would be managed in accordance with the Wilderness Act and the WSR Act, with the same effects. As in Alternative B, coordination would occur with appropriate entities on removal or modification of the Page Springs gauging weir, with the same effects.	As in Alternative B and C, the RTR would consist of public lands on the Donner und Blitzen River and its tributaries upstream of the confluence with Fish Creek to the longitudinal extent of current and future redband trout distribution, with the same effects. Riparian and aquatic habitats would be managed for a diversity of fish habitat values, and effects would be similar to Alternative C. The RTR would be managed in accordance with the Wilderness Act and the WSR Act, with the same effects. As in Alternative B and C, coordination would occur with appropriate entities on removal or modification of the Page Springs gauging weir, with the same effects.	The RTR would consist of public lands on the mainstem Donner und Blitzen upstream of the confluence with Fish Creek. Tributaries with known populations of redband trout would not be included. This alternative would potentially eliminate some redband trout populations or spawning areas from the RTR, potentially reducing the emphasis on assessment, protections, and conservation. As in Alternative D, riparian and aquatic habitats would be managed for a diversity of fish habitat values, with the same effects. The RTR would be managed in accordance with the Wilderness Act and the WSR Act, with the same effects. Activities and effects associated with Page Springs weir would be the same as Alternatives B, C, and D.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
PALEONTOLOGICAL RESOURCES (Section 4.8)				
Research would be focused on areas where conflicts with other resource uses occur. Protection of paleontological localities through law enforcement surveillance and other protective measures would occur. Onsite and off-site interpretive facilities could be constructed. Interpretation program could result in construction of road pull-outs, kiosks or sign bases, and placement of interpretive signs at various locations in the Planning Area.	Research would be limited in scope. Onsite interpretation and interpretive facilities construction would not be implemented, and only off-site, interpretative displays and other products would be created.	Research would be focused on areas where conflicts with other resource uses occur. Protection of paleontological localities through law enforcement surveillance and other protective measures would occur. Off-site interpretive facilities would be constructed and self-guided walking tour brochures would be created. Interpretation program could result in construction of road pull-outs, kiosks or sign bases and placement of interpretive signs at various locations in the Planning Area.	Research would be focused on areas where conflicts with other resource uses occur. Protection of paleontological localities through law enforcement surveillance and other protective measures would occur. Off-site interpretive facilities would be constructed and self-guided walking tour brochures would be created. Interpretation program could result in construction of road pull-outs, kiosks or sign bases and placement of interpretive signs at various locations in the Planning Area.	Research would be conducted in all known localities in the Planning Area. Protection of paleontological localities through law enforcement surveillance and other protective measures would occur. Onsite and off-site interpretive facilities would be constructed and self-guided walking tour brochures would be created. Interpretation program could result in construction of road pull-outs, kiosks or sign bases and placement of interpretive signs at various locations in the Planning Area.
CULTURAL RESOURCES (Section 4.9)				
Proactive inventories would occur at a rate of approximately 500 acres per year. Research would be focused on significant cultural sites where other resource conflicts occur. No physical protection measures would be implemented. Law enforcement surveillance and monitoring of certain significant sites and groups of sites within wildland fire areas would occur. No land acquisitions would occur to bring significant sites into public ownership. Inventory, assessment, and preservation activities at historic sites would occur. Onsite and off-site interpretation could be implemented under this alternative, and could result in construction of road pull-outs, kiosks or sign bases, and placement of interpretive signs at various locations in the Planning Area.	Proactive inventories would occur at a rate of approximately 500 acres per year. This type of research would be implemented on a limited basis. No physical protection measures would be implemented. Law enforcement surveillance and monitoring of certain significant sites and groups of sites within wildland fire areas would occur Land acquisitions to bring significant sites into public ownership would be pursued. Preservation activities at historic sites would not occur. Onsite interpretation and interpretive facilities construction would not be implemented under this alternative. Only off-site interpretive displays would be created.	Proactive inventories would occur at a rate of approximately 500 acres per year. Research would be focused on significant cultural sites where other resource conflicts occur. Physical protection measures would be implemented. Law enforcement surveillance and monitoring of certain significant sites and groups of sites within wildland fire areas would occur. Land acquisitions to bring significant sites into public ownership would be pursued. Inventory, assessment, and preservation activities at historic sites would occur. Onsite and off-site interpretation could be implemented. This type of interpretation could result in construction of road pull-outs, kiosks or sign bases and placement of interpretive signs at various locations in the Planning Area.	Proactive inventory would occur at a rate of approximately 500 acres per year. Research would be focused on significant cultural sites where other resource conflicts occur. Physical protection measures would be implemented. Law enforcement surveillance and monitoring of certain significant sites and groups of sites within wildland fire areas would occur. Land acquisitions to bring significant sites into public ownership would be pursued. Inventory, assessment, and preservation activities at historic sites would occur. On-site and off-site interpretation could be implemented under this alternative, and could result in construction of road pull-outs, kiosks or sign bases, and placement of interpretive signs at various locations in the Planning Area.	Proactive inventory would be increased under this alternative to support increased heritage tourism. Research would be increased at significant cultural sites in order to support increased heritage tourism; physical protection measures would be implemented. Law enforcement surveillance and monitoring of certain significant sites and groups of sites within wildland fire areas would occur. Land acquisitions to bring significant sites into public ownership would not be pursued in this alternative. Onsite and off-site interpretation would be increased under this alternative. This type of interpretation could result in construction of road pull-outs, kiosks or sign bases, and placement of interpretive signs at various locations in the Planning Area.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
NATIVE AMERICAN TRADITIONAL PRACTICES (Section 4.10)				
The BLM would continue active consultation/coordination with the Burns Paiute Tribe and other tribes to identify traditional practice areas. Traditional Cultural Properties would be nominated or found eligible for inclusion in the National Register of Historic Places and known burial sites would be monitored and protected. Plants of cultural, traditional and economic importance would be inventoried in cultural and botanical inventories. The Burns Paiute Tribe and other tribes would be consulted on vegetative management projects.	This alternative would be the same as Alternative A except the amount of active consultation/coordination and inventory could decrease because of decreased commodity use.	Effects same as Alternative A.	Effects same as Alternative A.	This is the same as Alternative A except the amount of active consultation/coordination and inventory would increase because of increased commodity use.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
VISUAL RESOURCES (Section 4.11)				
In the Planning Unit present management would continue to maintain existing MFP VRM classes in the Planning Area. This would include the following: 852,209 acres as VRM Class I; 239,362 acres as VRM Class II; 121,048 acres VRM Class III; and 436,851 acres VRM Class IV. All WSAs would be managed as VRM Class I. In the CMPA, the Steens Mountain Wilderness, all designated wild WSRs, and the Steens Mountain ACEC would also be managed as VRM Class I. The remainder of the CMPA, the AMU and the WJMA would be managed under existing MFP VRM Classes. In the AMU, the remainder of the CMPA, the AMU, and the WJMA would be managed under existing MFP VRM Classes.	In the Planning Unit, visual resources would be managed to allow natural processes to determine visual quality. All lands would be designated as VRM Class II (799,132 acres), except where VRM Class I (850,338 acres) is required by law, policy or regulation. The Steens Mountain Wilderness and all existing wild WSRs would be designated as VRM Class I. The WJMA and the remainder of the CMPA would be designated VRM Class II. In the AMU, all MFP VRM Class II areas would remain as VRM Class II but all remaining MFP VRM Class III and IV areas would be amended to VRM Class II. In the Planning Unit, CMPA, and AMU commodity uses such as mining, grazing, and other resource consumptive uses would not be allowed and the potential for effects to visual resources in comparison to all of the other alternatives would be reduced.	In the Planning Unit, existing MFP VRM classes would be amended as follows: 854,266 acres Class I; 248,944 acres Class II; 546,260 acres Class III; and zero acres for Class IV. The Steens Mountain Wilderness, all designated wild WSRs, and the Steens Mountain ACEC would be designated as VRM Class I. The WJMA and the remainder of the CMPA would be designated VRM Class III. In the AMU, all remaining MFP VRM Class IV areas would be designated as VRM Class III. MFP VRM Class II and III areas would keep those classifications.	Visual resources would be managed to improve natural values. Existing MFP VRM classes would be amended as follows: 851,214 acres Class I; 207,012 acres Class II; 214,488 acres Class III; and 375,756 acres Class IV. The Steens Mountain Wilderness and all designated wild WSRs would be designated as VRM Class I. All lands within 0.5 mile of the Steens Loop Road within the WJMA would be designated as VRM Class III. The remainder of the WJMA would be designated as VRM Class IV. All MFP VRM Class IV land in the CMPA would be designated as VRM Class III. MFP VRM Class II and III areas would remain the same. In the AMU, existing MFP VRM classes would be maintained.	Visual resources would be managed as determined in the MFP, as reinventoried, or as detailed in the following: 852,214 acres Class I; 28,880 Class II; 66,978 acres Class III; and 701,398 acres Class IV. The Steens Mountain Wilderness and all designated wild WSRs would be designated as VRM Class I. The WJMA would be designated as VRM Class IV. All other areas in the CMPA would retain existing MFP VRM classes. In the AMU, all remaining MFP VRM Class II and III areas would be designated as VRM Class IV, except the VRM Class II areas in the Trout Creek Mountains and around Denio Creek; these would remain as VRM Class II. MFP VRM Class IV areas would remain the same This alternative would be similar to Alternative A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
SOCIAL AND ECONOMIC VALUES (Section 4.12)				
Contracts for services and sale of products would continue to be available to local residents. Public and private partnerships to achieve shared economic objectives would also continue. Current management practices would continue for all resources and uses under Alternative A; therefore, no new or additional effects should result.	The effects to social and economic values associated with this alternative include the loss of revenues from mining, energy, agricultural production, and disposal of lands as well as a decline in revenues from recreation and tourism. Local contracts and employment could decline, resulting in indirect effects to the retail and service industries. Intrinsic and natural values would also be affected by this alternative. The increase in natural process values may offset any revenues lost from recreation and commodity production.	This alternative allows more uses than Alternative B and provides for stability in the local economy; nevertheless, it would still have some effects on commodity production, realty use authorizations, land tenure, renewable energy, and recreation, thereby resulting in a decline of revenues from these uses. As with Alternative B, intrinsic and natural values would be affected. The increase in these values may offset any revenues lost from recreation and commodity production.	This alternative is less restrictive on commodity uses than Alternatives B and C and would have more effects on the natural environment such as soils, vegetation, water resources, and wildlife than either Alternative B or C. The effects to commodity production, realty use authorizations, land tenure, renewable energy, and recreation would not be as great as Alternatives B and C and may favor the local economy. Intrinsic values would also be effected by this alternative.	This alternative is the least restrictive on commodity uses and would have more effects than any other alternative on the natural environment such as soils, vegetation, water resources, and wildlife. Effects on commodity production, land authorizations, land tenure, renewable energy, and recreation would not be as great as any of the other alternatives. Intrinsic values would be affected the most by this alternative.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
ENERGY AND MINERALS (Section 4.13)				
Twenty-eight percent of the Planning Area would be open to mineral exploration and development. Two percent of the Planning Area would be open to mineral exploration and development that has high potential for hot springs gold and mercury. Less than 0.1 percent of the Planning Area that has high potential for locatable minerals would be open. Only 332 acres in the open area have high potential for leasable minerals, and they would be open to leasing with standard lease stipulations. Twenty-eight percent of the Planning Area would be open to consideration for saleable mineral materials development. Development may not be permitted where it conflicts with resource values, as determined by the BLM Authorized Officer.	Under this alternative, the entire Planning Area would be closed to mineral exploration and development except where required by law or where essential to protect human safety, such as road construction under critical or emergency conditions. Protection of natural values under this alternative places the maximum constraint or outright prohibition on renewable energy development.	Thirteen percent of the Planning Area would be open to locatable and leasable mineral exploration and development. Less than 0.5 percent of the Planning Area that has high potential for locatable minerals would be open. Only 43 acres in the Planning Area with high potential for leasable minerals would be open to leasing. They would be open with standard lease stipulations. Thirteen percent of the Planning Area would be open to consideration for saleable mineral materials removal. The result of this alternative would be to discourage exploration and development of energy and mineral resources.	Twenty-seven percent of the Planning Area would be open to locatable mineral exploration and development. 1.5 percent that has high potential for hot springs gold and mercury would be open; and less than 0.1 percent that has high potential for other locatable minerals would be open. Twenty-eight percent of the Planning Area would be open to leasable mineral exploration and development. Only 332 acres in the Planning Area with high potential for leasable minerals would be open, of which 281 acres would be open for leasing with seasonal or other special stipulations and 43 acres would be open to leasing with standard lease stipulations. Twenty-seven percent of the Planning Area would be open to consideration for saleable mineral materials removal. Development may not be permitted in the open area where it conflicts with resource values, as determined by the BLM Authorized Officer.	Minerals management would be conducted the same as under Alternative A and therefore, the effects would be the same.

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WILD HORSES AND BURROS (Section 4.14)				
The acreage of the existing HMAs would remain the same. Retaining the current HMA boundaries would result in two HMAs: the Kiger and South Steens. The Alvord-Tule Springs HMA would not be combined with the Coyote Lake HMA. The two HMAs would continue to be managed separately by the Burns and Vale Districts, respectively. The current AMLs would be retained for all HMAs. The number of acres of BLM land in the Kiger and South Steens HMAs was reduced due to land exchanges. Failure to consider adjustments of the AMLs in these two HMAs could result in resource damage such as excess forage utilization, which might then result in undesirable rangeland trends. Alternative A does not provide any management actions to adjust current AMLs other than those stated in the herd management plans. However, as conditions vary in the future, events such as drought might require temporary adjustments in horse numbers in order to meet other resource objectives. If vegetation management objectives are not met, permanent adjustments in AMLs might also be necessary. Wild horses would continue to be gathered every three to four years. Current public lands water sources would be maintained.	Combining the current 343,201 acre Alvord-Tule Springs HMA with the Coyote Lake HMA would result in the 588,420 acre newly-named Alvord-Tule Springs-Coyote Lake HMA. The HMA would then be managed as one unit by the BLM's Vale District. The Kiger HMA would be reduced from its current 38,359 acres to 26,873 acres. The South Steens HMA would be reduced from its current 127,838 acres to 102,342 acres. To maintain an administrative record of the historic location of horses in the Kiger HMA, a Kiger Herd Area would be created, depicting the loss of public lands resulting from the Steens land exchanges. The current AMLs and wild horse forage allocations would be retained in all HMAs. However, management actions would allow for consideration of permanent increases or decreases, thereby providing greater management flexibility in response to changing environmental conditions and modified HMA size. The effects of any adjustments in AMLs on gathering frequency would be analyzed on a case-by-case basis. The decreased size of the Kiger and South Steens HMAs would warrant consideration of downward adjustments in the AMLs and forage allocations. Failure to do so could result in overgazing, a decline in range condition, poor horse health, and consequently, more frequent gathering.	The direct effects of Alternative C are the same as those described for Alternative B.	The effect of boundary and acreage adjustments are the same as for Alternative B, with the following exception: The South Steens HMA would be reduced in acreage from its current 127,838 acres to 126,732 acres. To maintain an administrative record of the historic location of horses in the Kiger HMA, a Kiger Herd Area would be created. The effects of all other management actions are the same as those described for Alternative B. However, the management emphasis on balanced uses and cooperative management practices means that wild horses would not be given preference over other uses for increasing forage allocations, and thus AMLs. Horses might need to be gathered more often in order to meet the objectives for other resources.	The effect of boundary and acreage adjustments are the same as those described for Alternative B, with the following exception: The South Steens HMA would be increased in acreage from its current 127,838 acres to 182,485 acres. The effects of all other management actions are the same as those described for Alternative B. Since management emphasizes commodity production, differences in preference mean that any excess forage could be allocated to livestock and/or economically important wildlife rather than to wild horses. Competition for available forage would be increased. Permanent adjustments in AMLs may be necessary; as more emphasis is placed on forage use by livestock. Management actions to acquire legal access to critical private water sources would not be conducted. Lack of guaranteed legal access to private water sources could make wild horses more susceptible to the effects of drought. If insufficient water is available during droughts, horses might need to be gathered more often. If horses are excluded from private water sources at some time in the future, herd health and long-term viability could decline.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
Legal access to critical private water sources other than those identified in existing herd management plans would not pursued. Horses currently use private water sources. If horses are excluded from these water sources in the future, herd health could decline and horses would probably need to be gathered more frequently.	Herd health as one of the measures to consider before initiating herd gathering would provide greater management flexibility than Alternative A. Besides gathering, other approved methods of population control would be allowed. If these additional methods are effective, the 20 percent average annual increase in herd numbers may decline, thereby increasing the interval of three to four years between gathers, and reducing stress to horses caused by gathering. The management action to develop additional water sources could allow for better health of horses during periods of drought, and distribute horse use, thereby reducing the likelihood of overgrazing. Legal access to critical private water sources would help to provide more stable water sources for wild horses. Gathering excess horses would continue, but the time period between gathering could be potentially increased. The option to modify the male/female sex ratio from 50:50 to 60:40 could increase the time between gathering due to a slower annual population growth rate Allowing for the introduction of horses from outside the HMA could help to improve herd health by increasing genome diversity.			

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
GRAZING MANAGEMENT (Section 4.15)				
The authorization of TNR grazing use during years of favorable growing conditions would provide additional forage for use by livestock.	Alternative B would discontinue grazing use in the AMU. Viable livestock grazing operations would be relatively unlikely in the areas of the CMPA where grazing would continue if grazing levels were reduced to "minimal". TNR grazing use would not be authorized. Livestock forage in nonnative seedings could become decadent and forage quality would deteriorate. Grazing use would not exceed the amount of permitted use in the CMPA.	Alternative C would reduce grazing use in the CMPA and AMU to "minimal sustainable," which is interpreted to mean at a level that allows livestock grazing operations to continue to be economically viable. TNR grazing use would not be authorized. Forage quality would decline in nonnative seedings. Grazing use would not exceed the amount of permitted use in the Planning Area.	The management actions under Alternative D relating to the application of livestock management practices, administrative solutions, rangeland projects, and relinquished permits would provide more flexibility in the use of available grazing resources than under Alternatives A, B, and C, and would therefore be expected to increase the utilization of available grazing resources.	This alternative would maximize the amount of livestock grazing on public land, creating more revenue from grazing fees and more income for grazing permittees. More range improvements would be constructed, creating more jobs for contractors.
WILDLAND FIRE MANAGEMENT (Section 4.16)				
Suppression of all wildfires would maximize short-term public safety, protection of private lands, and areas with important resource values. Short-term firefighter safety would also be increased because initial attack would be given a priority in this alternative. Areas burned by wildfire would be minimized due to the aggressive suppression of wildfires. Long-term firefighter and public safety could be compromised because of the accumulation of fuels due to suppression. Wildfires that escape initial attack would have a greater potential to burn larger areas at high intensities.	This alternative places the lowest priority on fire suppression throughout the Planning Area. Firefighter and public safety would still be the number one priority for suppression. Only fires that directly threaten firefighter or public safety, private property or areas of significant resource values would be suppressed. Other fires would be evaluated for resource benefits and managed accordingly. Fire rehabilitation actions could be greater because of the reduced suppression activity and potentially larger fire size. However, these actions would rely primarily on passive methods where possible.	The direct effects of Alternative C would be the same as Alternative A in the wildland urban interface. Without mechanical fuels treatments or prescribed fire, fuels will continue to accumulate in the wildland urban interface. Fuels accumulation within this area would increase the risk to human life and private property. All fires within this zone would be suppressed with the appropriate management response. Direct effects of fire management activity outside of the wildland urban interface would be the same as alternative B. Only native plant species would be utilized in the rehabilitation efforts. The effects of using natives would be the same as Alternative B	Alternative D would exhibit a combination of effects from Alternatives A, B, C, and E. Firefighter and public safety would be the highest priority in fire management decision making. However, fire would be reintroduced into the ecosystem through prescribed fire and wildland fire use for resource benefit (prescribed natural fire). Fires that would not pose a significant risk to firefighter safety, public safety, or private land would be evaluated for wildland fire use. Rehabilitation projects would occur on sites with low potential for natural recovery. Cooperative projects would be developed with adjacent public and private landowners.	The effects of Alternative E are similar to those under Alternative A, except that a greater emphasis would be directed toward contract firefighting resources to support suppression actions and local economics.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
Fuels treatments conducted under this alternative would treat only the highest priority areas where high threats exist to firefighter and/or public safety and private property. However, prescribed fire activity would reintroduce fire into the system, and overall acreage burned would increase over current levels. All areas burned by wildfire would be evaluated for emergency stabilization and rehabilitation. Native and desirable introduced plant species would be utilized in fire rehabilitation.	Fire rehabilitation actions could be greater because of the reduced suppression activity and potentially larger fire size. Fire rehabilitation efforts would be less cost effective than Alternative A, D, or E. Reliance on native plant species would increase the cost of rehabilitation treatments. The rate of recovery in areas where native seedings are used may be longer compared to desirable introduced perennial plants.		These projects would increase the efficiency of fuels treatments and work to treat fuels on a landscape scale instead of by geopolitical boundaries. Cost of fire suppression should be lowest in this alternative. The number of acres burned or converted to a herbaceous plant dominated community would be less than in Alternatives B and C, but more than in Alternative A.	

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
LANDS AND REALTY (Section 4.17)				
Lands in Zone 1 containing important public values would be protected from disposal, but there would be no flexibility in this zone to exchange or sell public lands; therefore, opportunity and ability would be limited to acquire lands with high public values and to resolve long-term inadvertent and unauthorized uses, survey errors or hiatuses. Land sales and other disposals in Zone 3 would be considered only after the possibilities for exchange have been exhausted, further limiting disposal opportunity and expediency. Lands may be acquired in any zone on a case-by-case basis. This has the potential of wasting valuable acquisition funding and effort in areas containing little public land and resources because there is no focus or priority for acquisition. There would be a slight net loss of public lands in the Planning Area with a corresponding increase in county tax revenues. Overall, there would be opportunity for consolidation of both public and private lands through exchanges, sales, and acquisitions, although somewhat limited by the availability of disposal lands and inflexibility of this alternative.	Under this alternative, all public lands would be retained in federal ownership with emphasis on acquiring lands with natural values. All lands would be protected from commodity-producing activities likely to occur if conveyed out of public ownership. There would be no exchanges, thereby limiting the opportunity and ability to acquire lands with natural values. There would be a slight net gain of public lands in the Planning Area. Since all acquisition would be by purchase or donation with no disposal of public lands, there would be a net loss of county tax revenues from private land acquisition. Overall, there would be some consolidation of public lands by fee purchases but no such opportunity for private lands due to the prohibition on disposals and the inflexibility of this alternative. The entire Planning Area would be considered a ROW realty and renewable energy authorization exclusion area and no corridors would be designated. The most likely effect of this alternative would be an increase in unauthorized use and illegal activities because the public would be unable to utilize public lands through legal means. Without some level of control, these uses could potentially damage sensitive resource values.	All lands in Zone 1, 1A, and 1B would be retained in public ownership and would be protected from disposal, and thus, commodity-producing activities. There would be no flexibility in these zones to exchange or sell public lands, limiting the opportunity and ability to acquire lands with important natural values and to resolve long-term, inadvertent unauthorized uses, survey errors, or hiatuses, or to provide lands for community expansion and public purposes. Exchange of lands to resolve a trespass situation is allowable in Zones 2 and 3, but the exchange must serve to acquire lands with important natural values. These disposal opportunities may result in loss of some lands with natural or public values. Disposal of lands for community expansion or public purposes would be limited to Zones 2 and 3 because a disposal must be consistent with the appropriate land tenure zone. All disposal actions would be subject to site-specific inventory and screening for the existence of any special resource values which may have been unknown or overlooked at the time of the RMP development. These values would be considered in the final decision to dispose of the land.	Lands in Zone 1A would be protected from any form of disposal. There would be flexibility in Zone 1 to exchange public lands for a specific set of public resource values. In addition, exchanges that further the purposes and objectives of the Steens Act are allowable in Zone 1B. More lands are available for exchanges in Zone 2 and 3, providing additional opportunity for exchanges outside the CMPA. Sales and other disposals would be generally limited to Zone 3, but could be used in any zone except 1A to resolve long-term, inadvertent unauthorized use of public lands. This additional disposal capability may result in losses of some lands with natural or public values. The constraints of special resource values in Zone 1 and 1B are relaxed by the flexibility included in this alternative. Only in Zone 1A is a prohibition placed on any form of land disposal. Regardless of the zone, all disposal actions would be subject to site-specific inventory and screening for the existence of any special resource values which may have been unknown or overlooked at the time of the RMP development. These values would be considered in the final decision to dispose of the land. Generally, over the long term there would be no expected change in the ratio of public lands in the Planning Area. The effect on the county tax revenues is expected to increase because a balanced variety of disposals and acquisitions would occur.	Retention of lands is mandated only in Zone 1A, with maximum flexibility to exchange lands for commodity production being available in Zones 1, 1B, 2, and 3. Opportunity is maximized for disposal by sale or other means in Zone 3. Lands for public purposes would be available in Zones 1, 2, and 3. Lands for community expansion would be available by exchange, sale, or other means consistent with the land tenure zones. These disposal opportunities may result in the potential for loss of some lands with natural or public values, or conflicts with existing uses and values. Regardless of the zone, all disposal actions would be subject to site-specific inventory and screening for the existence of any special resource values, which may have been unknown or overlooked at the time of the RMP development. These values would be considered in the final decision to dispose of the land. Although relative acreages in Zones 1, 1A, and 1B would generally remain constant, there would be the potential for an overall net loss of public lands in the Planning Area due to liberalized disposal possibilities. A corresponding increase in county tax revenues could occur.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
Special resource values included in an exchange or disposal zone (Zones 2 and 3) would be identified and considered during site-specific review of land tenure proposals. This alternative continues the designation of corridors on approximately 340 miles of public land. There would be no immediate effects to the continued designation of public land for ROW corridors. Specific effects would be analyzed when new projects are proposed. The long-term effects of corridor designation would be the centralizing of facilities, which would confine surface and visual disturbance, as well as other effects, to existing corridors and ROWs. Consideration of withdrawal actions, an airport lease at Fields, and other land use and ROW authorizations, including those necessary for renewable energy development would be handled on a case-by-case basis and deferred to a site-specific review and analysis upon receipt of definitive proposals. Implementation of this alternative would promote access for BLM lands, but efforts to secure public access would be limited. Under this alternative, little focus or direction is provided to proactively acquire access.	Disallowing leasing and reopening of the Fields airstrip may force aviators to land in unsafe, undeveloped areas, thereby causing new resource damage and creating safety hazards such as landings on public roads and highways. Since the entire Planning Area would be withdrawn, there would be no effects from mining, energy and minerals, military activities, and other commodity production. The primary thrust of this alternative on access would be to control and limit public access for the protection of natural values. Road construction to provide legal access around private lands would not be authorized; existing roads that provide public access would be closed. All unauthorized uses would be terminated and none would be authorized. No disposals would be made to accommodate any uses. Therefore, no flexibility would be provided for options to resolve situations. Facilities and structures would be removed, but otherwise restoration of lands would be by natural processes.	There would be a slight net gain of public lands in the Planning Area with a corresponding loss in county tax revenues, since private lands and values acquired would exceed the values of public lands being disposed. Overall, there would be some opportunity for consolidation of both public and private lands, which would be somewhat limited by the availability of disposal lands and inflexibility of this alternative. Corridor designations would be limited to those which have existing major power transmission lines and primary county roads and state and federal highways. Corridor designations on public land total 246 miles. Major facilities and projects would be required to be sited within corridors. In some situations this may require costly route changes in adjacent planning areas to bring the alignment of a facility in line with the designated corridor in the Planning Area. A large portion of the Planning Area, 995,037 acres, would be considered a ROW realty, and renewable energy exclusion area where a large variety of land uses, no matter what the effects, would be prohibited. If a valid application is received, the existing Fields airstrip would be leased and reopened for public use. The primary effect of this alternative would be that basic infrastructure and necessities such as residential roads and driveways, a rural airstrip, utility distribution service, filming and short-term storage sites would be allowable, while large scale projects outside of corridors would be limited.	Property tax revenues would be enhanced by disposal of public lands, some of which would be converted to commodity production such as seedings or alfalfa fields under private ownership, resulting in higher assessed values on those lands. Overall, there would be balanced opportunity for consolidation of both public and private lands while protecting, acquiring, and enhancing important public values. Proponents for all large scale ROW facilities would be encouraged to site their facilities in the corridor. A total of 870,912 acres would be designated a ROW, realty use authorization exclusion and avoidance area where realty or realty-related land uses would be prohibited or restricted. If a valid application is received, the existing Fields airstrip would be leased and reopened for public use. Approximately 20,367 acres are proposed for new withdrawals protecting only key special management areas which are not already withdrawn. Generally, the primary effect of this alternative would be that many ROWs, realty land uses, and renewable energy projects would be allowable and accepted in open areas while protecting sensitive resources and areas where they exist. Large scale projects and activities such as major transmission lines, energy development, and military maneuvers would be possible outside of corridors and avoidance and exclusion areas, but may be limited or restricted to some extent dependent upon location and nature of the proposal.	Further, tax revenues would be enhanced by disposal of public lands, some of which would be converted to commodity production such as seedings or alfalfa fields under private ownership, which should result in higher assessed values on those lands. Overall, there would be a high opportunity for land disposal, consolidation of private lands, and facilitating of commodity production. Lands containing public values could be lost and some areas of public lands could potentially be fragmented. Alternative E designates 354 miles of public lands as ROW corridors. Corridor designations are maximized in this alternative to provide a variety different route alternatives. Designated ROW, realty use and renewable energy exclusion/avoidance areas total 849,690 acres. If a valid application is received, the existing Fields airstrip would be leased and reopened for public use. There would be no new protective withdrawals. Other withdrawal actions would be geared toward opening lands for commodity-producing activities. Generally, the primary effect of this alternative would be that most ROWs, realty land uses, and renewable energy development would be allowable and accepted, while only the most critical sensitive resources and areas would be protected and in some cases affected by this type of development. Large scale projects and activities would not only be possible, but also encouraged outside of corridors, and avoidance and exclusion areas.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses
TRANSPORTATION AND ROADS (Section 4.18)				
Continuation of the current road use and maintenance levels and seasonal restrictions for the existing road system would have no new effects on maintenance or degree of access.	Road closures and decreased maintenance would reduce motorized access to public lands. Approximately 156 miles of closed routes are proposed under this alternative. Decreased road maintenance would result in lower maintenance costs.	Thirty miles of motorized routes would be closed, reducing motorized access to public lands. Road closures and decreased maintenance would result in decreased costs.	Seven miles of routes would be closed, reducing access to public lands. Expanded winter access for motorized uses and motorized access to dispersed campsites would also increase public access.	No route closures are proposed for this alternative. Increased access and road maintenance combined with less restrictive management could increase use of the road system as well as maintenance costs. Expanded winter access and motorized access to dispersed campsites would also increase use of the road system. Increased access, road maintenance, and commercial and recreation activities may cause effects to other resource programs.
OFF-HIGHWAY VEHICLES (OHVs) (Section 4.19)				
Maintaining the existing OHV designations and seasonal closure on the Steens would not affect current OHV and mechanized vehicle use in the Planning Area. In the CMPS, the current OHV designations, the result of the Steens Act, closed the Steens Mountain Wilderness to motorized and mechanized vehicle use. The Steens Act also prohibits the cross-country travel by motorized and mechanized vehicles. The Pueblo and Trout Creek Mountains would not formally be closed seasonally in the AMU.	The Planning Area would be designated as limited to designated roads and trails or closed. No areas would be designated as open or limited to existing roads and trails. No opportunities for OHV and mechanized vehicle play (open areas) would be available, organized events would not be allowed, and roads and trails available for use would be reduced. Closing WSAs and WSA cherrystem roads would further reduce the opportunities for OHV and mechanized vehicle use. Closing the Steens Mountain Loop Road would eliminate access to many roads used by OHVs and mechanized vehicles in the CMPA. In the AMU, closing the Alvord Desert playa would displace OHV and mechanized vehicle to suitable areas in adjacent states.	The Planning Area would be designated as limited to designated roads and trails or closed. No areas would be designated as open or limited to existing roads and trails. No opportunities for OHV and mechanized vehicle play (open areas) would be available, but most roads, ways, and trails would be available for use. Closing the Rooster Comb to motorized vehicles only would close the Steens Loop Road to through traffic. Closing other roads in the CMPA would reduce the routes available for OHV and mechanized vehicle use. In the AMU, closing the Alvord Desert playa would displace OHV and mechanized vehicle to suitable areas in adjacent states	Most of the Planning Area would be designated as limited to existing or designated roads, ways, and trails. One area would be designated as open, thus providing an opportunity for OHV and mechanized vehicle play. Most roads and trails would be available for use. Opportunities for OHV and mechanized vehicle use would generally be available. Closing seven miles of roads in the CMPA would not affect OHV and mechanized vehicle use, because these are mostly duplicate roads. Designating all areas in the AMU, except the WSAs, the Alvord Desert playa, and some ACECs, as limited to existing roads, ways, and trails, would increase the number of routes available for OHV and mechanized vehicle use.	Most of the Planning Area would be designated as open or limited to existing or designated roads, ways, and trails. Much of the AMU would be designated as open to OHV and mechanized vehicle use, thus providing extensive opportunities for OHV and mechanized vehicle play. Most roads and trails would also be available for use. OHV and mechanized vehicle use opportunities would be maximized. No additional roads in the CMPA would be closed, therefore OHV and mechanized vehicle use would not be affected. Seasonally closing the upper Steens Mountain area would also not affect motorized or mechanized use during the winter and spring, because the Steens Loop Road would be open to the snow line when road conditions are suitable. Designating the AMU WSAs as limited to existing ways and trails would increase routes available for OHV and mechanized vehicle use.

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RECREATION (Section 4.20)				
This alternative is based on current management and does not implement any measures to increase recreation opportunities, tourism, or visitation. Although this alternative would continue, most of the current management would not have any new or additional effects to recreation, since additional recreation opportunities or usage are limited.	The emphasis on natural processes and de-emphasis of management and facilities development would affect developed recreation opportunities and use. Dispersed recreation would also be affected; however, it may be either increased or decreased. Winter recreation would be affected, as no facilities would be developed and all snowmobile use would be eliminated within the CMPA. Recreational river use would be eliminated in the CMPA, which would have additional effects to recreation. SRPs would continue in the CMPA and would not lead to any new effects within the CMPA. No SRPs would be issued for the AMU, which would eliminate all opportunities for commercial, competitive, and organized group recreation outside of the CMPA. Eliminating the BCBs would limit potential tourism and visitation based on these designations.In addition, removing the High Desert Trail from maps and discontinuing management under the MOU would reduce use of this trail corridor.	The CMPA, Pueblo Mountains, and Trout Creek Mountains would be managed as SRMAs. Sites where recreation use is affecting resource values would be rehabilitated or closed. Both developed and dispersed recreation use would be affected by increasing some opportunities and limiting others. Existing developed sites, campgrounds, and facilities would be maintained. Group size limits would be implemented to protect natural values. All of these activities would continue or limit existing opportunities under Alternative A. Winter recreation would be affected by eliminating snowmobile use associated with the North Steens Loop Road. SRP management under this alternative would promote protection of natural and cultural values while minimally affecting the SRP operators. Management of and effects from BCBs would be the same as Alternative A. The High Desert Trail would be managed the same as under Alternative A; therefore, the effects would be the same.	The CMPA, the Pueblo Mountains, and Trout Creek Mountains would be managed as SRMAs. The emphasis on recreation opportunities and expansion of facilities would affect developed recreation. Dispersed recreation would also be affected; however, it may either increase or decrease. Winter recreation would be affected by developing a winter use staging area along the North Steens Loop Road, allowing snowmobile use on marked routes, and developing cooperative agreements with private landowners for winter play areas. Recreational river use would be the same as Alternative A and would have the same effects. SRP management under this alternative would promote protection of natural and cultural values while minimally affecting the SRP operators. Management of existing and creation of new BCBs would promote tourism and recreation. The High Desert Trail would be managed the same as under Alternative A; therefore, the effects would be the same.	The CMPA, Pueblo Mountains, and Trout Creek Mountains would be managed as SRMAs. The emphasis on developing tourism, recreation opportunities, and new facilities would affect both developed and dispersed recreation. Developed recreation would be promoted and increased while dispersed recreation may either increase or decrease. Winter recreation would be affected by developing cross-country ski trails, a nonmotorized winter play area, and by allowing snowmobile use on all designated roads within the CMPA. SRPs would be issued in the CMPA and the AMU; commercial, competitive, and organized group use opportunities would be emphasized, leading to increased use and effects. Management of existing and development of new BCBs would promote tourism and recreation. The High Desert Trail would be managed the same as under Alternative A; therefore, the effects would be the same.
AREAS OF CRITICAL ENVIRONMENTAL CONCERN (Section 4.21)				
No new ACECs would be designated and exisiting ones, totaling 132,112 acres, would be retained.	All existing ACEC designations would be revoked and one new ACEC, Mickey Hot Springs, would be designated for a total of 42 acres. Areas where ACEC designations were revoked would be the same as that applied across the Planning Area.	All existing ACECs would be retained and seven proposed ACECs would be designated for a total of 143,426 acres.	Twelve of the existing ACECs would be retained while the designation on three of the existing ACECs (Alvord Peak, Pickett Rim and Steens Mountain) would be revoked and five new ACECs would be designated for a total of 66,870 acres.	All existing ACEC designations would be revoked and one new ACEC, Mickey Hot Springs, would be designated for a total of 42 acres.

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WILDERNESS (Section 4.22)				
The entire Steens Mountain Wilderness would be managed as a single unit without monitoring areas. Management under this alternative would not restrict party size, dogs, human waste disposal, camping, or stock use. These activities and/or uses would affect the condition of the trails, campsites and surrounding areas, and affect wilderness characteristics such as naturalness and solitude. Present policy calls for no length-of-stay limitation which would result in increased visitation and use at any one time thus effecting solitude and causing additional primitive campsites to be created and used. Unrestricted visitation and use by dogs and stock could create conflicts with wildlife, cattle, other visitors, or other uses. Minimal maintenance of trails and closures of others may provide protection and restoration of natural resources within the wilderness; nevertheless this may also lead to trail damage and increased use and degradation of a few more popular or more visible trails. Campfires are not restricted under this alternative, which may increase wildland fire potential. There may be some unavoidable effects to naturalness or primitive recreational opportunities from weed eradication and fire suppression, but these activities would be temporary.	The Steens Mountain Wilderness would be classified into two monitoring areas; the Gorges and the Uplands. Management under this alternative would restrict party size (six people and nine head of stock); dogs would not be allowed; human waste would have to be packed out. These restrictions would lead to increased naturalness. No trail maintenance or reclamation would be implemented unless a threat is posed to life, property, or wilderness values. This may promote protection and rehabilitation of natural resources within the wilderness; nevertheless, little or no maintenance could lead to increased degradation of the trails and adjacent resources. Campfires would not be allowed, leading to an increase in naturalness and possibly decreasing wildland fire potential. There may be some unavoidable effects to naturalness or primitive recreational opportunities from weed eradication and fire suppression, but these activities would be temporary and would provide long-term protection of wilderness characteristics. Livestock grazing access in the wilderness would be limited because no mechanized or motorized equipment would be allowed for grazing operations. Also, no mechanized or motorized use would be allowed for inholder access Although this may be a hardship on livestock operators, effects to the wilderness would trend toward an increase in naturalness.	The Steens Mountain Wilderness would be classified into two monitoring areas; the Gorges and the Uplands. Management under this alternative would restrict party size (nine people and 12 head of stock); dogs would be allowed but must be under control; catholes would be required for human waste; and toilet paper would have to be packed out. Minimal trail maintenance would be conducted on Little Blitzen, Big Indian, and Wildhorse Lake trails but no new trails would be constructed. Inappropriate user trails would be reclaimed as well as selected roads. Other closed roads would be left for use as informal stock and hiking routes. These activities would promote protection and rehabilitation of natural resources and wilderness values within the wilderness while providing greater access than Alternative B. Fire blankets, fire pans, or stoves would be required. These measures could decrease the potential for wildland fire and reduce effects to the wilderness associated with campfires. Effects to the wilderness from activities would be greater than those under Alternative B and may include additional disturbance to the wilderness, affecting wilderness characteristics such as solitude, naturalness and primitive recreational opportunities. Nevertheless, these activities would be temporary and would provide long-term protection of these wilderness characteristics while promoting natural processes.	The Steens Mountain Wilderness would be classified into two monitoring areas; the Gorges and the Uplands. Management under this alternative would restrict party size (12 people and 15 head of stock); dogs would be allowed but must be under control; catholes would be required for human waste; and toilet paper would have to be packed out. Minimal trail maintenance would be conducted on Little Blitzen, Big Indian, and Wildhorse Lake trails and new trails could possibly be constructed where appropriate as use increases. Selected closed roads would be reclaimed and others would be left for use as informal stock and hiking routes. These activities provide increased access over Alternatives A, B, and C; nevertheless, as maintenance increases, effects on the wilderness and to wilderness values would increase. The use of fire rings may decrease the potential for wildland fire. Effects to the wilderness from activities would be similar to Alternative C and greater than those under Alternative B. Disturbance to the wilderness and effects on wilderness characteristics such as solitude, naturalness and primitive recreational opportunities could be expected. Nevertheless, these activities would be temporary and would provide long-term protection of these wilderness characteristics while promoting a balance between resource protection and use. Livestock grazing access would have the same effects as Alternative A.	The entire Steens MountainWilderness would be managed as a single unit without monitoring areas. Management under this alternative would not restrict or limit party size and would not restrict dogs, human waste disposal, camping, or stock use. These activities and/or uses would affect the condition of the trails, campsites, and surrounding areas. Wilderness characteristics such as naturalness and solitude would also be affected. Minimal trail maintenance would be conducted on Little Blitzen, Big Indian, and Wildhorse Lake trails and new trails would be constructed where appropriate as use increases. Selected closed roads would be reclaimed and others would be left for use as informal stock and hiking routes. These activities provide increased access over Alternatives A, B, and C; nevertheless, as maintenance and construction increase, effects on the wilderness and to wilderness values increase. Campfires would be allowed and the use of existing campfires would be encouraged. The use of fire rings may increase the potential for wildland fire. This alternative would have the greatest effects on the Steens Mountain Wilderness and wilderness values of all the alternatives. Wilderness degradation, decreased solitude, naturalness and primitive experiences would result. Effects to the wilderness from activities would be greater than under all of the other alternatives.

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Livestock permittee grazing access would be managed in keeping with the Motorized Access for Grazing Operations in Wilderness EA and Decision Record. New proposals would be considered for commercial services (e.g., outfitters), which could lead to increased use of the wilderness and affect trail and campsite conditions as well as solitude and naturalness. Inholder access would be managed in accordance with the decision record of the Access for Inholdings in the Steens Mountain Wilderness EA/Decision Record.	No commercial services (e.g., outfitters), would be allowed under this alternative, which would limit certain types of access and use. It would also decrease wilderness visitation and affect trail and campsite conditions as well as solitude and naturalness.	In the long term, wilderness values and the wilderness experience may be enhanced by management under this alternative. Livestock permittee grazing access would have the same effects as Alternative A. Opportunities for access and use would be greater than under Alternative B but less than the other alternatives, which would consider new proposals. This alternative would protect resources and wilderness values and promote natural processes while allowing continued use and access. Inholder access would have the same effects as Alternative A.	Opportunities for access and use would be greater than under Alternatives B and C, but less than Alternative A. Inholder access would have the same effects as Alternative A.	Permanent effects from increased facilities and access would affect the use levels and thus the characteristics of solitude, primitive recreational opportunities and naturalness. There may also be some unavoidable effects to naturalness or primitive recreational opportunities from weed eradication and fire suppression, but these activities would be temporary and would provide long-term protection of these wilderness characteristics. Motorized or mechanized use would be allowed at historic levels for livestock permittee grazing access. The level of use allowed to occur under this alternative would be the greatest of the alternatives, and may include resource degradation, and decreases in solitude, naturalness, primitive recreational opportunities, and conflicts with other uses. Motorized or mechanized use would be allowed at historic or higher levels for inholder access. The level of use allowed to occur under this alternative would be the greatest of the alternatives and may include resource degradation, and decreases in solitude, naturalness, primitive recreational opportunities, and conflicts with other uses.

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WILDERNESS STUDY AREAS (Section 4.23)				
The current WSA designations and management under the WSA IMP and the Steens Act would continue, and this alternative would not result in any new or additional effects to the existing WSAs. The acquired parcels in the Mahogany Ridge and Bridge Creek WSAs would not be incorporated into those WSAs; therefore, wilderness values in these parcels could potentially be impaired because they would not be afforded the same level of protection as the existing WSAs.	Three parcels within the Mahogany Ridge WSA (totaling approximately 318 acres) acquired through a land exchange would become part of that WSA. In addition, a 40-acre parcel adjacent to the Bridge Creek WSA would become part of that WSA. Adding these parcels to the existing WSAs would protect the wilderness characteristics and values in these areas.	Effects from this alternative would be the same as Alternative B.	Effects from this alternative would be the same as Alternative B.	Effects from this alternative would be the same as Alternative B.

Alternative A - No action. Continues present management.	Alternative B - Excludes commodity production and limits other uses; maximizes natural processes.	Alternative C - Emphasizes protection of natural values.	Alternative D - Balances cultural, economic, ecological and social health in a manner that encourages cooperative management practices.	Alternative E - Emphasizes commodity production and public uses
WILD AND SCENIC RIVERS (Section 4.24)				
All rivers currently eligible for inclusion in the WSR system would continue to be managed conformance with BLM Manual 8351 for protective management of eligible WSRs. The identified ORVs for each eligible river shall be afforded adequate protection, subject to valid existing rights, and until the eligibility determination is superseded, management activities and authorized uses shall not be allowed to adversely affect either eligibility or the tentative classification. This may include restrictions on grazing management, recreational use, and mineral or energy development.	No eligible rivers would be recommended as administratively suitable for potential designation as WSRs by Congress. These rivers would be managed in accordance with RMP management objectives instead of in conformance with BLM Manual 8351 for protective management of eligible WSRs. Most eligible rivers are at least partially within the CMPA and the No Livestock Grazing Area, the mineral withdrawal area, the Steens Mountain Wilderness or WSAs. Also, several of the rivers have been listed on the 303(d) list for summer water temperature, and will be subject to water quality restoration plans. These management requirements will provide additional protection for ORVs, especially those associated with riparian and upland vegetation or fish and wildlife habitat.	All eligible rivers would be recommended as administratively suitable for potential designation as WSRs by Congress. All rivers found suitable for inclusion in the WSR system would be managed in conformance with BLM Manual 8351 as if it was a designated wild and scenic river until Congress acts on whether or not to add these rivers into the National WSR system. All suitable rivers shall be administered in such a manner as to protect and enhance their ORVs. This may include restrictions on grazing management, recreational use, and mineral or energy development within the river corridor boundary.	A recommendation to Congress would be made to reclassify the Riddle Brothers Ranch Historic District and the Page Springs and Jackman Park campgrounds from wild to recreational, and change the classification of the Blitzen Crossing to scenic. Changing the classification would be unlikely to affect ORVs identified for the Donner und Blitzen River. These are also either within Steens Mountain Wilderness or WSAs and are in the No Livestock Grazing Area, which would restrict or curtail activities that could affect ORVs in these areas. All of the streams listed in these areas are on the 303(d) list for summer water temperature. WQRPs will be developed, promoting protection of ORVs associated with riparian and upland vegetation, and fish and wildlife habitat. As in Alternative B, no eligible rivers would be recommended as administratively suitable for potential designation as WSRs by Congress, with the same effects.	As in Alternative D, the wild classification of the Riddle Brothers Ranch Historic District, and the Page Springs and Jackman Park campgrounds would be recommended to Congress to be changed to recreational, and the Blitzen Crossing changed to scenic, with the same effects. As in Alternatives B and D, no eligible rivers would be recommended as administratively suitable for potential designation as WSRs by Congress, with the same effects.

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1 INTRODUCTION

The Oregon Bureau of Land Management (BLM), Burns District office, manages 3,275,694 acres of public lands located primarily in Harney County, Southeastern Oregon (Map 1.1). The Burns District BLM is divided into two resource areas: the Andrews Resource Area (Andrews RA) and the Three Rivers Resource Area (Three Rivers RA).

1.1 Purpose of and Need for Action

Resource management of the public lands within the Andrews RA is currently directed by the Andrews Management Framework Plan (Andrews MFP), which was completed in 1982 (United States Department of the Interior [USDI] 1982a). As used in this document, public lands are defined as "those lands administered by the Secretary of the Interior through the BLM." As a result of recent legislation, changes in BLM management policies and regulations, and demands on resources, the Andrews MFP no longer provides the adequate and comprehensive planning direction needed for resource management within the Andrews RA. The Steens Mountain Cooperative Management and Protection Act of 2000 (P.L. 106-399) (Steens Act) (Appendix A) established the Steens Mountain Cooperative Management and Protection Area (CMPA). The CMPA encompasses 496,136 acres primarily within the Andrews RA and a small portion (53,436 acres) within the Three Rivers RA. The remaining portion of the Andrews RA outside of the CMPA is identified as the Andrews Management Unit (AMU). Special areas created within the CMPA include the Wildland Juniper Management Area (WJMA), the Steens Mountain Wilderness (which contains a No Livestock Grazing Area), new Wild and Scenic River (WSR) designations, and the Redband Trout Reserve (RTR). In addition, the Steens Act authorized five specific land exchanges, created a citizen's advisory council (Steens Mountain Advisory Council [SMAC]), authorized establishment of a science advisory committee, and established a Mineral Withdrawal Area. Congress recognized that the CMPA provides for exceptional cooperative management opportunities and offers outstanding natural, cultural, scenic, wilderness, and recreational resources. To ensure that these resources are appropriately managed, the Steens Act mandated the Burns District BLM prepare a management plan for the CMPA by October 30, 2004.

In 1995, preparation of the Southeastern Oregon Resource Management Plan (SEORMP) was initiated by the Vale and Burns Districts of the BLM. The SEORMP initially included the Andrews RA. However, as a result of the Steens Act, the Burns District of the BLM determined it appropriate to separate the Andrews RA from the SEORMP and develop a separate plan in order to address changes in land management resulting from mandates of the Steens Act. The AMU/CMPA Resource Management Plan/Environmental Impact Statement (RMP/EIS) will provide the BLM with a comprehensive framework for managing public lands within the Andrews RA and the CMPA (Map 1.2). Completion of the RMP/EIS will meet the requirements of the Federal Land Policy and Management Act (FLPMA) of 1976 (43 U.S.C. 1701 *et seq.*), which mandates public land be managed for multiple use and sustained yield under an approved RMP. In addition, the Steens Act requires that "within 4 years after the date of the enactment of this Act, the Secretary shall develop a comprehensive plan for the long-range protection and management of the Federal lands included in the Cooperative Management and Protection Area, including the Wilderness Area" (111(b)). A primary goal of this plan is to develop management practices that promote long-term sustainability of a healthy and productive landscape. An RMP contains a set of comprehensive long-range decisions concerning the use and management of resources administered by the BLM. In general, the RMP does two things: (1) provides an overview of goals, objectives, and needs associated with public lands management and (2) resolves multiple use conflicts or issues that drive the preparation of the RMP. In addition, an Environmental Impact Statement (EIS) must be prepared to analyze the alternatives proposed in the RMP as required by the National Environmental Policy Act (NEPA).

This RMP/EIS also considers and, where appropriate, incorporates the science and findings derived from the assessments of the Interior Columbia Basin Ecosystem Management Project (ICBEMP) and the Interior Columbia Basin Final EIS and Proposed Decision (United States Department of Agriculture [USDA]/USDI 2000a). No Record of Decision (ROD) was finalized for the Interior Columbia Basin Final EIS and Proposed Decision; however, a Memorandum of Understanding was entered into by several agencies, including the BLM, to implement The Interior Columbia Basin Strategy (Strategy) (USDA/USDI 2003). The Strategy provides guidance for incorporating the science data and resource information developed by the ICBEMP into land use planning efforts. These findings are important in defining the complexity and scope of the issues being addressed in this RMP/EIS.

1.2 Planning Area

The Planning Area encompasses the entire Andrews RA and the portion of the Three Rivers RA within the CMPA. The Planning Area outside of the CMPA is identified as the AMU. (See Chapter 3 for a more detailed description of the Planning Area.)

1.3 Existing Management Plans

This section outlines the current management direction, which includes the Andrews MFP and the Steens Act. Current management direction also includes the following associated NEPA documents applicable to the Planning Area: Animal Damage Control Final EIS, three volumes (United States Department of Agriculture [USDA] 1994); Steens Mountain CMPA Interim Management Policy Draft (USDI 2001a) (IMP); Decision Record and Finding of No Significant Impact for the Projects for Implementation of the Steens Mountain Cooperative Management and Protection Act of 2000, EA-OR-027-01-27 (USDI 2001b); Three Rivers RMP, ROD, and Rangeland Program Summary (USDI 1992a); Donner und Blitzen National Wild and Scenic River Management Plan Environmental Assessment (EA) (USDI 1993a); National Wild and Scenic River Donner und Blitzen Management Plan EA (USDI 1992b); Noxious Weed Management Project EA, EA OR-020-98-05 (USDI 1998a); Andrews Grazing Management Program EIS (USDI 1982b); and the Land Tenure Adjustment Plan Amendment for the Andrews and Drewsey MFPs (USDI 1988a).

This RMP is necessary not only to revise the Andrews MFP and to address management of the CMPA, but the decision record for this document will also amend the Three Rivers RMP to address management of the CMPA, the mineral withdrawal area, livestock grazing, and wild horse and burro Herd Management Areas (HMAs). The SEORMP incorporates management of the mineral withdrawal area for the Vale District BLM.

Several activity level plans have also been completed in recent years and include the following: Steens Mountain Final Recreation Area Management Plan (USDI 1985); Andrews Rangeland Program Summary Update (USDI 1986a); Andrews Plan Amendment for Recreation Access Surrounding the Steens Mountain Loop Road (Steens Loop) (USDI 1993b); The Riddle Brothers Ranch Historic District Cultural Resources Management Plan (Crespin 1990); Kiger Mustang Area of Critical Environmental Concern Management Plan (USDI 1996a); Riddle Mountain and Kiger Wild Horse HMA Plan (USDI 1996b); Recovery Plan for the Pacific Bald Eagle (USDI 1986b); The Pacific Coast American Peregrine Falcon Recovery Plan (USDI 1982); Decision Record and Finding of No Significant Impact for Steens Mountain Trail Maintenance (USDI 2001c); Pueblo-Lone Mountain Management Plan EA (USDI 1995a); Burns District EA for Commercial Day-Use Activities OR-020-EA-99-24 (USDI 1999); The Riddle Brothers Ranch Historic District Cultural RMP, EA (USDI 1994a); The Trout Creek Mountains Allotment Management Plan; and Recovery Plan for the Borax Lake Chub, *Gila boraxobius* (USDI 1997a).

1.4 Planning Process

The RMP is a land use plan as prescribed by FLPMA (Sections 201 and 202). The RMP establishes, in a written document, the following:

- Land areas for limited, restricted, or exclusive resource uses or for transfer from BLM administration;
- Allowable resource uses and related levels of production or use to be maintained;
- Resource condition, goals and objectives to be reached;
- Program constraints and general management practices;
- Identification of specific required activity plans;
- Support actions required to achieve the above;
- General implementation schedule or sequences; and
- Intervals and standards for monitoring effectiveness of the plan.

The underlying goal of the RMP/EIS is to provide efficient on-the-ground management of public lands and associated resources over a period of time, usually up to 20 years. The procedure for preparing a RMP/EIS involves eleven interrelated steps as shown in Table 1.1.

1.4.1 Public Involvement in the Planning Process

Public involvement is an integral part of the BLM's resource management planning process. Public involvement activities for this RMP/EIS have included a mass mailing of a scoping brochure, holding public meetings, meeting with local government and tribal government officials, conducting a subbasin review (SBR) (Appendix B), mailing the Summary of the Analysis of the Management Situation (AMS Summary) (USDI 2002), mailing a newsletter as followup to the publication of the Analysis of the Management Situation (AMS) (USDI 2002), and other correspondence.

From October 2001 through January 2002, the BLM conducted a SBR. This review resulted in the identification of a number of issues and management concerns to be addressed in the RMP/EIS.

Table 1.1: Steps in the BLM Planning Process

Planning Step	Definition/Purpose
1) Identification of issues	Orients the planning process to the significant resource management problems and land use conflicts in the area covered by the plan.
2) Development of planning criteria	The manager and interdisciplinary team develop standards or rules to focus the planning process on the issues and management concerns.
3) Inventory and data collection	Baseline information is collected on an ongoing basis in support of resource management. Information about all ecosystem components, including human uses, is necessary to prepare a plan that meets requirements and is legally defensible.
4) Analysis of the management situation	The study and assessment of public land resources data for the area covered by the plan; completes the information base for formulating reasonable alternatives.
5) Formulation of alternatives	The development, analysis, and documentation of a reasonable range of multiple use management options that resolves conflicts and issues and provides a basis for future management.
6) Estimation of the effects of the alternatives	The consequences of the resource management alternatives are analyzed and documented.
7) Selection of preferred alternative	Based on a comparison of the estimated effects and tradeoffs associated with the alternatives, a preferred alternative is identified in the draft RMP/EIS.
8) Public review and comment on Draft RMP/EIS	After selection of preferred alternative, the draft RMP/EIS is distributed for 90-day public review and comment.
9) Selection of the resource management plan	Selecting the proposed plan and preparing the final EIS based on evaluation of public comments of the draft RMP/EIS.
10) Public protest period on published Proposed RMP and Final EIS	Publication of the proposed RMP/Final EIS initiates a 30-day public protest period. Following resolution of any protests, the plan is approved and a ROD issued.
11) Monitoring and evaluation	Indicates the effectiveness of plan decisions and related management prescriptions. May continue through the life of the plan. Results are used to determine whether the plan needs amendments or revisions.

The BLM began its public involvement in February 2002 with the mailing of a scoping brochure that briefly described the RMP/EIS process, outlined the planning schedule, and requested comments on the first major planning step; which constitutes identification of issues. The brochure was sent to approximately 1,220 individuals, organizations, and agencies. Additional copies of the scoping brochure were made available at the four scoping meetings. The BLM invited the public to identify issues or concerns they believed should be addressed in the RMP/EIS process. A Notice of Intent to prepare the RMP/EIS was published in the Federal Register at the same time. The Federal Register notice also announced the dates and locations of the four public meetings that would be held. A news release with the same information and a request for publication or announcement was mailed to 19 media groups including the Burns Times Herald, The Bulletin, The Oregonian, and KZZR Radio. BLM representatives attended meetings with the Harney County Court to inform them of the RMP/EIS and to encourage them to make comments, request information, and generally be involved in the process. The same information was distributed to the Burns Paiute Tribal Government. Other meetings with the tribe were also conducted at key steps in the planning process. The Southeast Oregon Resource Advisory Council (RAC), the SMAC, cooperating agencies, and other participating partners were involved throughout the process.

Members of the public, local and tribal governments, other federal agencies, and state agencies were mailed copies of the AMS Summary and were asked to comment, particularly on the planning criteria and proposed RMP/EIS alternatives. Approximately 2,313 comment letters were received. A followup newsletter outlining the primary comments was then mailed to 257 individuals in July 2002. An additional 143 copies of the AMS Summary were sent to interested

individuals and organizations by request. The full version of the AMS was published and made available to the public in November 2002.

1.4.2 Planning Issues

As a result of internal scoping for the development of the preliminary plan and the AMS (Appendix B), the following 17 issues were identified by BLM staff to be addressed in the RMP/EIS:

1) BLM management of resource uses to improve and maintain the integrity of upland ecological communities;

- How will livestock grazing be managed to sustain resource values while maintaining stable watersheds and the continued production of forage?
- What areas previously ungrazed could be grazed and under what circumstances? Are there areas where, or situations when, grazing should be excluded?
- What practices will be authorized and implemented to provide wildlife habitat and forage for livestock while maintaining other uses and values of public land resources?
- Under what conditions is grazing compatible with management of areas such as Wilderness Study Areas (WSAs), WSRs, and Areas of Critical Environmental Concern (ACECs)?
- What are the visual considerations related to upland conditions, and how will the BLM's Visual Resource Management (VRM) play a role?
- What indicators will be used to identify levels of wild horse use compatible with sustaining a thriving, natural, ecological balance?
- What practices will the BLM implement to manage wild horses consistent with the legislative mandate that all management activities be at minimum feasible level?
- What practices will be authorized and implemented to provide adequate habitat and forage for wildlife while maintaining other resource uses and values?
- What grazing practices are necessary to protect sensitive resource values such as riparian areas and special status species?
- What new and existing rangeland projects, including seedings, are needed to improve rangeland resource values?
- What rehabilitation practices will be implemented following rangeland project construction and maintenance that disturb established vegetation cover?
- What criteria should be considered for fire rehabilitation, for restoration of wildlife habitat, and to determine whether or not native or introduced species should be seeded to stabilize watersheds?
- How should the BLM prioritize implementation of management practices to maintain desired conditions and improve undesirable conditions where feasible?
- What criteria should be established to determine conditions and timetables for improvements?
- What resource uses and management practices will be employed in geographic areas with lower management priority?
- Is the current strategy of full wildland fire suppression compatible with upland management objectives?
- How, and to what extent, should fire be used to manage western juniper and aspen woodlands?
- Can cottonwood stands be restored along Donner und Blitzen WSR and the east side of Steens Mountain?
- Can juniper treatments in corridors be accomplished?

2) BLM management of resource uses to improve or maintain the integrity of riparian ecological communities;

- How will riparian vegetation communities be managed to improve or maintain ecological status, species diversity, bank stability, water quality, and the timing of watershed discharge while providing for resource uses such as grazing, recreation, water development, mineral exploration and development, and woodland products harvest?
- What areas previously excluded from grazing could be grazed and under what circumstances? Are there areas or situations when grazing should be excluded?
- What are the visual considerations relating to riparian conditions, and how will the BLM's VRM play a role?
- How will riparian systems be managed to improve or maintain habitat quality for fish, wildlife, plants, and invertebrates?
- How will riparian and wetland areas be managed to incorporate State of Oregon water quality standards and approved management plans addressing water quality concerns?
- Is the current strategy of full wildland fire suppression compatible with riparian management objectives?
- How will management actions in upland communities be handled to be compatible with the needs of riparian communities?
- How should management actions with potential to affect riparian communities be identified and prioritized?

- What timeframes are acceptable to achieve riparian management objectives?
- When does the establishment of juniper threaten other resource values, and what management actions can be used to control the invasion?
- Is collection of baseline riparian information and proper functioning condition (PFC) on acquired and isolated stream segments necessary?
- Should the riparian habitat inventory be redone?

3) BLM maintenance or improvement of woodland communities and how woodlands will be managed to maintain or improve rangeland and wildlife habitat;

- What should be done to preserve and manage the 20.1 acres of grand fir forested areas on public land on Steens Mountain?
- Are there juniper woodland areas that should be preserved?
- What types of woodland products should be harvested?
- What are the potential effects of woodland management on wildlife, watersheds, soils, vegetation, recreation, aesthetics, and other resources?
- What kind of woodland management is compatible with management of Wilderness, ACECs, WSRs, and other designated areas?

4) BLM provisions for wildlife habitat while considering other resource uses;

- To what extent will livestock management and brush control be conducted to meet the habitat requirements of wildlife?
- Which areas, if any, are appropriate for reintroduction of wildlife, and what species could be reintroduced?
- What management practices avoid conflicts between wildlife and livestock for vegetation, especially between bighorn sheep and domestic sheep?
- What are the long-term strategies for managing wildlife?
- To what extent will the BLM adopt Oregon Department of Fish and Wildlife (ODFW) management objectives for game and nongame species of wildlife?
- What management practices best address areas of biodiversity, the needs of species at the limits of their range, and species assemblages?

5) Public land management contributions to the preservation of and increase in healthy, sustainable populations of species now considered in special status. Land management for successful prevention of habitat destruction, which would lead to listing of additional species;

- To what extent will livestock management and brush control be conducted to meet the habitat requirements of special status species?
- Which areas, if any, are appropriate for reintroduction of special status species?
- What are the long-term strategies for managing habitat for special status species?
- To what extent will the BLM adopt ODFW management objectives for special status species?
- What management practices best address areas of biodiversity, the needs of special status species at the limits of their range, and species assemblages?

6) BLM management of energy and mineral resources on public land;

- Are there areas where some types of energy and mineral development should be restricted or prohibited?
- Are there areas where mineral development should be recognized as being the highest and best use?
- How will energy and mineral development be managed to minimize resource conflicts?
- What are the visual considerations relating to management of energy and mineral resources, and how will the BLM's VRM play a role?
- How should recreational rock collecting be managed?
- What reclamation practices will be implemented following mineral development activities?
- Which remediation methods should be used for each identified abandoned mine site?
- What leasing stipulations will be applied to the area outside of the mineral withdrawal?

7) Special area management within the CMPA and in the AMU;

- Should existing ACECs be retained under their current designations and management prescriptions?
- Are there other areas that warrant special designations to protect unique or special values?
- Would designating new special areas or eliminating existing special areas affect other resource values or management?
- How will impacts from nonconforming but acceptable uses and administrative needs in the Wilderness Area be managed in order to meet objectives but also preserve wilderness characteristics?
- How will wilderness values be protected against the impacts of unauthorized uses such as off-highway vehicle (OHV) use and other mechanized or motorized transport?
- What management actions are needed to protect and preserve wilderness values while offering opportunities for quality recreational experiences?
- Where and under what conditions will access be permitted to provide reasonable use and enjoyment of private land within wilderness?
- How will WSRs be managed as they relate to wilderness or other special areas?
- How will the Historic District be managed with the continuing interest and visitation from the public?
- What preventive measures will need to be in place to successfully manage the No Livestock Grazing Area?
- How will the removal of livestock from the No Livestock Grazing Area affect natural ecological processes?
- What management actions will be introduced to control the spread of western juniper and rejuvenate depleted aspen stands in the WJMA?
- How will the RTR be managed to protect the habitat for the fish and provide for research and education opportunities?
- How will land acquired subsequent to the Oregon Wilderness Inventory/EIS, and determined to contain wilderness characteristics, be managed?

8) BLM management of wildland fire, fuels, and prescribed fire to meet and be consistent with resource objectives, while protecting life and property. BLM and private landowners working together to manage wildland fires;

- While the BLM continues to protect life, property, and important resources from fire, are there areas where Appropriate Management Response strategies should be implemented? If so, where and under what conditions would these strategies be applied?
- Which areas are appropriate for using prescribed/wildland fire as a management tool? How would this tool be used?
- Which areas may be subject to constraints (e.g., Oregon Department of Environmental Quality (DEQ) air quality standards) that could limit the use of prescribed fire?
- Which areas should continue to have full suppression to protect important values?
- What rehabilitation practices would be implemented following fire?

9) BLM management of recreation opportunities for both developed and dispersed recreation uses while meeting other resource objectives;

- What types and levels of recreation should the Planning Area provide?
- How, when, and to what extent should the BLM enhance recreation opportunities?
- What conflicts with resource values or other uses would restrict recreation opportunities?
- How should the BLM address SRPs and any needed allocations?
- Would changes in existing OHV designations affect recreation opportunities?
- To what extent should the BLM develop facilities (campgrounds, trails, etc.) and generally improve recreation access opportunities to meet public demand, to provide for public health and safety, and to direct use away from areas of conflict?
- What role, if any, should the BLM serve in encouraging tourism?
- How should the BLM provide for public awareness of recreation resources and opportunities?

10) BLM administration of land status and values to improve management efficiency and cooperation with private landowners;

- Should some BLM administered land in the Planning Area be exchanged for other land with high public value if the exchange is consistent with the land tenure objectives of the BLM? If so, which land should be exchanged?
- What effect does the Oregon Division of State Land's "Asset Management Strategy" have on management of public land?
- Should some federal agency withdrawals be considered for revocation?

- What land should be returned to BLM administration?
- Should state or other non-federal mineral estates under public surface ownership be acquired through mineral estate exchanges?
- Where should the BLM consider exchanging BLM administered land for other land with higher public values or consider selling isolated or difficult-to-manage land? Should the BLM consider selling land for public purposes and community expansion?
- What areas within the Planning Area should be identified as unsuitable for rights-of-way (ROWs) routes for major utilities and roads?
- What areas within the Planning Area should be identified as open for ROWs or other land use authorizations?
- What mitigation measures would be appropriate for land that is suitable for ROWs routes?
- Which land in the Planning Area should have current withdrawals or classifications revoked, continued or modified? Which land in the Planning Area not currently withdrawn should be withdrawn in order to protect Planning Area resources?
- Where should utility corridors, avoidance, and exclusion areas be designated?
- Is there land within the Planning Area that should be identified for retention, acquisition or sale exchange, or other disposal in order to address management objectives and issues?
- What criteria should be applied when considering acquisition from willing sellers of non-federal land to be added to the Planning Area?
- Are there public lands more suitable for administration by other federal, state, or local agencies?

11) Management of wild horses in the HMAs for maintenance of a sustainable, viable, healthy population for existence in thriving, natural, ecological balance with their habitat and other multiple uses of the area;

- How do goals and objectives of the CMPA affect the management of HMAs and wild horse populations?
- Should the existing appropriate management levels (AMLs) for HMAs inside the CMPA boundary be changed considering the following:
  - reduced acreage within the HMAs,
  - impacts of existing and potential fencing (inside the HMA) to implement the Act's No Livestock Grazing Area,
  - potential impacts of fence removal within the HMAs,
  - potential impacts of fence additions in the HMA and outside of the No Livestock Grazing Area, or
  - potential impacts of less water being available to horses in the area west of the No Livestock Grazing Area?
- Should the Alvord-Tule Springs and Coyote Lakes HMAs be combined and the herds managed as one population?
- Are past decisions and current management practices still valid regarding HMAs and Herd Areas within the Planning Area?

12) Management of significant cultural sites and localities for protection and preservation. Use of interpretation as an education tool to increase the public's awareness and appreciation of the Planning Area's cultural resources. Gaining the scientific information to form the basis of this interpretation. Consideration and protection of American Indian interests, traditional practice sites, land forms and resources;

- How can cultural and paleontology inventories (beyond project specific clearances) be focused primarily on areas most likely to contain significant intact properties most susceptible to impacts such as erosion, livestock trampling, OHV use, artifact looting, and concentrated recreation use?
- How can sites and localities be evaluated for significance and managed as such, given time frames and constraints imposed by the needs of other resource management?
- Can all data pertaining to sites and localities continue to be successfully tracked in an automated data base?
- Can cost-share agreements with universities, research teams, undergraduate and graduate students, and the tribes continue to be implemented to gain scientific and cultural information that will form the basis for interpretation?
- Will resources, both internal and external, be available for BLM cultural personnel to gain the training and experience required to make oral and written interpretive presentations as well as to prepare design and construction of interpretative panels and facilities?
- Will active consultation with Indian tribes be ongoing and continue to establish baseline data for traditional religious sites and use areas?
- Will a Planning Area tribal use plan be developed by the BLM with cooperation of the various tribes, and would it increase coordination with tribes?

13) Controlling and eradicating noxious weeds;

- Should the Burns District's Noxious Weed Management Program EA (EA OR-020-98-05) continue to be implemented in its present form or should it be evaluated and modified if necessary?
- How will management of noxious weeds in special areas (including Wilderness) be successfully conducted within the restraints required by the guidelines and requirements of those areas?
- Can data in the District weed data base be successfully broken out, summarized, and utilized specific to the Planning Area?
- Can the BLM effectively increase cooperative work with other agencies to monitor locations and spread of weeds? If so, how can this be accomplished?

14) Management of OHV use in the Planning Area;

- What criteria will be used to determine whether current and future OHV use is compatible with OHV designations in the existing BLM OHV strategy?
- What criteria will be used to determine whether OHV use is causing "considerable adverse effects" to Planning Area resources?
- What changes should occur to current OHV designations if determined to be incompatible with the current BLM OHV Strategy or Planning Area objectives?

15) BLM management of resource uses to improve unacceptable aquatic habitat and water quality conditions (such as stream reaches listed as Water Quality Limited (303(d) by the DEQ or maintain aquatic habitat and water quality that are currently in acceptable conditions;

- Do water developments/alternative water developments (reservoirs, springs) need to have application made to the state for water rights? (For smaller water developments, the lag time will be approximately seven months to gain certificate.)
- Will workload and water quality monitoring objectives need to be determined under new management priorities? As the upper Donner und Blitzen drainage area is under new management strategies, should the BLM take steps to get the tributaries and mainstream de-listed from 303(d), or should the state focus on these areas?
- To what extent will livestock management and brush control be conducted to meet fisheries habitat requirements?
- What management practices for range and woodlands accommodate fisheries habitat requirements?
- Which areas, if any, are appropriate for reintroduction of native fish species?
- What are the long-term strategies for managing fisheries?
- To what extent will the BLM adopt ODFW management objectives for fisheries?
- What management practices best address areas of biodiversity, the needs of species at the limits of their range, and species assemblages?
- How can grazing management techniques improve water quality?

16) BLM management of transportation issues in the Planning Area;

- What roads and trails are needed for administrative use and/or public access?
- Where are easements or other use agreements needed to ensure future access?
- Which roads and trails should be open or closed to motorized vehicles or limited to non-motorized, non-mechanical traffic, and where?
- Which roads or trails should be seasonally closed for protection and/or improvement of resources or for public safety, and where?
- To what standards should roads and trails be maintained?
- Can roads or trails that no longer serve management purposes be abandoned and/or reclaimed?
- Should new roads or trails be considered to provide access to important public resources, prevent environmental degradation, or to improve transportation?
- What existing roads are needed to provide reasonable access to private land or areas involving other private rights or interests?
- What areas may need new roads to provide future private access?

17) Changes in current resource uses and management practices affecting the economic and social status of rural communities in the Planning Area;

- How can public land management contribute to the economic stability of small rural communities in the Planning Area?
- How would changing land use and tourism affect traditional rural life styles?
- How would land tenure adjustments affect the economic stability of small rural communities in the Planning Area?
- How, and to what extent, will the creation of the Steens Mountain specially designated areas impact communities and residents?

As stated in the previous section, public scoping was conducted and resulted in identification of additional issues. The BLM received 469 different scoping letters and 1,844 copies of various form letters. A total of 3,601 comments were identified. The comments were categorized into the following 23 categories: Alternative Choices; Cultural; Development Issues; Fire; Fish/Wildlife/Wild Horses; Geology/Mining/Energy; Lakes/Springs; Lands; Livestock Grazing; Noxious Weeds; OHVs/Snowmobiles; Planning and Process Issues; Recreation; Roads/Access; ACECs; Socioeconomics;SPRs; Vegetative Ecosystems; Water Quality/Water Quantity; Wilderness/WSAs; WSRs; Soils; and Other. Less than two percent of the comments (Other) listed in the table were considered beyond the scope of this planning process. A bulleted summary of the comments listed by category is included as Appendix C. The comments categorized as Other are not listed in Appendix C and are not further addressed in this RMP/EIS.

1.4.3 Issues Eliminated from Detailed Study

A number of issues were determined to be beyond the scope of the RMP/EIS. For example, issues related to private and state lands will not be analyzed in the RMP/EIS because the RMP prescribes management only for BLM administered land. Issues related to block grants for communities/counties/states, potential changes in federal law (e.g., laws relating to energy and mineral development and grazing), and release of WSAs are outside of the scope of the RMP because they are based on Congressional actions.

The BLM identified and reviewed the findings from the ICBEMP Scientific Assessment (USDI/USDA 1999) relevant to issue identification across the Interior Columbia Basin. The findings that applied to the SBR area are discussed in Appendix B of this document. Those findings determined not to be applicable to BLM administered land in the Planning Area have been eliminated from further analysis.

1.4.3.1 Planning Criteria

BLM planning regulations (43 Code of Federal Regulations (CFR) 1610) require preparation of planning criteria for all RMPs. Planning criteria are the constraints or ground rules guiding and directing the development of the RMP. The criteria determine the planning team and the public approach for the development of alternatives and ultimately the selection of a Preferred Alternative. Criteria assist with tailoring the RMP to the identified issues and in avoiding unnecessary data collection and analyses. Planning criteria are based on analyses of information pertinent to the Planning Area, professional judgment, standards prescribed by applicable laws, regulations, and agency guidance, and are the result of consultation and coordination with the public, other federal, state, and local agencies, the Burns Paiute Tribe and other Indian tribes.

Planning criteria help to accomplish the following:

- Streamline the RMP's preparation and focus;
- Establish standards, analytical techniques, and measures to be used in the process;
- Guide development of the RMP;
- Guide and direct issue resolution; and
- Identify factors and data to consider in making decisions.

Principles of ecosystem management, as well as a continuing commitment to multiple use and sustained yield, will also guide land use decisions in the Planning Area. The commitment to multiple use would not mean that all land will be open for all uses. Some uses may be excluded on some lands to protect specific resource values or uses. Any such exclusion, however, would be based on laws or regulations or be determined through the planning process and subject to public involvement. Appendix D contains a detailed description of the planning criteria and legal authorities used in the development of this RMP/EIS.

This RMP/EIS is being prepared using the best available information. Limited inventories were conducted to gather additional data for some resources.

1.5 Relationship to Federal Agency Plans

A number of land use plans or RMPs have been developed by the BLM and other federal agencies that relate to or otherwise govern how management is currently implemented within the AMU or CMPA. The BLM is responsible for determining whether or not the proposed RMP is in conformance with these plans. The following federal plans have been identified as applicable to the Planning Area and, unless otherwise noted, are believed to be in conformance with the proposed RMP/EIS. Where appropriate, the management direction and previous management decisions set forth by these documents are used to tier analyses performed in this plan, or are incorporated by reference and therefore are not repeated in detail within this document. Consequently, pertinent decisions already established by these documents are not being revisited here, but are mentioned to give the reader a broad perspective of all management direction pertaining to the Planning Area.

BLM program documents or Inter-agency plan/NEPA documents and decisions applicable to the Planning Area include the following:

- Visual Resource Management Program (USDI 1980);
- 1613 - Areas of Critical Environmental Concern Resource Management Planning Guidance (USDI 1988b);
- Oregon Wilderness Final Environmental Impact Statement (USDI 1989a);
- Vegetation Treatment on BLM Lands in Thirteen Western States Final Environmental Impact Statement (USDI 1991a);
- Federal Land Policy and Management Act of 1976, as amended;
- Land Use Planning Handbook H-1601-1 Handbook (USDI Updated 2001d);
- National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands (USDI 2001e);
- Environmental Impact Statement, Volume III Appendices for all WSAs beginning with OR-2 plus OR-3-114 (USDI 1989b);
- National Environmental Policy Act Handbook H-1790-1 (USDI 1988c);
- Wilderness Management (USDI 2001f);
- Wilderness Management: Final Rule (USDI 2001g);
- Oregon Wilderness Environmental Impact Statement, Volume I-Statewide (USDI 1989c);
- Upper Columbia River Basin Draft Environmental Impact Statement, Volume 1 (USDI 1997b);
- Proposed Southeast Oregon Resource Management Plan and Final Environmental Impact Statement, Volume 1 of 3 - Text (USDI 2000a);
- Rangeland Reform '94, Draft Environmental Impact Statement Executive Summary (USDI 1994b);
- Interior Columbia Basin Final Environmental Impact Statement (USDA/USDI 2000b);
- House Report 101-405 (Arizona Desert Wilderness Act of 1990);
- House Report 101-405 Appendix A, Grazing Guidelines (1990);
- Oregon Natural Heritage Plan (Oregon Natural Heritage Advisory Council 1998);
- Reformatted Comprehensive Plan for the City of Burns, Oregon (1997);
- The National Environmental Policy Act of 1969, as amended;
- Oregon Wilderness Final Environmental Impact Statement (USDI 1989a);
- H-8550-1: Interim Management Policy for lands under Wilderness Review (WSA IMP) (USDI 1995b);
- Wildland and Prescribed Fire Management Policy (National Park Service et al. 1998);
- Endangered and Threatened Wildlife and Plants: Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rules (USDI 1991b); and
- Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines (USDI et al. 2000b).

1.6 Relationship to State and Local Government Plans

The Department of Land Conservation and Development's "Oregon's Statewide Planning Goals" guides land use planning within the state and requires local governments to develop their own comprehensive plans, which implement the state's goals on the local level (Department of Land Conservation Development 1995) (Appendix E). Also shown in Appendix E are the Division of State Lands asset management prescriptions for state lands.

The Governor and various state agencies will be given an opportunity to review the Proposed Final RMP/EIS and comment on its consistency with their goals, policies, and plans.

The RMP is consistent with the Oregon Statewide Comprehensive Outdoor Recreation Plan, which was last updated in part by the Oregon Outdoor Recreation Plan: 1994-1999 (Oregon Parks and Recreation Department 1994). The RMP is also consistent with the Southeast Oregon Recreation Plan for Harney, Lake and Malheur Counties (Oregon Parks and Recreation Department 2000); the Oregon Wildlife Diversity Plan, Second Edition (Puchy and Marshall 1993); Noxious Weed Policy and Classification System (Oregon Department of Agriculture 1997); Oregon's Bighorn Sheep Management

Plan (ODFW 1992-1997); Oregon's Elk Management Plan (ODFW 1992); Mule Deer Plan (ODFW 1990); Oregon Cougar Management Plan Public Review Draft (ODFW 1993); Catlow Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy (ODFW 1997); and the Oregon Outdoor Recreation Plan 2003-2007 (Oregon Parks and Recreation Department Draft 2002).

1.6.1 Harney County Plan

Harney County has an existing land use plan developed in response to the State of Oregon's requirements. The Harney County Commissioners are being provided with an opportunity to review the RMP/EIS and comment on its consistency with their approved plans and policies.

1.6.2 Malheur County Plan

Malheur County has an existing land use plan developed in response to the State of Oregon's requirements. This RMP/EIS will be consistent with the Malheur plan for those sections of the Planning Area in Malheur County.

1.7 Relationship to Tribal Government Plans

The Burns Paiute Tribe is known to have an active interest in the Planning Area. Burns BLM management representatives and the RMP team leader have met with tribal leaders of the Burns Paiute Tribe to discuss the RMP/EIS and to identify tribal goals, needs, or plans which may conflict with or support any of the alternatives. Additional meetings will occur at key points during the process. Also, a Tribal representative has participated in RMP interdisciplinary team meetings. The RMP will be in conformance with Burns Paiute Tribal land use plans.

1.8 Interior Columbia Basin Ecosystem Management Project Implementation Strategy

"The Interior Columbia Basin Ecosystem Management Project (ICBEMP) was established in 1994...to develop and then adopt a scientifically sound, ecosystem based strategy for managing all United States Forest Service (USFS)- or BLM-administered lands within the (Interior Columbia) Basin" (USDA 2000). The ICBEMP covers an area of 145 million acres including all of eastern Oregon. Fifty-three percent of the ICBEMP area is public land managed by the BLM or the USFS. As part of the project, a science integration team was set up and directed to "...study ecological, economic and social systems; examine current and historical conditions; and evaluate whether outcomes from current practices and trends would be consistent with long-term maintenance of ecological integrity and ecosystem health." (USDA 2000). This was all completed at the basin scale. Therefore, a "step-down" process was required to bring findings and information down to a local level where they could be applied in a USFS or BLM management unit such as a ranger district or resource area. This is called the SBR process. The ICBEMP area was divided for analysis and review into four geographic scales: broad-scale (Interior Columbia Basin), mid-scale (subbasins or groups of subbasins), fine-scale (watershed), and site scale (project). The mid-scale or subbasin level is the level at which field offices would do long-range planning for all resources within their respective administrative boundaries. In March 2000, an ICBEMP supplemental draft EIS was published, followed in December 2000 with a final EIS and proposed ROD (USDA/USDI 2000a, 2000b, 2000c). The ROD was not finalized; the state directors and regional foresters have instead chosen to complete the project through an Implementation Strategy. Scientific data and resource information from the ICBEMP have been incorporated into this RMP where applicable per the Implementation Strategy.

As part of the preparation for the RMP/EIS, the BLM conducted a SBR. The subbasins are based on the United States Geological Survey (USGS) fourth field hydrologic unit codes (HUCs). On average, these fourth field HUCs comprise an area of 500,000 to 1,000,000 acres. The Andrews SBR area included six subbasins wholly or partially within the Planning Area identified in the ICBEMP scientific assessment: Guano, Harney/Malheur Lakes, Alvord Lake, Donner und Blitzen, Thousand-Virgin, and Crooked Rattlesnake, comprising an area of approximately 6,200,110 acres. Land ownership and administrative responsibilities include private, State of Oregon, BLM, and the United States Fish and Wildlife Service (USFWS). The majority of the land in the SBR area is administered by the BLM, Andrews Field Office.

The BLM team examined the ICBEMP findings as well as the science behind the findings and identified a number of relevant issues applicable across the Interior Columbia Basin. The BLM determined that some of the findings and science assessments applied to the SBR area. Appendix B of this document contains a complete report of the SBR and the ICBEMP findings applicable to the SBR area. The RMP/EIS incorporates multi-scale issues and priorities identified in the SBR.

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2 MANAGEMENT ALTERNATIVES

2.1 Description of the Alternatives and Management Actions

This chapter presents the range of alternatives and summarizes the major management actions proposed for each alternative, organized by resource or resource program. The management goals and objectives are stated for each resource or resource use while the management actions developed to achieve the goals and objectives are described for each alternative. The effects of these management actions by alternative result in the projected environmental consequences analyzed in Chapter 4.

2.1.1 Introduction

The development of the five management alternatives included in the RMP/EIS was guided by the legal authorities and planning criteria to address management issues. These included the NEPA and BLM planning regulations and policy, which are included in Appendix D. The purpose of developing alternatives is to prepare different combinations of resource uses to address the identified issues and management concerns and to resolve conflicts among uses. As a result, a range of resource management actions and allocations, consistent with the alternatives, was developed for each resource or resource use.

2.1.1.1 Resource Management Plan Goals

The mission of the BLM is to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations. In order to accomplish this mission, the BLM has developed a "Strategic Plan" ("BLM Strategic Plan") containing a comprehensive set of broad goal statements and a subset of mission goals. Two goal statements and a subset of mission goals dealing with public land management are shown below. (The complete "BLM Strategic Plan 2000-2005" is available at the BLM web site: www.blm.gov/nhp/info/stratplan.)

Goal Number One: Serve current and future publics.

- Provide opportunities for environmentally responsible recreation.
- Provide opportunities for environmentally responsible commercial activities.
- Preserve natural and cultural heritage resources.
- Reduce threats to public health, safety, and property.
- Provide land, resource, and title information.
- Provide economic and technical assistance.

Goal Number 2: Restore and maintain the health of the land.

- Understand and plan for the condition and use of the public lands.
- Restore at-risk resources and maintain functioning systems.

The RMP/EIS incorporates the following goals identified under Part II, Vision, of the Interior Columbia Basin Strategy (USDI 2003):

1) Sustain, and where necessary, restore the health of the forest, rangeland, aquatic, and riparian ecosystems.

2) Provide a predictable, sustained flow of economic benefits within the capability of the ecosystems.

3) Provide diverse recreational and educational opportunities within the capability of the ecosystems.

4) Contribute to recovery and delisting of threatened and endangered (T&E) species, and 303(d) listed waters.

5) Manage natural resources consistent with treaty and trust responsibilities to American Indian tribes.

Steens Mountain Cooperative Management and Protection Act of 2000 (Steens Act) goals:

1) To manage the CMPA to conserve, protect, and manage the long-term ecological integrity of Steens Mountain for present and future generations;

2) To maintain and enhance cooperative and innovative management projects, programs, and agreements between tribal, public, and private interests in the CMPA;

3) To promote grazing, recreation, historic, and other uses that are sustainable;

4) To conserve, protect, and ensure traditional access to cultural, gathering, religious, and archaeological sites on public land within the CMPA by members of the Burns Paiute Tribe and to promote cooperation with private landowners;

5) To ensure the conservation, protection, and improved management of the ecological, social, and economic environment of the CMPA, including geological, biological, wildlife, riparian, and scenic resources;

6) To promote and foster cooperation, communication, and understanding and to reduce conflict between Steens Mountain users and interests; and

7) To ensure that a monitoring program for public land within the CMPA would be implemented so progress toward ecological integrity objectives can be determined.

In addition, goals and objectives were developed specific to each resource/use. These goals are found later in this chapter and in Table 2.1.

2.1.1.2 Ecosystem Management

As described by the ICBEMP "Summary of Scientific Findings" (USDA/USDI 1996), "Ecosystem management is scientifically-based land and resource management that integrates ecological capabilities with social values and economic relations to produce, restore, or sustain ecosystem integrity and desired conditions, uses, products, values, and services over the long term...." Ecosystem management "concentrates on overall ecosystem health and productivity through an understanding of how different parts of the ecosystem function with each other, rather than on achieving a set of outputs." Human activities, including social values, regarding use of public lands and biophysical components are part of the total picture.

The ICBEMP emphasized gathering, organizing, and understanding information at the basin scale. In order to apply the findings of ICBEMP to the local level (i.e., the RMP/EIS area), management planning should go through a "step-down" process. "Step-down" is the process of applying broad-scale science findings and land use decisions to site-specific areas using a hierarchical approach in order to understand current resource conditions, risks, and opportunities (USDA 2000). Information developed through this process provides the context by which projects can be developed to meet multiple management objectives.

The ICBEMP describes four levels of analysis below the basin-level analysis. These are intended to provide the context to appropriately apply the scientific findings to individual national forests or BLM districts:

1) Subregional analysis – programmatic or broad overview EIS such as those associated with an RMP;

2) Mid-scale analysis–SBR;

3) Watershed-scale analysis; and

4) Site-specific NEPA analysis.

Table 2.1: Management Alternatives Summary Table

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
AIR QUALITY (Section 2.2)				
Goal - Maintain, restore, or protect air resources to support public health, visibility, and regional haze standards and goals.				
Objective 1. Manage wildland fires to avoid degradation of the airshed.				
Actions				
1A. Implement prescribed fire while meeting federal and state air quality and opacity standards.	1B. Manage wildland fire while meeting federal and state air quality and opacity standards.	1C. Implement prescribed fire and manage wildland fire while meeting federal and state air quality and opacity standards.	1D. Same as 1C.	1E. Same as 1C.
2A. Cooperate with federal, state, and local government on smoke management issues related to prescribed wildland fires (i.e. voluntary communication plan).	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
Objective 2. Manage mining and aggregate operations to avoid degradation of the airshed.				
Actions				
1A. Require DEQ permits on all crushing equipment. Require dust abatement measures at mine operations.	1B. Withdraw the remainder of the Planning Area from mineral entry and development.	1C. Same as 1B.	1D. Same as 1A.	1E. Same as 1A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
WATER RESOURCES (Section 2.3)				
<u>Goal</u> - Maintain, restore, or improve water quality and quantity to sustain the designated beneficial uses on public lands.				
Objective 1. Comply with state and federal requirements to protect public waters.				
Actions				
1A. Prescribe and implement BMPs (Appendix F) at the activity-plan level to reasonably prevent degradation of water quality.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
Objective 2. Protect all designated beneficial uses by preventing or limiting nonpoint source pollution; maintain or improve existing water quality and quantity through implementation of BMPs.				
Actions				
1A. Prescribe and implement BMPs (Appendix F) at the activity-plan level to reasonably prevent degradation of water quality.	1B. Same as 1A	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. Prescribe and implement BMPs (Appendix F) to facilitate maintenance or improvement of attributes (i.e. vegetation, channel geometry) identified through PFC assessment and/or other qualitative or quantitative survey methods.	2B. Same as 2A. Identify and protect stream reaches or sites through watershed assessment, WQRPs, or other processes that provide or contribute cold water habitat in systems where stream temperatures limit the distribution and abundance of aquatic species.	2C. Same as 2B.	2D. Same as 2B.	2E. Same as 2A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
3A. Maintain existing developed water sources (i.e. spring developments and reservoirs) and develop new sources through project-level planning.	3B. Maintain existing water developments in the CMPA that contribute to beneficial uses; allow natural processes to reclaim developments that are determined through site-specific assessment to not contribute to beneficial uses, except where necessary for wild horse management. Allow natural processes to reclaim existing water developments in the AMU, except where necessary for wild horse management.	3C. Same as Alternative B, except existing water developments in the CMPA and AMU that contribute to beneficial uses would be maintained. Active and/or passive efforts may be used to reclaim water developments determined as no longer providing beneficial uses, such as the No Livestock Grazing Area of the Steens Mountain Wilderness. Existing and future water developments would be maintained or implemented when determined to contribute to beneficial uses.	3D. Same as Alternative C, including specific emphasis on reclaiming existing water developments in the designated No Livestock Grazing Area of the Steens Mountain Wilderness to facilitate cooperative management and future water developments on public and/or private lands.	3E. Same as Alternative A, with an emphasis of water developments to promote or mitigate increased commodity production.
Objective 3. Manage impaired waters on public lands listed under Section 303(d) of the CWA to restore beneficial uses and improve water quality so listing is no longer warranted.				
Actions				
1A. Validate the current listing or validate that the listed water body has been adequately restored; document and implement sufficiently stringent management measures; develop and implement WQRPs; or use other available mechanisms including changes in water quality standards (Appendix F BMPs).	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
2A. Riparian and adjacent uplands that influence 303(d) listed water bodies would be managed according to site or reach multiple-use resource management objectives identified through activity level plans, and modified, as necessary, relative to WQRPs and TMDLs.	2B. All perennial and intermittent waters would be managed to maintain or progress toward an advanced ecological status. Development and implementation of WQRPs would be generally guided by stream/watershed prioritization. Active restoration would be limited to areas that are not likely to progress toward an advanced ecological status within the next 20 to 50 years.	2C. Management would be the same as 2B; however, active restoration of riparian and adjacent uplands may be pursed to initiate or increase the rate of progress toward an advanced ecological status.	2D. Waters listed under section 303(d) of the CWA and contributing perennial and intermittent tributaries would be managed toward attainment of water quality standards or other surrogate measures necessary to protect beneficial uses. Passive and active restoration efforts may be implemented to achieve resource objectives, emphasizing cooperative opportunities. Development of WQRPs would be generally guided by stream/watershed prioritization and cooperative management opportunities.	2E. Same as 2A. However, development and implementation of WQRPs would be generally guided by stream/watershed prioritization, and emphasis would be on localized protection or mitigation to accommodate commodity production and public uses.
SOILS AND BIOLOGICAL SOIL CRUSTS (Section 2.4)				
Goal 1 - Manage soils on public land to maintain, restore, or improve soil erosion class, watershed health, and areas of fragile soils.				
Objective 1. Manage mineral soil to limit accelerated erosion on critical sites, protect soil characteristics on noncritical sites, and maintain or improve existing infiltration and permeability rates.				
Action				
1A Implement BMPs on all potential surface-disturbing activities.	1B. Allow natural processes to affect soil conditions in the Planning Area except where management is necessary to arrest excessive soil movement on critical sites.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
Goal 2 - Increase the understanding of the management of northern Great Basin biological soil crusts.				
Objective 1. Collect biological soil crust data within the Planning Area.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
1A. Continue to collect additional biological soil crust data within the Planning Area.	1B. Use the data from biological soil crust monitoring to inform decisions concerning the exclusion or minimization of activities that impact biological soil crusts through surface disturbance.	1C. Use the data from biological soil crust monitoring to inform decisions concerning the minimization of surface disturbing activities that impact biological soil crusts, but still allow reduced levels of commodity production within the Planning Area.	1D. Use the data from biological soil crust monitoring to inform decisions that encourage cooperative management practices in areas containing biological soil crusts.	1E. Use the data from biological soil crust monitoring to inform decisions concerning natural resources and additional commodity production in areas containing biological soil crusts.
2A. Develop a standard monitoring methodology and implement monitoring appropriate to the Pueblo-Lone Mountain Allotment and other allotments within the Planning Area.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
3A. Monitor the crustal community as one of the indicators for S&Gs.	3B. Same as 3A.	3C. Same as 3A.	3D. Same as 3A.	3E. Same as 3A.
VEGETATION (Section 2.5)				
Goal - Manage vegetation to achieve and maintain healthy watersheds.				
RIPARIAN AND WETLANDS (Section 2.5.2)				
Goal - Maintain, restore, or improve riparian vegetation, habitat diversity, and geomorphic stability to achieve healthy, productive riparian areas and wetlands and associated structure, function, process, and products that provide public land values such as forage, water, cover, structure and security necessary to meet the life history requirements of fish and wildlife; public recreation and aesthetics; water quality and quantity; and livestock forage and water.				
Objective 1. Achieve and/or maintain a rating of PFC for perennial and intermittent flowing and standing water bodies relative to site capability, site potential, and BLM management jurisdictions.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Implement or continue management prescriptions at the activity-plan level designed to maintain, restore, and/or improve specific attributes of riparian/wetland function to maintain or progress toward attainment of PFC.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
Objective 2. Maintain and/or improve riparian vegetation communities relative to ecological status, site potential and capability, and/or site-specific management objectives.				
Actions				
1A. Assess reach/site scale riparian/wetland vegetation, hydrology, morphology and soil characteristics (sub-samples) to evaluate site potential and capability.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. Continue to develop and implement activity-plan level management prescriptions or WQRP prescriptions based on reach/site assessment and site specific resource management objectives.	2B. Activity-plan level management prescriptions or WQRP prescriptions based on watershed level or reach/site assessment to maintain or progress toward an advanced ecological status of riparian vegetation would be generally guided by stream/watershed prioritization, along with consideration of new circumstances and emerging opportunities.	2C. Same as 2B.	2D. Same as 2B.	2E. Same as 2B.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
3A. Continue management of existing grazing systems and improvements that maintain PFC relative to reach/site capability and potential.	3B. Manage livestock and recreation use in riparian areas and spring sources within the CMPA emphasizing passive measures. Maintain PFC and promote an advanced ecological status that approaches site capability or potential.	3C. Same as 3B; however, active and passive management and/or restoration of riparian and adjacent upland vegetation may be pursued to initiate or increase the rate of progress toward an advanced ecological status.	3D. Same as 3C; however, ecological status objectives would be dependent on meeting multiple use resource management objectives.	3E. Implement grazing and recreation management in riparian areas to provide maximum use while maintaining or progressing toward PFC and/or WQRP objectives.
4A. Continue management as described under Rangelands Alternative A.	4B. Management of upland vegetation communities adjacent to riparian areas to reduce fire wildland intensity and frequency would be through passive management with emphasis on native vegetation establishment. Active restoration of riparian areas would be limited to reaches/sites that are not likely to achieve or progress towards attainment of an advanced ecological status within the RMP goal time frame of 20 to 50 years.	4C. Manage and manipulate upland vegetation communities adjacent to riparian areas to reduce fire intensity and frequency. Active restoration of riparian and adjacent upland vegetation communities may include the use of native and/or desirable nonnative vegetation; restoration sites would be managed to progress toward native vegetation communities within the RMP goal time frame of 20 to 50 years.	4D. Similar to 4C. However, adjacent upland vegetation communities would be managed or restored to native and/or desirable nonnative vegetation to meet multiple use resource management objectives.	4E. Same as 4D; management emphasis would be to provide sustainable livestock forage, and soil stability and aesthetics along travel corridors and developed recreation sites.
5A. Establish and maintain sources of localized riparian tree and shrub (cottonwood, willow) source material for genetic preservation and riparian restoration purposes.	5B. Same as 5A; however, restoration actions would be limited to riparian areas that are not likely to achieve advanced ecological status within the RMP goal time frame of 20 to 50 years.	5C. Same as 5A, including active manipulation of isolated individuals or stands of woody riparian trees/shrubs to promote regeneration.	5D. Same as 5C.	5E. Same as 5C.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
6A. Maintain existing roads and develop additional roads on a case-by-case basis in conformance with existing laws and regulations.	6B. Inventory road networks and eliminate, relocate, or reconstruct routes that impact riparian/wetland areas. Allow for natural recovery of abandoned road beds where erosion potential is minimal and recovery potential is moderate to high; pursue active restoration where erosion is likely and natural recovery potential is limited. Evaluate and modify road crossings, as necessary, to simulate natural stream function and process.	6C. Same as 6B.	6D. Same as 6B except emphasis of road crossing modification would be designed relative to erosion prevention, and not necessarily stream simulation.	6E. Maintain existing roads and develop additional roads to promote commodity and public uses within established laws and regulations.
Objective 3. Manage riparian areas to maintain or restore soil moisture content and retention of ground water to augment base flow conditions during the warmer summer months.				
Actions				
1A. Allow beaver populations to expand naturally as habitat conditions dictate. Coordinate with the ODFW on population management of beavers on public lands.	1B. Same as 1A.	1C. Allow for the natural expansion and/or reintroduction of beaver into suitable habitat. Coordinate with the ODFW on population management of beaver on public lands.	1D. Allow for the natural expansion and/or reintroduction of beaver into suitable habitat. Coordinate with ODFW on population management of beaver on public lands. Recommend removal of beaver if suitable habitat is not available or if economic harm or ecological damage is occurring.	1E. Allow beaver populations to expand naturally as habitat conditions indicate. Coordinate with the ODFW on population management of beaver on public lands. Recommend removal of beaver if suitable habitat is not available or economic harm or ecological damage is occurring .
2A. Prescribe and implement BMPs at the activity-plan level to maintain, restore, or improve floodplain function and process.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
WOODLANDS (Section 2.5.3)				
Goal 1 - Maintain and improve integrity of old growth juniper woodlands.				
Objective 1. Maintain or improve characteristics of old growth western juniper woodlands.				
Actions				
1A. Mechanically remove all post-settlement western juniper trees in old growth western juniper stands.	1B. Allow natural processes to determine the structure and composition of old growth western juniper stands.	1C. Mechanically remove up to 90 percent of the post-settlement western juniper trees in old growth stands.	1D. Same as 1C.	1E. Same as 1A.
2A. Suppress all lightning ignited and human caused wildland fires.	2B. Allow fires to burn in old growth western juniper stands, restoring fire to its historic role in the ecosystem.	2C. Allow fires to burn in old growth western juniper stands if there is no threat to life or significant resource values, restoring fire to its historic role in the ecosystem.	2D. Same as 2C.	2E. Same as 2C. Reseed appropriate areas with introduced and native forage species.
3A. No current management.	3B. No suitable action.	3C. No suitable action.	3D. Develop market for byproducts of western juniper removal (e.g. secondary wood products, biofuels, and firewood).	3E. Same as 3D.
Goal 2 - Maintain, restore, or improve the integrity of quaking aspen and mountain mahogany stands/groves.				
Objective 1. Reduce the influence of western juniper and other associated woody plant species in quaking aspen and mountain mahogany stands/groves.				
Actions				
1A. Mechanically remove western juniper from quaking aspen and mountain mahogany stands.	1B. Allow natural processes to determine the structure and composition of quaking aspen and mountain mahogany stands where western juniper has established.	1C. Same as 1A.	1D. Same as 1A.	1E. Encourage commodity removal of juniper.
2A. Burn quaking aspen stands where western juniper has established and dominates the stands.	2B. Allow natural processes to determine the structure and composition of old growth western juniper stands.	2C. Burn quaking aspen stands where western juniper has established and has the potential to dominate.	2D. Same as 2C.	2E. Same as 2A. Seed areas with native and desirable nonnative forage species. Encourage firewood removal of cut western juniper.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
3A. Cut and burn western juniper in quaking aspen stands.	3B. Burn quaking aspen stands where western juniper has established and has the potential to dominate the stand.	3C. Same as 3A.	3D. Same as 3A	3E. Same as 3A.
4A. Suppress all wildland fires in quaking aspen and mountain mahogany stands.	4B. Allow wildland fires in quaking aspen and mountain mahogany stands that have been encroached by western juniper to reduce the dominance of western juniper.	4C. Same as 4B	4D. Same as 4B	4E. Same as 4A.
5A. No current management.	5B. No suitable action.	5C. No suitable action.	5D. Develop market for byproducts of western juniper removal (e.g. secondary wood products and biofuels).	5E. Same as 5D
6A. Fence treated mountain mahogany stands and quaking aspen stands where recovery could be suppressed by browsing.	6B. No suitable action	6C. Same as 6A.	6D. Same as 6A.	6E. Allow wild and domestic herbivores access to additional forage produced by cutting and/or burning mountain mahogany and quaking aspen stands.
Goal 3 - Manage woodland habitats so the forage, water, cover, structure, and security necessary to meet life history requirements of wildlife are available on public lands.				
Objective 1. Reduce juniper woodlands to help restore riparian and sagebrush habitats.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Mechanically remove younger (established <120 ybp) western juniper from riparian and sagebrush habitats.	1B. Allow natural processes to determine the structure and composition of old growth western juniper stands.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. Use human ignited wildland fire to reduce the influence of western juniper on sagebrush and riparian habitats.	2B. Allow wildland fire, naturally and human ignited, to reduce the influence of western juniper on sagebrush and riparian habitats.	2C. Same as 2B.	2D. Same as 2B.	2E. Same as 2B.
WILDLAND JUNIPER MANAGEMENT AREA (Section 2.5.4)				
Goal - Manage the WJMA for the purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and native vegetation communities on Steens Mountain.				
Objective 1. Establish a series of demonstration areas within the 3,267-acre WJMA for technology transfer and public education.				
Actions				
1A. Inventory plant and animal communities present in the WJMA.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. No current management.	2B. Establish areas to demonstrate the effects of different treatments (fire, cutting, etc.) on western juniper and the recovery/rehabilitation of native plant communities.	2C. Same as 2B.	2D. Same as 2B.	2E. Same as 2B.
3A. No current management.	3B. Establish interpretive sites at the boundary of the management area identifying the WJMA and its intent.	3C. Same as 3B.	3D. Same as 3B.	3E. Same as 3B.
Objective 2. Evaluate different treatments and management strategies for plant communities dominated by western juniper.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Evaluate all management actions currently being conducted in western juniper woodlands and sagebrush steppe plant communities.	1B. Implement and evaluate treatments and management strategies that utilize or mimic natural processes in juniper control and vegetative recovery.	1C. Implement and evaluate treatments and management strategies utilizing both natural and other processes in juniper control and vegetative recovery.	1D. Same as 1C.	1E. Implement and evaluate treatments and management strategies that emphasize commodity production and public uses.
RANGELANDS (Section 2.5.5)				
Goal 1 - Maintain, restore, or improve the integrity of desirable vegetative communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.				
Objective 1. Maintain or restore native vegetation communities through sound landscape management practices.				
Actions				
1A. Maintain or improve ecological status of native plant communities.	1B. Allow natural processes to define the vegetation composition across the landscape.	1C. Minimize emphasis on commodity production of herbaceous and shrubby vegetation. Emphasize natural values associated with the diverse composition and structure of native vegetation.	1D. Same as 1A.	1E. Emphasize production of native, herbaceous, and shrubby vegetation for commodity uses within the constraints of other resource management objectives.
Objective 2. Manage desirable nonnative seedings to meet resource objectives.				
Actions				
1A. Manage and/or manipulate nonnative seedings to maintain vegetative composition and to meet S&Gs.	1B. Allow natural processes to define the vegetation composition in nonnative seedings.	1C. Implement actions to diversify structure and composition of selected nonnative seedings with emphasis on natural values and other resource objectives, such as reestablishment of native species.	1D. Implement actions to diversify structure and composition of selected nonnative seedings, consistent with resource objectives.	1E. Restore existing nonnative seedings presently in poor or fair condition. Establish new seedings in areas capable of additional biomass production.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
2A. In Greater sage-grouse habitat and/or deer winter range, maintain or restore native vegetative species diversity through inter-seeding of native species on 200 acres. Allow brushbeating and/or discing in a mosaic pattern, on 50 percent of nonnative seedings where brush cover is high.	2B. In Greater sage-grouse habitat and/or deer winter range, allow natural processes to determine the species composition and reinvasion rate of native species into nonnative seedings.	2C. In Greater sage-grouse habitat and/or deer winter range, use interseeding to establish native plant species onto approximately 20,000 acres of nonnative seedings throughout the Planning Area where vegetative species diversity is low. The emphasis would be on reestablishing native species, but other desirable nonnative species could be used in the seeding mix where appropriate. Livestock grazing could be used to suppress plant competition and allow sagebrush establishment. Coordination with permittees, ODFW, and USFWS would occur. Emphasis of this project would be the seedings on the north and west side of Steens Mountain. Brush beating of sagebrush in a mosaic pattern would be allowed on 50 percent of seeded areas where brush cover is high.	2D. Same as 2C except approximately 10,000 acres or more of nonnative seedings would be reseeded. Desirable nonnative species could be used in the seeding mix.	2E. Same as 2C except approximately 5,000 acres of nonnative seedings would be reseeded with native and other desirable nonnative species. Livestock grazing would be used to suppress plant competition and allow sagebrush establishment. Brushbeat or disk a maximum of 75 percent of nonnative seedings with high shrub cover to release grass species and preserve maximum production.
Objective 3. Rehabilitate plant communities that do not have the potential to meet DRCs through management.				
Actions				
1A. Implement vegetation manipulation projects consistent with existing management objectives. Rehabilitate areas burned by wildland fire to protect soil, water, and vegetation resources.	1B. Allow natural processes to define vegetation composition. Wildland fire areas would not be rehabilitated.	1C. Rehabilitate plant communities that do not meet DRCs due to dominance by annual or weedy species, or invasive juniper. Seed native species only.	1D. Rehabilitate plant communities that do not meet DRCs due to dominance by annual or weedy species, or invasive juniper. Seed native and nonnative species where appropriate.	1E. Rehabilitate plant communities that do not meet DRCs due to dominance by annual or weedy species, or invasive juniper. Seed species to provide for optimal forage and/or cover production.
Objective 4. Increase species and structural diversity at the plant community and landscape levels in big sagebrush communities. Provide multiple successional stages within the landscape.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Use prescribed fire to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plants.	1B. Allow natural and human ignited wildland fire to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plants.	1C. Allow naturally ignited wildland fire to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plants.	1D. Use prescribed fire and all wildland fire to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plants.	1E. Same as 1D.
2A. Mechanically remove woody vegetation to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plants.	2B. Allow natural processes to determine successional stages.	2C. Same as 2A, except only on selected sites.	2D. Same as 2A.	2E. Mechanically remove woody vegetation to release suppressed desirable herbaceous vegetation.
<u>Goal 2</u> - Manage rangeland habitats so that the forage, water, cover, structure, and security necessary to meet life history requirements of wildlife are available on public lands.				
Objective 1. Manage big sagebrush, quaking aspen, and western juniper communities to meet habitat requirements for wildlife.				
Actions				
1A. Determine and implement the desired parameters of big sagebrush, juniper, and aspen cover on a case-by-case basis to provide adequate wildlife habitat.	1B. Allow natural processes to determine the future condition of wildlife habitat in big sagebrush, quaking aspen, and western juniper communities.	1C. Manage big sagebrush, quaking aspen, and western juniper communities for the benefit of all wildlife and to meet DRCs in all habitats.	1D. Same as Alternative 1C except that meeting DRCs would apply to most habitats.	1E. Manage for big sagebrush, quaking aspen, and western juniper habitat types where economically important wildlife are present.
Objective 2. Manage big sagebrush communities to meet the life history requirements of sagebrush-dependent wildlife.				
Actions				
1A. Determine variable desired conditions of big sagebrush cover on a site-by-site basis to benefit game and nongame species.	1B. Allow natural processes to determine future big sagebrush conditions.	1C. Manage big sagebrush habitat for the benefit of game and nongame species and to meet DRCs in all big sagebrush habitats throughout the Planning Area.	1D. Manage big sagebrush habitat for the benefit of game and nongame species and to meet DRCs in most big sagebrush habitats throughout the Planning Area.	1E. Reestablish big sagebrush where economically important game species are present.

Alternative A - No action. Continues present management.	Alternative B - Excludes commodity production and limits other uses; maximizes natural processes.	Alternative C - Emphasizes protection of natural values.	Alternative D - Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	Alternative E - Emphasizes commodity production and public uses.
NOXIOUS WEEDS (Section 2.5.6)				
Goal - Control the introduction and proliferation of noxious weeds and reduce the extent and density of established populations to acceptable levels.				
Objective 1. Treat noxious weeds and inventory for new infestations using the most effective means available, as outlined in the Burns District's Integrated Weed Management Program EA/Decision Record.				
Actions				
1A. Continue to apply integrated management for the control of noxious weeds. Emphasize control on disturbed areas such as roads, ROWs, and recreation sites.	1B. Treat only high priority areas of noxious weeds to protect high quality natural resource land and adjacent private land. Manual or biological control methods would be preferred.	1C. Same as 1B.	1D. Apply integrated management for the control of noxious weeds. Priority would be given to high quality natural resource areas. Emphasize control on disturbed areas such as roads, ROWs, and recreation sites.	1E. Same as 1D.
2A. Emphasize inventories to detect new infestations.	2B. Increase inventory to detect new infestations.	2C. Same as 2B.	2D. Emphasize prevention, restoration, research, and expanded efforts to inventory and detect new infestations.	2E. Increase inventory to detect new infestations that may have adverse effects on commodity resources.
Objective 2. Educate the public on how to utilize public lands without inadvertently spreading noxious weeds.				
Actions				
1A. Continue public education in the local area.	1B. Expand public education to include areas outside of Harney County.	1C. Same as 1B.	1D. Same as 1B.	1E. Same as 1B.
Objective 3. Maintain partnerships with local groups and government agencies to combine efforts in the control and prevention of noxious weed infestations.				
Actions				
1A. Continue Harney County Weed Management Partnership.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
FISH AND WILDLIFE (Section 2.6)				
Goal - Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms.				
Objective 1. Maintain, restore, or improve habitat.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Monitor aquatic species and manage their habitat in coordination with other agencies, tribal governments, and cooperators.	1B. Same as 1A, with emphasis on managing habitat for self-sustaining native species.	1C. Same as 1B.	1D. Same as 1A.	1E. Same as 1A.
2A. Reseed approximately 9,000 acres of deer winter range that are in unsatisfactory condition with sagebrush and a mix of other native and nonnative species in coordination with USFWS, ODFW and permittees.	2B. Aerially reseed sagebrush onto approximately 9,000 acres of deer winter range.	2C. Throughout the Planning Area, approximately 20,000 acres of nonnative seedings and all the native vegetation in deer winter range where vegetative species diversity is low would be interseeded to establish native plant species. Other desirable nonnative plant species may be used on a limited basis. Livestock grazing would be used to suppress competition and allow sagebrush establishment. Coordination with permittees, ODFW, and USFWS would occur to set livestock grazing prescriptions on a site-specific basis in areas to be reseeded.	2D. Same as 2C except approximately 10,000 acres or more of nonnative seedings and most of the native vegetation in deer winter range where vegetative species diversity is low, would be reseeded and nonnative species could be used where appropriate.	2E. Same as 2C except approximately 5,000 acres of nonnative seedings and some of the native vegetation in deer winter range where vegetative species diversity is low would be interseeded to establish native and other desirable nonnative plant species.
3A. Identify and undertake opportunities for improvement/ restoration of fish and wildlife habitat (e.g. vegetation manipulation and water developments).	3B. Identify opportunities and undertake for improvement/restoration of fish and wildlife habitat through use of wildland fire, fence removal, and other mainly passive methods.	3C. Identify and undertake opportunities for improvement/restoration of fish and wildlife habitat through use of wildland fire, other vegetation manipulations, limited fence removal, water developments, etc.	3D. Same as 3C except that functional fence removal would not be completed due to livestock grazing.	3E. Same as 3C except that improvements would also benefit livestock.
Objective 2. Manage forage production to support wildlife population levels identified by the ODFW.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Allocate forage for wildlife at management objective levels and allow wildlife populations to expand naturally or through limited transplants in coordination with the ODFW.	1B. Allocate forage for wildlife above management objective levels and allow wildlife populations to expand naturally.	1C. Allocate forage for wildlife above management objective levels and allow wildlife populations to expand naturally or through limited transplants in coordination with the ODFW.	1D. Same as 1A.	1E. Allocate forage for wildlife at management objective levels. Allow wildlife populations to expand naturally or through limited transplants in coordination with the ODFW. Increase forage allocation concurrent with improved range conditions and other improvements.
SPECIAL STATUS SPECIES (Section 2.7)				
Goal - Maintain, restore, or improve special status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of T&E; and prevent future ESA listings.				
SPECIAL STATUS PLANT SPECIES (Section 2.7.2)				
Objective 1. Manage special status plant species and their habitats so management actions do not contribute to their decline or listing as T&E.				
Actions				
1A. Monitor known populations and inventory for new locations of special status plant species.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. Manage habitat for special status plant species to maintain or allow for increases in populations.	2B. Let natural processes determine habitat for special status plant species except for management of critical habitat as identified in a final rule or essential habitat identified in a recovery plan for federally listed species.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
SPECIAL STATUS ANIMAL SPECIES (Section 2.7.3)				
Objective 2. (Special Status Animal) Conserve special status animal species and the ecosystems on which they depend.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Manage special status animal species habitat for conservation and/or recovery.	1B. Allow natural processes to occur except for management of critical habitat for federally listed animal species.	1C. Same as 1A.	1D. Same as 1A.	1E. Manage special status animal species habitat with emphasis given to game species.
2A. Do not undertake management activities likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat pursuant to section 7(a)(2) of the ESA.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
3A. Continue current management of designated critical habitat for Borax Lake chub, with TNC retaining ownership of land located within critical habitat.	3B. Provide permanent protection of designated critical habitat for Borax Lake chub by pursuing the purchase or conservation agreement of nonpublic lands within critical habitat currently owned by TNC, to close the nonpublic lands to livestock grazing, mineral/geothermal exploration, and motorized access.	3C. Same as 3B.	3D. Pursue acquisition or conservation easement of nonpublic lands within Borax Lake chub critical habitat currently owned by TNC and manage uses to avoid or minimize impacts to Borax Lake chub and critical habitat.	3E. Same as 3A.
4A. Rely on the DEQ to establish water quality standards, and the USFWS, ODFW and TNC to monitor habitat and population of Borax Lake chub.	4B. Develop site-specific water quality standards to protect endangered Borax Lake chub in coordination with DEQ, USFWS, ODFW and TNC. Develop and implement a cooperative program to monitor water quality, habitat characteristics, and population trends.	4C. Same as 4B.	4D. Same as 4B.	4E. Same as 4A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
5A. Install bat gates at entrances to abandoned mines to protect roost sites from disturbance but still allow bat movement.	5B. Install bat gates at entrances to abandoned mines and withdraw areas from mineral entry.	5C. Same as 5B.	5D. Same as 5A.	5E. Same as 5A.
Objective 3. Manage big sagebrush communities to meet the life history requirements of sagebrush-dependent, special status species.				
Actions				
1A. Determine variable desired conditions of big sagebrush cover on a site-by-site basis to benefit special status species. Manage in accordance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines.	1B. Allow natural processes to determine future big sagebrush conditions. Manage to the extent practicable, in accordance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines.	1C. Manage big sagebrush habitat for the benefit of special status species and meet DRCs in all big sagebrush habitats throughout the Planning Area. Manage in accordance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines.	1D. Manage big sagebrush habitat for the benefit of special status species and meet DRCs in most big sagebrush habitats throughout the Planning Area. Manage in accordance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines.	1E. Reestablish big sagebrush where economically important special status species are present. Manage to the extent practicable, in accordance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines.
2A. Identify Greater sage-grouse and other special status species use areas with ODFW and/or USFWS and coordinate habitat management across agency boundaries.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
Objective 4. Evaluate habitat requirements and conditions for the reintroduction of extirpated species into historic habitat in the Planning Area.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. In coordination with USFWS and ODFW, determine whether habitat conditions exist that would allow successful reintroduction of locally or regionally extirpated special status species. Determine what habitat improvements are needed, if any, to create suitable habitat for reintroductions.	1B. In coordination with USFWS and ODFW, determine whether habitat conditions exist that would allow successful reintroduction of locally or regionally extirpated special status species.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
Objective 5. Maintain, restore or improve bighorn sheep habitat and allow for maintenance or further expansion of bighorn sheep populations as defined by the ODFW in "Oregon's Bighorn Sheep Management Plan."				
Actions				
1A. Coordinate with the ODFW on population management of bighorn sheep. Allow for transplants, reintroductions, and natural expansion of bighorn sheep. Where needed, improve poor quality habitat in identified historic range.	1B. Allow natural processes to determine the natural range of expansion of bighorn sheep populations without further introductions/transplants into identified historic range.	1C. Coordinate with the ODFW on population management of bighorn sheep. Allow for transplants, reintroductions, and natural expansion of bighorn sheep.	1D. Same as 1A.	1E. Same as 1A.
2A. Authorize the ODFW on trapping bighorn sheep when they determine excess animals are available.	2B. Allow bighorn population numbers to exceed management objectives and do not authorize ODFW to trap excess animals.	2C. Same as 2B except authorize the ODFW to trap bighorn sheep if vegetation monitoring shows degradation due to high population numbers.	2D. Same as 2A.	2E. Same as 2A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
3A. In the Steens Mountain Wilderness, authorize transplants, trapping, distribution of medicine, emergency situations, etc., according to the Steens Act, the Wilderness Act, and Appendix B of House Report 101-405. Minimum tool analysis would be completed on all actions.	3B. Same as 3A.	3C. Same as 3A.	3D. Same as 3A.	3E. Same as 3A.
4A. Identify up to ten sites for construction of low impact, natural appearing water sources or wildlife guzzlers (2000-3000 gal capacity) in identified historic habitat.	4B. Identify up to five sites for construction of low impact, natural appearing water sources in identified historic habitat. Remove fences that restrict bighorn movements and impede access to water.	4C. Identify up to ten sites for construction of low impact, natural appearing water sources in identified historic habitat.	4D. Same as 3A.	4E. Same as 3A.
5A. Continue maintenance of existing guzzlers in the Steens Mountain Wilderness Area and WSAs.in accordance with the Steens Act, the Wilderness Act, Appendix B of House Report 101-405 and the WSA IMP. Minimum tool analysis would be completed on all actions.	5B. Same as 5A.	5C. Same as 5A.	5D. Same as 5A.	5E. Same as 5A.
REDBAND TROUT RESERVE (Section 2.7.4)				
Goal - Manage the RTR to conserve, protect, and enhance the Donner und Blitzen River population of redband trout, and provide opportunities for scientific research, environmental education, and fish and wildlife oriented recreation.				
Objective 1. Define the RTR boundary.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Delineate the boundaries of the RTR in cooperation with other participating entities.	1B. The Donner und Blitzen RTR would consist of the public land portion of the Donner und Blitzen River and tributaries upstream of its confluence with Fish Creek to the longitudinal extent of current and future redband trout distribution, and the width of the flood prone area.	1C. Same as 1B.	1D. Same as 1B.	1E. The Donner und Blitzen RTR would consist of the public land portion of the mainstream Donner und Blitzen River upstream of its confluence with Fish Creek and the width of the flood prone area.
Objective 2. Maintain the genetic integrity of redband trout in the RTR.				
Actions				
1A. Coordinate and cooperate with the ODFW and Malheur NWR in developing and/or revising the Native Fish Conservation Plan(s) for the Donner und Blitzen River subbasin in support of the ODFW's Native Fish Conservation Policy.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
Objective 3. Increase the distribution and abundance of redband trout in the RTR.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Manage riparian and aquatic habitats to maintain or progress toward PFC, water quality standards, and fish habitat values through existing management. Manage the Donner und Blitzen RTR in accordance with the Wilderness Act and WSR Act, as appropriate.	1B. Manage riparian and aquatic habitats for an advanced ecological status that provides for a diversity of fish habitat values including spawning, rearing, cover, forage, and cold-water refuge. Manage the Donner und Blitzen RTR in accordance with the Wilderness Act and WSR Act, as appropriate.	1C. Same as 1B.	1D. Manage riparian and aquatic habitats through coordinated efforts in a manner that provides for a diversity of fish habitat values including spawning, rearing, cover, forage, and cold-water refuge.	1E. Same as 1D.
2A. The Page Springs gauging station weir on the Donner und Blitzen River would be removed if scientifically justified and funds are available.	2B. Coordinate with appropriate agencies, groups, and individuals on removal or modification of the Page Springs gauging station weir to facilitate migration of redband trout and other aquatic species in the Donner und Blitzen River system, while limiting the migration capabilities of nonnative fish.	2C. Same as 2B.	1D. Same as 2B.	2E. Same as 2B.
PALEONTOLOGICAL RESOURCES (Section 2.8)				
<u>Goal 1</u> - Preserve, protect and manage vertebrate, noteworthy invertebrate, and plant paleontological resources in accordance with existing laws and regulations to make these resources available for appropriate uses by present and future generations.				
Objective 1. Using predictive modeling, identify significant localities which may be in conflict with other resource uses.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. A portion of the Planning Area has not been inventoried for paleontological resources. Under this alternative, there is no program in force to find significant localities in other resource use areas.	1B. Implement sample inventory for significant localities within recreational use areas in the entire Planning Area and livestock use areas within the CMPA.	1C. Implement Planning Area-wide sample inventory for significant localities where they may be in conflict with other resource uses.	1D. Same as 1C.	1E. Same as 1C, except the inventory sample would be larger to account for increased commodity production in other resources.
Objective 2. Research significant paleontological localities in cooperation with universities and other federal agencies.				
Actions				
1A. Research significant localities to generate data for use in site management and off-site interpretation. Focus research efforts in areas where resource conflicts require management action.	1B. Implement limited research of significant localities to generate data for use in site management and off-site interpretation.	1C. Same as 1A.	1D. Same as 1A.	1E. Emphasize natural history tourism and implement large scale prospecting and excavation at significant localities.
2A. Record and/or salvage eroding paleontological material at Thousand Springs, Catlow, Pueblo, and other similar localities on an annual basis.	2B. Record and/or salvage surface paleontological material at Thousand Springs, Catlow, Pueblo, and other similar localities on an annual basis.	2C. Same as 2A.	2D. Same as 2A.	2E. Recover fossil specimens and data to be used for interpretation and site management.
Objective 3. Protect significant paleontological localities.				
Actions				
1A. Focus law enforcement surveillance in areas in Catlow Valley, Pueblo Valley, and in the Long Draw.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. Use protective measures at significant sites as appropriate.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
Goal 2 - Increase public knowledge of, appreciation for, and sensitivity to paleontological resources.				
Objective 1. Create paleontology interpretive opportunities for public education.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Construct portable and onsite displays for local, regional and national education where applicable.	1B. Same as 1A, except on-site interpretive facilities would not be constructed. The focus of paleontological interpretation under this alternative would be the creation of portable and static off-site displays and brochures.	1C. Same as 1A, except on-site interpretation signage would not be implemented. The focus of paleontological interpretation under this alternative would be the creation of portable and static off-site displays and self-guided walking tour brochures.	1D. Same as 1A.	1E. Same as A1, except a higher level of interpretation, including on-site facilities, would be implemented to enhance natural history tourism opportunities.
2A. Cost-share programs with universities, museums, and researchers, and volunteers to inventory, analyze, and research the paleontological resources within the Planning Area would be continued.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
CULTURAL RESOURCES (Section 2.9)				
Goal 1 - Preserve, protect and manage cultural resources in accordance with existing laws, regulations, and Executive Orders, in coordination/consultation with the Burns Paiute Tribe, other Native American tribes, the Harney County Historical Society and other heritage groups to make cultural resources available for appropriate uses by present and future generations.				
Objective 1. Using predictive modeling, locate significant sites which may be in conflict with other resource uses.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Ninety three percent of the Planning Area has not been inventoried for cultural resources. As a result, an unknown number of significant sites may be impacted by other resource uses. Under this alternative, there is no program in force to find significant sites in disturbed areas.	1B. Inventory for significant sites in recreation use areas Planning Area-wide and in livestock use areas within the CMPA.	1C. Implement Planning Area-wide sample inventory for significant sites where they may be in conflict with other resource uses.	1D. Same as 1C.	1E. Same as 1C except the inventory sample would be larger to account for increased commodity production in other resources.
Objective 2. Use Section 110 inventories to locate significant sites in the Planning Area.				
Actions				
1A. Complete cultural program funded archaeological inventories in areas of high potential for significant sites within the Planning Area. Five hundred acres per year would be the proposed accomplishment.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Emphasize heritage tourism and increase cultural program funded inventories in areas of high potential for significant sites within the Planning Area. Utilize inventory data and archaeological specimens in interpretation and other heritage recreation opportunities.
Objective 3. Research significant cultural sites in cooperation with universities, the Burns Paiute Tribe, other tribes, and other heritage partnerships.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Research significant sites or groups of sites to generate data for use in site management and off-site interpretation. Focus research efforts in areas where resource conflicts require management action.	1B. Research significant sites or groups of sites on a limited basis to generate data for use in site management and off-site interpretation.	1C. Same as 1A.	1D. Same as 1A.	1E. Emphasize heritage tourism and increase archaeological research at sites or groups of sites. Utilize the research data and archaeological specimens in interpretation and other heritage tourism opportunities.
2A. Record and/or salvage eroding cultural material at significant subsurface sites on an annual basis.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
Objective 4. Use protective measures to safeguard significant cultural sites.				
Actions				
1A. No physical protection measures have been currently implemented with the exception of a caretaker at Riddle Brothers Ranch National Historic District.	1B. Same as 1A.	1C. At significant sites in Catlow Valley, fence the BLM portion; and close the area to OHV use; close roads except for administrative and permittee use. Fence and apply rip-rap to a significant site in the Alvord Valley. Apply other protective measures at other sites as appropriate.	1D. Same as 1C.	1E. Same as 1C.
2A. Provide law enforcement focusing surveillance in the Catlow Valley, Alvord Valley, and Coyote Lake regions.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
3A. Monitor known cultural sites within prescribed wildland fire areas to study fire impacts and prevent post-fire looting.	3B. Monitor and assess known cultural sites within wildland fire areas to study fire impacts and prevent post-fire looting.	3C. Same as 3A.	3D. Same as 3A.	3E. Same as 3A.
Objective 5. Pursue land acquisitions to bring significant sites into public ownership.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. No land acquisitions are currently being proposed under this alternative.	1B. Same as 1A. Acquire private portions of Skull Creek Dunes, Juniper Lake Site, and other nonpublicly owned significant archaeological sites as the opportunity arises.	1C. Same as 1B.	1D. Same as 1B.	1E. As this alternative would not encourage land acquisitions and culturally funded land purchases would not be pursued.
Objective 6. Stabilize, restore or reconstruct significant historic structures to provide public safety and recreational and interpretive opportunities.				
Actions				
1A. Restore or reconstruct historic structures at Riddle Brothers Ranch National Historic District.	1B. Maintain historic structures at Riddle Brothers Ranch National Historic District in their current condition.	1C. Same as 1A.	1D. Same as 1A.	1E. Increase restoration activities in order to support heritage tourism.
2A. Inventory and assess other historic structures in the Planning Area. Develop restoration plans and implement where appropriate.	2B. Inventory and assess other historic structures in the Planning Area.	2C. Same as 2A.	2D. Same as 2A.	2E. Increase inventory and assessment activities in order to support heritage tourism.
Goal 2- Increase public knowledge of, appreciation for, and sensitivity to cultural resources.				
Objective 1. Create cultural resources interpretive opportunities and sites for public education in coordination with the Burns Paiute Tribe, other tribes, and other heritage partnerships.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. On-site interpretation at Riddle Brothers Ranch National Historic District, Andrews Town Site and other sites has not been implemented under this alternative. Portable interpretive displays on various aspects of history in the Planning Area have been created under this alternative.	1B. Construct portable and static interpretive displays for presentation at off-site locations only.	1C. Construct and install interpretive panels at Riddle Brothers Ranch National Historic District, Andrews Town Site and other sites where applicable. Construct portable and static displays for local, regional and national education where applicable.	1D. Same as 1C.	1E. Same as 1C except cultural program funding for interpretation may be increased under this alternative to support heritage tourism.
NATIVE AMERICAN TRADITIONAL PRACTICES (Section 2.10)				
Goal - Protect traditional sites, land forms, burial sites, resources, and other areas of interest in coordination and/or consultation with the Burns Paiute Tribe and other tribes.				
Objective 1. Monitor and protect Burns Paiute tribal and other tribal interest areas.				
Actions				
1A. Continue coordination/consultation with the Burns Paiute Tribe and other tribes to identify traditional practice areas in the Planning Area.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. Nominate applicable Traditional Cultural Properties.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
3A. Monitor burial sites in the Planning Area.	3B. Same as 3A.	3C. Same as 3A.	3D. Same as 3A.	3E. Same as 3A.
Objective 2. Integrate maintenance and protection of native subsistence species into vegetation management activities.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Identify culturally, traditionally, and economically important plants during inventories. Input information into FOIA-exempt GIS layer.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. Coordinate/consult with the Burns Paiute Tribe and other tribes on Planning Area projects involving vegetation management, in particular large-scale projects.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
VISUAL RESOURCES (Section 2.11)				
Goal - Manage public land actions and activities in a manner consistent with VRM class objectives.				
Objective 1. Protect, maintain, improve, or restore visual resource values by managing all public lands in accordance with the VRM system.				
Actions				
PLANNING AREA				
1A. Maintain existing MFP VRM classes (852,210 acres Class I; 239,363 acres Class II; 121,049 acres Class III; and 436,852 acres Class IV) in all areas.	1B. Manage visual resources to allow natural processes to determine visual quality. Designate all lands as VRM Class II (799,132 acres), except where VRM Class I (850,338 acres) is required by law, policy or regulation.	1C. Manage visual resources to emphasize protection of natural values. Existing MFP VRM classes would be amended as follows: 854,266 acres, Class I; 248,943 acres Class II; 546,260 acres Class III; and 0 acres Class IV.	1D. Manage visual resources to improve natural values. Existing MFP VRM classes would be amended as follows: 852,214 acres Class I; 207,012 acres Class II; 214,488 acres Class III; and 375,756 acres Class IV.	1E. Manage visual resources as determined in the MFP, as reinventoried, or as detailed below. VRM classes would be as follows: 852,214 acres Class I; 28,880 acres Class II; 66,978 acres Class III; and 701,398 acres Class IV.
2A. Manage visual resources along eligible WSRs according to existing MFP VRM classes, as amended.	2B. No appropriate action.	2C. Manage visual resources along suitable WSRs according to Alt. C VRM classes	2D. No appropriate action.	2E. No appropriate action.
3A. Manage all WSAs as VRM Class I.	3B. Designate all WSAs as VRM Class I.	3C. Same as 3B. Designate areas found to contain wilderness characteristics as VRM Class II.	3D. Same as 3B.	3E. Same as 3B.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
4A. Continue existing MFP VRM classes for ACECs/ RNAs. (See ACEC Table 2.11).	4B. See Table 2.11 for ACEC VRM classes.	4C. Same as 4B.	4D. Same as 4B.	4E. Same as 4B.
5A. Continue existing MFP VRM classes for seedings.	5B. Designate all seedings as VRM Class II.	5C. Designate all seedings as VRM Class III.	5D. Same as 5C.	5E. Designate all seedings as VRM Class IV.
CMPA				
6A. Manage the Steens Mountain Wilderness, all designated WSRs, and the Steens Mountain ACEC as VRM Class I.	6B. Designate the Steens Mountain Wilderness and all designated WSRs as VRM Class I.	6C. Designate the Steens Mountain Wilderness, all designated WSRs, and the Steens Mountain ACEC as VRM Class I.	6D. Same as 6B.	6E. Same as 6B.
7A. Continue existing MFP VRM classes for the WJMA.	7B. Designate the WJMA as VRM Class II.	7C. Designate the WJMA as VRM Class III.	7D. Designate lands within 0.5 mile of the Steens Loop Road in the WJMA as VRM Class III. Designate the remainder of the WJMA as VRM Class IV.	7E. Designate the WJMA as VRM Class IV.
8A. Maintain existing MFP VRM classes in other areas of the CMPA.	8B. Designate the remainder of the CMPA as VRM Class II.	8C. Same as 8B.	8D. Designate all MFP VRM Class IV lands in the CMPA as VRM Class III. MFP VRM Class II and III areas would remain as VRM Class II and III.	8E. Same as 8A.
AMU				
9A. Maintain existing MFP VRM classes in the AMU.	9B. Designate all remaining MFP VRM Class III and IV areas as VRM Class II. MFP VRM Class II areas would remain as VRM Class II.	9C. Designate all remaining MFP VRM Class IV areas as VRM Class III. MFP VRM Class II and III areas would remain as VRM Class II and III, respectively.	9D. Same as 9A.	9E. Designate all remaining MFP VRM Class II and III areas as VRM Class IV, except the VRM Class II areas in the Trout Creek Mountains and around Denio Creek would remain as VRM Class II. MFP VRM Class IV would remain as VRM Class IV.

Alternative A - No action. Continues present management.	Alternative B - Excludes commodity production and limits other uses; maximizes natural processes.	Alternative C - Emphasizes protection of natural values.	Alternative D - Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	Alternative E - Emphasizes commodity production and public uses.
SOCIAL AND ECONOMIC VALUES (Section 2.12)				
Goal -Manage public lands to provide social and economic benefits to local residents, businesses, visitors, and future generations.				
Objective 1. Work cooperatively with private and community groups and local Burns Paiute tribal and other tribal governments to provide for customary uses consistent with other resource objectives and to sustain or improve local economies.				
Actions				
1A. Make contracts for services and sale of products available to local residents as need and conditions permit.	1B. Allow no commodity production from public land except as required by law (e.g. Steens Act).	1C. Restrict commodity production to protect natural values.	1D. Through cooperative and collaborative processes, make contracts and cooperative agreements for services and products available locally when need and conditions permit.	1E. Target services and products for competitive contracting to local firms/individuals where legally permitted.
2A. Manage natural resources as outlined in existing land use plans.	2B. Petition the Department of the Interior to withdraw the Planning Area from locatable mineral entry. Permit no mineral sales or leasing.	2C.Target local contracts for services to restore and maintain natural systems.	2D. Same as 2C, but provides for sustainable tourism, production, and industry.	2E. Manage natural resources on public lands to enhance tourism, maximize production, and attract industry.
3A. Work cooperatively with public land users consistent with resource objectives.	3B. Allow for natural processes to operate with minimal human interference while providing for public health, safety, and facility maintenance only.	3C. Protect and conserve natural values while allowing for tourism and commodity use of natural resources.	3D. Work collaboratively with local populations to emphasize a high level of natural resource protection which contributes to tourism and attracts sustainable commodities industries.	3E. Advertise existing commodities available for extraction or use.
4A. Create public and private partnerships to achieve shared economic objectives.	4B. Same as 4A.	4C. Same as 4A.	4D. Same as 4A.	4E. Same as 4A.
Objective 2. Maintain and promote the cultural, economic, ecological, and social health of the Steens Mountain area. (CMPA only)				
Actions				
1A. Continue current management by continuing implementation of the directives of the Steens Act.	1B. Provide for commodity production only to the extent required by the Steens Act.	1C. Continue to implement provisions of the Steens Act while emphasizing protection of natural values of the CMPA.	1D. Emphasize sustainable economic operations while protecting the ecological, social, and cultural integrity of the CMPA.	1E. Provide for commodity production to the maximum extent allowable under the Steens Act.

Alternative A - No action. Continues present management.	Alternative B - Excludes commodity production and limits other uses; maximizes natural processes.	Alternative C - Emphasizes protection of natural values.	Alternative D - Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	Alternative E - Emphasizes commodity production and public uses.
ENERGY AND MINERALS (Section 2.13)				
Goal 1 - Provide opportunities for the exploration and development of locatable minerals in a culturally- and environmentally-sound manner.				
Objective 1. Identify land with federal mineral estate available to locatable mineral exploration and development.				
Actions				
1A. Under the MFP, no mineral withdrawals were proposed. Continue management of locatable mineral exploration and development consistent with regulations and laws.	1B. Recommend the entire Planning Area be withdrawn from locatable mineral entry.	1C. Recommend areas to be withdrawn from locatable mineral entry include all ACECs, existing BLM recreation and administrative sites, potential BLM recreation sites when development is approved, National Register eligible and listed cultural sites, significant paleontological localities, big game winter range, RCAs, areas containing special status species and their habitats, and within 0.6 mile of identified sage-grouse leks.	1D. Recommend areas to be withdrawn from locatable mineral entry include existing BLM recreation and administrative sites, potential BLM recreation sites when development is approved, National Register listed cultural sites, significant paleontological localities, areas containing federally listed species and their designated critical habitat, and within 0.6 mile of identified sage-grouse leks.	1E. No new areas would be recommended for withdrawal from locatable mineral entry so that the maximum amount of land would be available for locatable mineral exploration and development.
Goal 2 - Provide opportunities for the leasing and development of oil and gas, geothermal, and solid leasable mineral resources in a culturally- and environmentally-sound manner.				
Objective 1. Identify leasing categories for the land.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Under the MFP, no areas closed to leasing were designated.	1B. Designate the entire Planning Area as closed to leasing.	1C. Designate areas closed to leasing where natural values would be impaired by leasing including all ACECs, existing BLM recreation and administrative sites, potential BLM recreation sites when development is approved, National Register eligible and listed cultural sites, significant paleontological localities, big game winter range, RCAs, areas containing special status species and their habitat, and within 0.6 mile of identified sage-grouse leks.	1D. Designate no new areas closed to leasing.	1E. Same as 1D.
2A. Under the MFP, areas where a NSO stipulation would be applied would be identified by an ID team immediately prior to leasing.	2B. There would be no leasing.	2C. Designate areas for NSO where natural values would be impaired by surface disturbance.	2D. Designate areas of NSO in ACECs, National Register listed cultural sites, and significant paleontological localities. (See Alternative D, Table 2.4)	2E. All areas would be available for surface occupancy except as restricted by current laws or regulations.
3A. Under the MFP, areas where seasonal and/or other special stipulations would be applied would be identified by an ID team immediately prior to leasing.	3B. There would be no leasing.	3C. Designate areas of seasonal and/or other special stipulations where natural values would be impaired by seasonal leasing activities.	3D. Designate areas for seasonal and/or other special stipulations in big game winter range, RCAs, areas containing federally listed species and their designated critical habitat, and within 0.6 mile of identified sage-grouse leks.	3E. No seasonal or other special stipulations would be applied except as required by laws and regulations.

<u>Goal 3</u> - Provide opportunities for the production of saleable minerals by local, state, and federal agencies and the public in a culturally- and environmentally-sound manner.

Objective 1. Permit development of mineral materials sources on a case-by-case basis in areas where development does not conflict with significant resource values.

Alternative A - No action. Continues present management.	Alternative B - Excludes commodity production and limits other uses; maximizes natural processes.	Alternative C - Emphasizes protection of natural values.	Alternative D - Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	Alternative E - Emphasizes commodity production and public uses.
Actions				
1A. Permit saleable minerals development throughout the Planning Area on a case-by-case basis except where it is closed by Congressional action.	1B. Do not permit saleable minerals development.	1C. Same as 1A except do not allow permits in any ACECs, existing BLM administrative and recreation sites, potential BLM recreation sites, National Register eligible and listed cultural sites, significant paleontological localities, RCAs, areas containing special status species and their habitat, and within 0.6 mile of identified sage-grouse leks.	1D. Same as 1A except do not allow permits in all ACECs, existing BLM administrative and recreation sites, potential BLM recreation sites, National Register listed cultural sites, significant paleontological localities, RCAs, areas containing federally listed species and their designated critical habitat, and within 0.6 miles of sage-grouse leks.	1E. Same as 1A.
WILD HORSES AND BURROS (Section 2.14)				
Goal 1 - Manage and maintain healthy wild horse herds in established HMA at AMLs to maintain a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values. Enhance and perpetuate the special or rare and unique characteristics that distinguish the respective herds.				
Objective 1. Designate/Retain/Adjust HMAs.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Retain existing HMAs. See Map 2.1 and Table 2.5.	1B. The existing HMAs would be retained, except for the following modifications: the Alvord-Tule Springs HMA (Burns District) would be combined with the Coyote Lake HMA (Vale District); the Kiger HMA would be reduced in acreage and its boundary changed to reflect the legislated Steens land exchanges; the South Steens HMA would be reduced in acreage and its boundary changed to reflect the legislated Steens land exchanges and the removal of the Ankle Creek Basin portion of the No Livestock Grazing Area. See Map 2.2 and Table 2.5.	1C. Same as 1B.	1D. The existing HMAs would be retained, except for the following modifications: the Alvord-Tule Springs HMA (Burns District) would be combined with the Coyote Lake HMA (Vale District); the Kiger HMA would be reduced in acreage and its boundary changed to reflect the legislated Steens land exchanges; and the South Steens HMA would be reduced in acreage and its boundary changed to reflect the legislated Steens land exchanges. See Map 2.1 and Table 2.5.	1E. The existing HMAs would be retained, except for the following modifications; the Alvord-Tule Springs HMA (Burns District) would be combined with the Coyote Lake HMA (Vale District); the Kiger HMA would be reduced in acreage and its boundary changed to reflect the legislated Steens land exchanges; the net size of the South Steens HMA would be increased and its boundary changed to reflect the addition of a portion of the "No livestock Grazing Area" known as the Dry Creek and Big Springs Pastures of the Fish Creek-Big Indian Allotment (#06003), the addition of that part of the South Steens HA that includes Serrano Point Allotment (#6019), Carlson Creek Allotment (#6027), Bone Creek and Miners Field pastures in the Alvord Peak Allotment (#6038), and the loss of public land acreage due to the legislated Steens land exchanges. See Map 2.3 and Table 2.5.
Objective 2. Designate/Retain/Adjust Herd Areas in inactive status.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Retain current Herd Areas. See Map 2.1 and Table 2.6.	1B. The existing Herd Areas would be retained except for the following modifications: a Kiger Herd Area would be created to reflect the loss of public lands resulting from the legislated Steens land exchanges; and the South Steens Herd Area would be increased in size to reflect the addition of the Ankle Creek Basin portion of the No Livestock Grazing Area and changes in ownership resulting from the legislated Steens land exchanges. See Map 2.2 and Table 2.6.	1C. Same as 1B.	1D. The existing Herd Areas would be retained except for the following modifications: a Kiger Herd Area would be created to reflect the change in land ownership from public to private resulting from the legislated Steens land exchanges; and the South Steens Herd Area would be increased in size to reflect the change in land ownership from public to private resulting from the legislated Steens land exchanges. See Map 2.1 Table 2.6.	1E. Same as 1D except that the South Steens Herd Area would be decreased in size to reflect the increase of the South Steens HMA to include the Serrano Point Allotment (#6019), Carlson Creek Allotment (#6027), and Bone Creek and Miners Field pastures in the Alvord Peak Allotment (#6038). See Map 2.3 and Table 2.6.
Objective 3. Maintain/Adjust AMLs and year-long forage allocations for each HMA.				
Actions				
1A. The current AMLs and wild horse forage allocations would be maintained in all HMAs (see Table 3.19).	1B. The current AMLs and wild horse forage allocations would be maintained in all HMAs (See Table 3.19). Permanent increases or decreases in AML and forage allocations would be considered if monitoring data determines changes in long term forage availability.	1C. Same as 1B.	1D. Same as 1B.	1E. Same as 1B.
Objective 4. Maintain a thriving natural ecological balance within HMAs.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Periodically gather and remove wild horses based on rangeland monitoring studies, climatic conditions, census data, and the occurrence of catastrophic events such as wildfire and drought. Wild horse numbers would be reduced to the low end of the AML range when gathering is conducted. HMA perimeter fences would be maintained and any wild horses that stray outside HMA boundaries would be removed or returned to the HMA. Gates in interior pasture division fences would be managed to maximize horse access to the HMA.	1B. Wild horse numbers would be managed through gathering, removal, and other approved methods of population control. The initiation of gathering and/or other methods of population control would be based on census data, herd health, rangeland health and productivity determined by rangeland monitoring studies, climatic conditions, and the occurrence of catastrophic events such as wildfire and drought. Wild horse numbers would normally be reduced to the low end of the AML range when gatherings are conducted. Perimeter fences would be maintained and any wild horses that stray outside HMA boundaries would be removed or returned to the HMA. Gates in interior pasture division fences would be managed to maximize horse access to the HMA	1C. Same as 1B.	1D. Same as 1B.	1E. Same as 1B.
Objective 5. Maintain/Improve year-round water availability to sustain wild horse herds.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Maintain water sources that are critical to wild horses.	1B. Maintain water sources that are critical to wild horses. Develop additional water sources in areas where greater animal distribution would benefit natural processes and values and where water is lacking during periods of drought. Acquire legal access to private water sources that are critical to wild horses.	1C. Same as 1B.	1D. Maintain water sources that are critical to wild horses. Develop additional water sources to improve animal distribution and provide more stable water sources during periods of drought. Seek cooperative management agreements for access to or acquire legal access to private water sources that are critical to wild horses.	1E. Maintain water sources that are critical to wild horses. Develop additional water sources to improve animal distribution and where water is lacking during periods of drought.
Objective 6. Maintain herd viability, genetic diversity, and the genetic and physical characteristics that distinguish individual herds.				
Actions				
1A. Maintain a 50-50 male/female sex ratio, a diverse age structure, and occasionally introduce new animals to small herds to maintain genetic diversity. An HMA's animals returned to the range (post -gather) and those introduced from outside HMAs would possess characteristics representative of the herd's conformation, size, unique markings, and color.	1B. Diverse age structure and sex ratios, ranging from 40 to 50 percent female and 50 to 60 percent male, would be maintained. HMA animals that are returned to the range after a gather would possess representative characteristics of the herd's conformation, size, color and unique markings. New animals from outside HMAs would be introduced when needed to increase the diversity of the genome or maintain the characteristics of the herd.	1C. Same as 1B.	1D. Same as 1B.	1E Same as 1B.

Alternative A - No action. Continues present management.	Alternative B - Excludes commodity production and limits other uses; maximizes natural processes.	Alternative C - Emphasizes protection of natural values.	Alternative D - Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	Alternative E - Emphasizes commodity production and public uses.
GRAZING MANAGEMENT (Section 2.15)				
<u>Goal</u> - Manage for a sustainable level of livestock grazing while maintaining healthy public land resources.				
Objective 1. Provide for a sustained level of livestock grazing in the AMU while meeting resource objectives and requirements for S&Gs.				
Actions				
1A. Continue the authorization of livestock grazing use in the AMU consistent with the existing land use plan, S&Gs, and activity plans	1B. No grazing use would be authorized in the AMU.	1C. Emphasize nonconsumptive uses in the AMU while providing for minimal sustainable livestock grazing which meets allotment management (natural resource) objectives and the S&Gs.	1D. Provide for sustainable livestock grazing in the AMU which meets allotment management (natural resource) objectives and the S&Gs.	1E. Maximize grazing opportunities in the AMU while meeting S&Gs.
Objective 2. Promote viable and sustainable livestock grazing operations in the CMPA while meeting resource objectives and requirements for S&Gs.				
Actions				
1A. Continue the authorization of livestock grazing use in the CMPA consistent with the existing land use plan, applicable activity plans, Public Law 106-399, and S&Gs.	1B. Emphasize non consumptive uses in the CMPA while providing for sustainable livestock grazing consistent with public law 106-399 which also meets allotment management (natural resource) objectives and S&Gs.	1C. Same as 1B.	1D. Provide for sustainable livestock grazing in the CMPA which meets allotment management (natural resource) objectives and meets Public Law 106-399 and S&Gs.	1E. Maximize grazing opportunities in the CMPA consistent with Public Law 106-399 while meeting S&Gs.
2A. Authorize TNR grazing use of additional forage production in years of favorable growing conditions consistent with existing MFP and RPS management objectives.	2B. Authorize no TNR grazing use. Retain additional herbaceous production for values other than forage production.	2C. Same as 2B.	2D. Authorize TNR grazing use of additional forage in years of favorable growing conditions consistent with meeting resource objectives.	2E. Optimize the authorization of TNR grazing use of additional forage in years of favorable growing conditions consistent with meeting resource objectives.
Objective 3. Implement administrative solutions and rangeland projects to provide proper management for livestock grazing while meeting requirements for S&Gs.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Continue to adjust interim and long-term grazing management and stocking levels in accordance with results of monitoring studies, allotment evaluations, and rangeland health assessments. Implement administrative solutions (season of use changes, stocking levels) and rangeland projects.	1B. Within the CMPA, same as 1C. In the AMU, rangeland projects would not be planned or implemented in support of livestock grazing. Remove projects and rehabilitate project sites that do not function to enhance resource values and/or assist in meeting management objectives.	1C. Emphasize administrative solutions (season of use revisions, stocking level adjustments, livestock exclusions) to meet natural resource management objectives. Implement rangeland projects practices when administrative solutions would not accomplish natural resource objectives. Remove projects and rehabilitate project sites that do not function to enhance resource values and/or assist in meeting management objectives.	1D. Adjust interim and long-term grazing management and stocking levels in accordance with results of monitoring studies, allotment evaluations, and rangeland health assessments. Implement administrative solutions (season of use changes, stocking level adjustments, exclusionary pastures) and/or rangeland projects to accomplish natural resource management objectives.	1E. Emphasize rangeland projects as the preferred solution to meet natural resource management objectives. Apply administrative solutions when structural developments would not accomplish natural resource management objectives.
2A. Relinquished permits and vacant allotments would be handled on a case-by-case basis through land use plan amendments. Non-use would still be authorized for periods of up to three years.	2B. Discontinue permitted use in all allotments where permits have been relinquished.	2C. Relinquished permits would be held in vacant status for two years. Permitted grazing use could be transferred from allotments with resource conflicts to vacant allotments with few or no resource conflicts. In vacant allotments with significant resource conflicts, permitted use could be discontinued.	2D. Relinquished permits would be held in vacant status for two years. Where few or no resource conflicts exist, the allotment could be used as a reserve forage allotment to resolve resource conflicts in other allotments or could be reallocated. Permitted use in all or a portion of allotments with high resource conflicts could be reserved, discontinued, or reallocated.	2E. Relinquished permits would be reallocated to other qualified applicants.
WILDLAND FIRE MANAGEMENT (Section 2.16)				
<u>Goal 1</u> - Provide an appropriate management response to all wildland fires emphasizing firefighter and public safety.				
Objective 1. Implement appropriate fire suppression actions in the WUI or areas identified to possess significant values.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Suppress all wildfires using appropriate management actions.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. Develop FMP.	2B. Same as 2A.	2C. Same as 2 A.	2D. Same as 2A.	2E. Same as 2A.
3A. No current action.	3B. Identify WUI areas within the Burns Interagency Fire Zone.	3C. Same as 3B.	3D. Same as 3B.	3E. Same as 3B.
Objective 2. Implement the appropriate management actions upon discovery of wildland fires in areas outside of the designated WUI or areas that possess significant values.				
1A. Suppress all wildland fires using appropriate management actions.	1B. Suppress all fires that threaten human life, private property, or areas that possess significant resource value. Fires that do not threaten human life, private property, or significant areas would be evaluated and managed using minimal suppression actions.	1C. Same as 1B.	1D. Suppress all fires that threaten human life, private property, or areas that possess significant resource or economic value.	1E. Same as 1A.
2A. No current action.	2B. Develop a plan to manage wildland fires for resource benefit.	2C. Same as 2B.	2D. Develop a plan to manage wildland fires for cultural, economic, ecological, and social benefit.	2E. Develop a plan to manage wildland fires for resource and economic benefit.
<u>Goal 2</u> - Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses.				
Objective 1. Implement management actions across the Planning Area that maintain or return plant communities to the historic fire regime where changes to the biophysical environment have not been significant enough to limit the return. Find an appropriate fire regime based on current conditions in areas where the biophysical environment has been significantly changed and where return to the historic fire regime is not possible.				
Actions				
1A. No current management.	1B. Identify WUI and other areas with resource values suitable for fuels reduction treatment	1C. Same as 1B.	1D. Same as 1B.	1E. Same as 1B.
2A. Use mechanical treatments and/or prescribed fire to reduce fuel loading in areas where the fire regime has been altered.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A and assist local government in developing new markets for byproducts from fuels treatments.	2E. Same as 2D.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Objective 2. Assess burned areas for appropriate biological and physical rehabilitation activities.				
Actions				
1A. Evaluate all burned areas for rehabilitation actions	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. Use a mixture of native and desirable nonnative plant species to rehabilitate burned areas where natural recovery is limited.	2B. Use a mixture of native plant species to rehabilitate burned areas where natural recovery is limited.	2C. Same as 2B.	2D. Use a mixture of native and introduced plant species to enhance economic and natural values.	2E. Use a mixture of native and introduced plant species that would provide maximum economic production.
3A. Utilize a combination of mechanized and nonmechanized equipment to rehabilitate areas altered by fire suppression action.	3B. Same as 3A.	3C. Same as 3A.	3D. Same as 3A.	3E. Same as 3A.
Goal 3 - Identify areas that qualify for suitable fuels reduction treatments to protect urban interface, developments, and other resource values.				
Objective 1. Develop a management strategy that specifically identifies the WUI, resource values, and developments throughout the Planning Area.				
Actions				
1A. The FMP would identify WUI areas within the Planning Area.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. The FMP would identify areas within the Planning Area that possess significant resource values.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.

Alternative A - No action. Continues present management.	Alternative B - Excludes commodity production and limits other uses; maximizes natural processes.	Alternative C - Emphasizes protection of natural values.	Alternative D - Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	Alternative E - Emphasizes commodity production and public uses.
LANDS AND REALTY (Section 2.17)				
<u>Goal</u> - Provide lands, interests in land, and authorizations for public and private uses while maintaining and improving resource values and public land administration.				
Objective 1. Retain, consolidate and/or acquire land or interest in land with high public resource values for effective administration and improvement of resource management. Make available for disposal public land meeting the disposal criteria contained in Section 203(a) of the FLPMA.				
Actions				
1A. Retain public lands in Zone 1 as shown on Map 2.4.	1B. Retain all public lands and increase public land holdings in the entire Planning Area.	1C. Maintain and increase public land holdings in Zone 1, 1A and 1B as identified on Map 2.5 by retaining public lands and acquiring nonpublic lands with emphasis on acquiring lands with natural values.	1D. Maintain and increase public land holdings in Zone 1, 1A, and 1B as identified on Map 2.6 by retaining public lands and acquiring nonpublic lands with high public resource values.	1E. Maintain public land holdings in Zone 1, 1A, and 1B as identified on Map 2.7 by retaining public lands and acquiring nonpublic lands with commodity producing values.
2A. Exchange Zone 2 lands as shown on Map 2.4 for higher resource value lands in Zone 1or 2. Zone 2 lands would not be sold.	2B. There would be no Zone 2 lands under this alternative.	2C. Exchange public lands in Zone 2 as identified on Map 2.5 for nonpublic lands containing important natural values in Zone 1, 1A, or 1B.	2D. Exchange public lands in Zone 2 as identified on Map 2.6 for nonpublic lands containing important public resource values in Zone 1, 1A, or 1B.	2E. Exchange public lands in Zone 2 as identified on Map 2.7 to facilitate commodity production. Public lands in Zone 2 may also be disposed of by R&PP Sale.
3A. Exchange Zone 3 lands as shown on Map 2.4 to acquire higher value lands in Zones 1or 2; Zone 3 lands may be sold if exchange is unlikely.	3B. There are no Zone 3 lands identified for disposal under this alternative.	3C. Exchange public lands in Zone 3 as identified on Map 2.5 for non-public lands containing important natural values in Zone 1, 1A or 1B. If exchange is unlikely, Zone 3 lands may be made available for disposal by state indemnity selection, R&PP Act lease or sale, public sale, or other authorized method.	3D. Make available for disposal by state indemnity selection, private or state exchange, R&PP Act lease or sale, public sale, or other authorized method, as applicable, approximately 9,940 acres of public land in Zone 3 as identified on Map 2.6.	3E. Make available for disposal by state indemnity selection, private or state exchange, R&PP Act lease or sale, public sale, or other authorized method, as applicable, approximately 12,296 acres of public land in Zone 3 as identified on Map 2.7.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
4A. Acquire lands in Zone 1 on a case-by-case basis, consistent with existing land use planning, regulation, and law.	4B. Acquire nonpublic lands in the Planning Area only by purchase or donation with emphasis on acquiring and restoring commodity producing lands.	4C. Acquire nonpublic lands in Zones 1, 1A, and 1B containing important natural values by exchange, purchase, or donation with the goal of ultimately achieving full fee interest in these zones.	4D. Acquire non-public lands in Zones 1, 1A, and 1B by exchange, purchase, donation, or other authorized method. Acquire lands and interests in Zone 1A with the goal of ultimately achieving full fee interest in the zone.	4E. Acquire lands only by exchanges that facilitate commodity production.
5A. Acquire lands in Zone 2 on a case-by-case basis, consistent with existing land use planning, regulation, and law.	5B. There are no Zone 2 lands under this alternative.	5C. Acquire lands in Zone 2 with important natural values. Non-public lands in Zone 2 may be acquired only by purchase or donation.	5D. Limit acquisition in Zone 2 to lands with important resource values (as expressed in 1A and B above) or to lands necessarily included in a larger acquisition of Zone 1, 1A, and 1B lands. Non-public lands in Zone 2 may be acquired only by exchange or donation.	5E. Acquire no lands in Zone 2.
6A. Acquire lands in Zone 3 on a case-by-case basis, consistent with existing land use planning, regulation, and law.	6B. There are no Zone 3 lands under this alternative.	6C. Acquire lands in Zone 3 with important natural values. Non-public lands in Zone 3 may be acquired only by purchase or donation.	6D. Acquire no lands in Zone 3 unless they are necessarily included in a larger acquisition of Zone 1, 1A, and 1B lands.	6E. Acquire no lands in Zone 3.
Objective 2. Meet public, private, and federal agency needs for realty related land use authorizations and land withdrawals including those authorizations necessary for wind, solar, biomass, and other forms of renewable energy development.				
Actions				
1A. Continue current corridor designations on 339 miles of public land .	1B. Eliminate all existing corridor designations throughout the Planning Area. As opportunities arise, terminate and remove ROW facilities within existing corridors.	1C. Designate approximately 246 miles of public land as ROW corridors .	1D. Same as 1C.	1E. Designate 354 miles on public land as ROW corridors including all corridors identified by the “Western Regional Corridor Study”, all county roads, and all federal and state highways.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
2A. ROWs would be located within designated corridors on a case-by-case basis.	2B. The entire Planning Area (1,649,470 acres) would be considered a ROW, realty use, and renewable energy authorization exclusion area except for those authorizations necessary to provide reasonable access to non-public lands and interests in land.	2C. Require all linear ROWs for electrical transmission lines greater that 69 kV, all mainline communications facilities, and all pipelines greater than ten inches in diameter be located within designated corridors.	2D. Encourage all applicants for electrical transmission lines greater than 69 kV, all mainline communications facilities, and pipelines greater than ten inches in diameter to locate their facilities within designated corridors.	2E. Same as 2D.
3A. Continue ROW, realty use, and renewable energy authorization management as necessary consistent with existing land use planning, regulation, and law. Except for those areas (14,812 acres) designated in the Three Rivers portion of the Planning Area, no exclusionary areas are currently designated.	3B. The entire Planning Area (1,649,470 acres) would be considered a ROW, realty use, and renewable energy authorization exclusion area except for those authorizations necessary to provide reasonable access to nonpublic lands and interests in land.	3C. Designate 995,037 acres of public land including all ACECs, WSAs, WSRs, Wilderness, and the CMPA as ROW, realty use, and renewable energy exclusion areas, except for those authorizations necessary to provide reasonable access to nonpublic lands and interests in land.	3D. Designate 171,301 acres of public land including all WSRs and Wilderness as ROW, realty use, and renewable energy exclusion areas, except for those authorizations necessary to provide reasonable access to nonpublic lands and interests in land.	3E. Same as 3D.
4A. Continue ROW, realty use, and renewable energy authorization management as necessary, consistent with existing land use planning, regulation, and law. Except for those areas (17,834 acres) designated in the Three Rivers portion of the Planning Area, no avoidance areas are currently designated.	4B. The entire Planning Area (1,649,470 acres) would be considered a ROW, realty use, and renewable energy authorization exclusion area except for those authorizations necessary to provide reasonable access to nonpublic lands and interests in land.	4C. Designate 222,784 acres of public land including all lands within 0.6 miles of sage-grouse leks, deer and elk winter range, and bighorn sheep habitat as ROW, realty use, and renewable energy authorization avoidance areas.	4D. Designate 699,611 acres of public land including all WSAs, and ACECs as ROW, realty use, and renewable energy authorization avoidance areas.	4E. Designate 678,389 acres of public land including all WSAs, and ACECs as ROW, realty use, and renewable energy authorization avoidance areas.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
5A. Continue Communications Site management as necessary, consistent with existing land use planning, regulation, and law.	5B. Allow no new communications uses throughout the Planning Area. Terminate the existing communications uses at Buckskin Mountain, remove all facilities, and allow the site to recover naturally.	5C. With the exception of small linear distribution facilities, allow no new communications uses throughout the Planning Area. Continue the existing uses at Buckskin Mountain until they are obsolete at which time they may be terminated, the facilities removed, and the lands restored.	5D. Designate Buckskin Mountain as a Communication Site and allow for additional communications uses at the site. Upon designation of the site, develop a site management plan to facilitate efficient and timely development of compatible communications uses. Consider communications lease applications for new locations on a case-by-case basis, and develop site management plans concurrent with processing applications.	5E. Designate Buckskin Mountain as a Communication Site and allow for additional communications uses at the site. Consider communications lease applications for new locations on a case-by-case basis, and develop site management plans when a need or conflict between users arises.
6A. Utilizing the NEPA process, consider an application by a qualified entity to lease and reopen the Fields airstrip.	6B. Reject any proposal or application to reopen and lease the Fields airstrip.	6C. Approve an application by a qualified entity to lease and reopen the Fields airstrip. Reject any proposal to convey the lands under the Airport and Airway Improvement Act.	6D. Approve an application by a qualified entity to lease and reopen the Fields airstrip. Reject any proposal to convey the lands under the Airport and Airway Improvement Act and terminate the lease if the lands are proposed for exchange under the land tenure provisions of this alternative.	6E. Approve an application by a qualified entity to lease and reopen the Fields airstrip. Once the airstrip is fully developed and operational under the terms of the lease and an application is filed by a qualified entity, convey the lands under the Airport and Airway Improvement Act or other authorized method.
7A. Continue ROW, realty use, and renewable energy authorization management as necessary, consistent with existing land use planning, regulation, and law.	7B. The entire Planning Area would be considered a ROW, realty use, and renewable energy authorization exclusion area except for those authorizations necessary to provide reasonable access to nonpublic lands and interests in land.	7C. Except as noted above, applications for ROW, realty use, and renewable energy authorizations in the remainder of the Planning Area would be processed in a timely manner on a case-by-case basis in accordance with NEPA and other applicable law.	7D. Same as 7C.	7E. Same as 7C.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
8A. Consider new BLM withdrawals on a case-by-case basis.	8B. Recommend the entire Planning Area be withdrawn from the public land laws, including the mining laws.	8C. Recommend approximately 255,137 acres identified in Table 2.4 be withdrawn from the public land and mining laws.	8D. Recommend approximately 20,367 acres identified in Table 2.4 be withdrawn from the public land and mining laws.	8E. Recommend no new withdrawals of public lands.
9A. Recommend approval or denial of other federal agency requests for new withdrawals on a case-by-case basis.	9B. Recommend approval of other federal agency requests only for those new withdrawals that would limit commodity production and protect natural values.	9C. Same as 9B.	9D. Same as 9A.	9E. Recommend approval of other federal agency requests only for those new withdrawals that would emphasize commodity production.
10A. Withdrawal and classification review recommendations would be made on a case-by-case basis.	10B. Recommend withdrawal review and classification continuations on all protective withdrawals and classifications. Recommend revocation and termination of those withdrawals and classifications that allow for commodity uses. Eliminate such uses and allow for natural restoration of the lands.	10C. Withdrawal and classification review recommendations would be made on a case-by-case basis with special emphasis given on protecting natural values.	10D. Same as 10A.	10E. To facilitate commodity production withdrawal and classification review recommendations would be made on a case-by-case basis with special emphasis on reviewing, revoking, and terminating all administrative protective withdrawals.
11A. Consider other agency requests for withdrawal relinquishments and modifications on a case-by-case basis.	11B. Encourage other agencies to relinquish withdrawals that provide for commodity uses. Give favorable consideration to continuations of other agency protective withdrawals.	11C. Same as 11B.	11D. Same as 11A.	11E. Encourage other agencies to relinquish protective withdrawals that restrict or prohibit commodity uses. Give favorable consideration to continuations of other agency withdrawals that facilitate commodity uses.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
12A. Continue the current management and boundary alignment with Malheur NWR.	12B. Develop MOUs with USFWS and consider withdrawals and restorations to clarify management responsibilities along the boundary of the Malheur NWR with special emphasis on excluding commodity production.	12C. Develop MOUs with USFWS and consider withdrawals and restorations to clarify management responsibilities along the boundary of the Malheur NWR with special emphasis on providing for protection of natural values.	12D. Develop MOUs with USFWS and consider withdrawals and restorations to clarify management responsibilities along the boundary of the Malheur NWR.	12E. Develop MOUs with USFWS and consider withdrawal restorations along the boundary of the Malheur NWR to facilitate commodity production.
13A. Maintain existing parallel utility ROW facilities through crucial wildlife habitat.	13B. Consolidate existing parallel utility ROW facilities through crucial wildlife habitat.	13C. Evaluate the feasibility of consolidating existing parallel utility ROW facilities through crucial wildlife habitat and implement for critical areas.	13D. Same as 13C.	13E. Maintain existing ROWs and evaluate when feasible the possibility of consolidation of parallel ROWs.
Objective 3. Acquire legal public or administrative access to public land.				
Actions				
1A. Acquire legal or administrative access on a case-by-case basis.	1B. Acquire the rights necessary to control and minimize access to areas containing sensitive resource values.	1C. Same as 1B.	1D. Acquire legal public or administrative access where public demand or an administrative need exists, including any rights necessary to control and minimize access to areas containing sensitive resource values. Emphasis would be placed on providing access.	1E. Acquire legal public or administrative access where public demand or an administrative need exists. Emphasis would be placed on providing access to facilitate commodity production.
2A. Review all land tenure actions for their effect on public access.	2B. Provide for land tenure actions which do not facilitate public access to lands containing sensitive resource values.	2C. Same as 2B.	2D. Provide for maintenance or improvement of public access through all land tenure adjustment transactions.	2E. Same as Alternative D.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
3A. Consider new road construction around nonpublic lands where an access need exists, on a case-by-case basis, subject to the limitations expressed in the CMPA.	3B. Do not utilize road construction around nonpublic lands as an option to easement acquisition for access. Close roads that provide public access to lands containing sensitive resource values.	3C. Same as 2B except actively reclaim closed roads.	3D. Where easement acquisition for access is not feasible or desirable, but a critical access need has been identified, construct new roads around nonpublic lands, subject to the limitations expressed in the CMPA.	3E. Consider new road construction around nonpublic lands to facilitate commodity production, on a case-by-case basis, subject to the limitations expressed in the CMPA.
Objective 4. Eliminate unauthorized use of public lands.				
Actions				
1A. Detect, confirm, and abate, either by formal authorization or termination, all unauthorized use of public land. Effect active reclamation of lands damaged by unauthorized use.	1B. Detect, confirm, and terminate all unauthorized use of public land. Allow for natural restoration of lands damaged by unauthorized use.	1C. Detect, confirm, and terminate, except as noted below in 2C, all unauthorized use of public land. Effect active reclamation of lands damaged by unauthorized use.	1D. Same as 1A.	1E. Detect, confirm, and authorize all unauthorized use of public land.
2A. Agricultural or occupancy trespass would be terminated or may be authorized, consistent with the land tenure zones, by long-term lease, sale, or exchange.	2B. Terminate all agricultural or occupancy trespass. Remove all structures and facilities and allow for natural restoration of lands damaged by unauthorized use.	2C. Agricultural or occupancy trespass would be terminated or may be authorized by exchange, consistent with the land tenure zones, where the exchange would serve to acquire lands with important natural values in addition to resolving the trespass.	2D. Agricultural or occupancy trespass would be terminated or may be authorized, consistent with the land tenure zones, by long-term lease, sale, or exchange, where the lease, sale, or exchange would serve other important public objectives in addition to resolving the trespass. Regardless of the land tenure zone, long-term, inadvertent agricultural or occupancy trespass may be authorized by sale of the minimum acreage necessary to abate the unauthorized use.	2E. Authorize all agricultural or occupancy trespass by long-term lease, sale, or exchange regardless of the land tenure zone.

Alternative A -	Alternative B -	Alternative C -	Alternative D -	Alternative E -
No action. Continues present management.	Excludes commodity production and limits other uses; maximizes natural processes.	Emphasizes protection of natural values.	Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	Emphasizes commodity production and public uses.
TRANSPORTATION AND ROADS (Section 2.18)				
Goal - Provide travel routes to and through BLM managed lands as appropriate to meet resource objectives while providing for private and public access needs.				
Objective 1. Manage roads and ways within the CMPA consistent with the Route Management Categories and Maintenance Levels identified for each alternative.				
Actions				
1A. Retain the current road use maintenance levels and seasonal restrictions for the existing road system within the CMPA, subject to implementation of the Steens Act. The entire Steens Loop Road would remain open. Motorized and nonmotorized winter recreation permits to access the snow line on the North Steens Loop Road would remain available. See Map 2.8.	1B. Close approximately 49 miles of roads bounded on both sides by wilderness, including 18 miles of the Steens Loop Road. Close an additional 107 miles of cherrystem roads and ways associated with WSAs. Retain motorized access on the remaining open routes within the CMPA. Discontinue the winter recreation access along the North Steens Loop Road. Install a gate to seasonally close the Moon Hill Road from February 1 through May 15 each year.	1C. Close the Rooster Comb portion of the Steens Loop Road, the Cold Springs Road west of Nye Cabin, the Fish Creek Road where bounded by wilderness, the Indian Creek Road north of Indian Creek along the WSA/wilderness boundary, and seven miles of other routes as shown on Map 2.11. A total of 29 miles of routes would be closed. Retain motorized access on the remaining open routes within the CMPA. Allow motorized access along the North Steens Loop Road to the snow line and issue permits for nonmotorized forms of winter recreation. Install a gate to seasonally close the Moon Hill Road from February 1 through May 15 each year.	1D. Keep the entire Steens Loop Road open. Allow winter recreation access along the North Loop road to the snow line and issue permits for motorized and nonmotorized forms of winter recreation. Close approximately seven miles of routes as shown on Map 2.12. Retain motorized access along all other remaining open routes within the CMPA. Allow the parking of motorized vehicles within 100 feet of centerline along open routes unless precluded by special designation or other resource concerns. Limit parking along the upper section of the Steens Loop Road to the present area of disturbance. Install a gate to seasonally close the Moon Hill Road from February 1 through May 15 each year.	1E. Keep the entire Steens Loop Road open and retain motorized access along all other currently open routes as shown on Map 2.8. Allow vehicles to travel 100 feet from centerline along open routes unless precluded by special designation or other resource concerns. Expand winter seasonal access to the South Steens Loop Road to the vicinity of the South Steens Campground.
OFF-HIGHWAY VEHICLES (Section 2.19)				
Goal - Manage motorized OHV and mechanized (nonmotorized) vehicle use to protect resource values, promote public safety, provide OHV and mechanized vehicle use opportunities where appropriate and allowable, and minimize conflicts among various users.				
Objective 1. Manage OHV and mechanized vehicle use in conformance with OHV designations.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
PLANNING AREA				
1A. Manage existing OHV and mechanized vehicle use in accordance with the existing open, limited, and closed OHV designations. See Table 2.9.	1B. Maximize areas designated as closed. All other areas would be designated as limited to designated roads and trails with a minimum numbers of roads and trails identified. See Table 2.9 and Map 2.10.	1C. Minimize OHV and mechanized vehicle use in accordance with limited and closed OHV designations (See Table 2.9 and Map 2.11), in order to protect natural values.	1D. Cooperatively manage OHV and mechanized vehicle use in accordance with OHV designations (See Table 2.9 and Map 2.12). Seek cooperative agreements with OHV and mechanized vehicle clubs and other users.	1E. Manage OHV and mechanized vehicle use for maximum OHV opportunities except for areas designated closed or limited, in compliance with existing laws, regulations, and policies (See Table 2.9 and Map 2.13).
2A. Allow OHV and mechanized vehicle organized events when consistent with protection of resource values and OHV designations.	2B. Do not allow organized OHV or mechanized vehicle events.	2C. Allow OHV and mechanized vehicle organized events only on designated roads and trails within areas designated as limited, in order to protect natural values.	2D. Same as 2A.	2E. Maximize opportunities for OHV and mechanized vehicle organized events.
3A. Continue existing OHV designations for ACECs/ RNAs. See Table 2.11.	3B. See Table 2.11.	3C. Same as 3B.	3D. Same as 3B.	3E. Same as 3B.
4A. Leave open all WSA cherrystem roads and ways.	4B. Close all WSA cherrystem roads and ways.	4C. Same as 4A.	4D. Same as 4A.	4E. Same as 4A.
CMPA				
5A. Manage the Steens Mountain Wilderness as closed to OHVs and mechanized vehicles.	5B. Designate the Steens Mountain Wilderness as closed to OHV and mechanized vehicle use.	5C. Same as 5B.	5D. Same as 5B.	5E. Same as 5B.
6A. Leave open the Fish Creek Road, Cold Springs Road, Newton Cabin Road, Bone Creek Road, Indian Creek Road, the road north from Indian Creek Road, and Big Alvord Creek Road. See Map 2.9.	6B. Close all roads listed in 6A and the Steens Loop Road from the Kiger Overlook Road to west of Blitzen Crossing to motorized and mechanized vehicle use.	6C. Close the Rooster Comb, Fish Creek Road, Cold Springs Road from west of Nye Cabin to Riddle Brothers. Ranch, and the road north from Indian Creek Road towards Dry Creek to motorized vehicles.	6D. Same as 6A, except close the Bone Creek Road from the Carlson Creek intersection to the top of Whiskey Hill to public use.	6E. Same as 6A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
7A. All OHV and mechanized vehicle use in WSAs is limited to existing, designated ways and trails.	7B. Designate all WSAs as closed to OHV and mechanized vehicle use.	7C. Designate all WSAs and areas found to contain wilderness characteristics as limited to designated ways and trails for OHV and mechanized vehicle use.	7D. Same as 7C.	7E. Same as 7C.
8A. Continue the existing seasonal closure on the Steens.	8B. Seasonally close the entire CMPA. Install a gate on the Moon Hill Road at the Diamond Grain Camp Road.	8C. Seasonally close the core of the CMPA. Install a gate on the Moon Hill Road at the Diamond Grain Camp Road. Expand the existing closure to include all public lands affected by gate closures.	8D. Same as 8C, except that the Moon Hill Road would be closed approximately ten miles south of the Diamond Grain Camp Road. Expand the existing closure to include all public lands affected by gate closures.	8E. Seasonally close the upper Steens Mountain area. Motor vehicles would be allowed to the 5,600 foot level on the North Steens Loop Road and to South Steens Campground on the South Steens Loop Road without winter recreation permits when road conditions are suitable. Install a gate on the North Steens Loop Road at about the 5,600 foot level.
9A. Continue the existing OHV designations.	9B. Designate the remainder of the CMPA as limited to designated routes.	9C. Same as 9B.	9D. Same as 9B.	9E. Same as 9B
AMU				
10A. All OHV and mechanized vehicle use in WSAs is limited to existing designated ways and trails.	10B. Designate all WSAs as closed to OHV and mechanized vehicle use.	10C. Designate all WSAs and areas found to contain wilderness characteristics as limited to designated ways and trails for OHV and mechanized vehicle use.	10D. Same as 10C.	10E. Designate all WSAs as limited to “existing” ways and trails for OHV and mechanized vehicle use.
11A. Continue existing OHV designations of the Catlow Valley parcels.	11B. Designate the Catlow Valley parcels as closed to OHV and mechanized vehicle use.	11C. Same as 11B.	11D. Same as 11B.	11E. Same as 11B.
12A. Retain the remaining existing OHV designations.	12B. Designate the remainder of the AMU as limited to designated routes for all OHV and mechanized vehicle use.	12C. Same as 12B.	12D. Designate the remainder of the AMU as limited to existing routes for all OHV and mechanized vehicle use.	12E. Designate the remainder of the AMU as open for all OHV and mechanized vehicle use.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
13A. The Alvord Desert playa would remain open to OHV and mechanized vehicle use.	13B. Designate the Alvord Desert playa as closed to all OHV and mechanized vehicle use.	13C. Same as 13B.	13D. Designate the Alvord Desert playa as open to all OHV and mechanized vehicle use.	13E. Same as 13D.
14A. Continue to allow snow to block access to the Trout Creek Mountains Road.	14B. Seasonally close the Trout Creek Mountains Road to all OHV and mechanized vehicle use. Install two gates on the Trout Creek Mountains Road.	14C. Same as 14B.	14D. Same as 14B.	14E. Same as 14A.
15A. Continue to allow snow to block access to the Arizona Creek/Stergen Meadows area.	15B. Seasonally close the Arizona Creek/Stergen Meadows area to all OHV and mechanized vehicle use. Install gates on the Ten Cent Meadows and Starr Ridge Roads.	15C. Same as 15B.	15D. Same as 15B.	15E. Same as 15A.
16A. Maintain the current Borax Lake ACEC OHV designation of limited to existing roads for all OHV and mechanized vehicle use.	16B. Designate the Borax Lake area as closed to all OHV and mechanized vehicle use.	16C. Designate the Borax Lake ACEC as closed to all OHV and mechanized vehicle use.	16D. Same as 16C.	16E. Same as 16B.
RECREATION (Section 2.20)				
Goal - Provide developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.				
Objective 1. Establish and manage intensive-use areas, where the presence of high quality natural resources and the current or potential demand warrants intensive management practices to protect areas for their scientific, educational, and/or recreational values while accommodating anticipated increases in use for recreation activities in specific areas.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
CMPA				
1A. Continue the Steens Mountain Recreation Lands designation.	1B. Remove the Steens Mountain Recreation Lands designation.	1C. Same as 1B.	1D. Same as 1B.	1E. Same as 1B.
2A. Manage the entire CMPA as an undesignated SRMA. See Map 2.17	2B. Provide minimal recreation management. No SRMA would be designated Congressionally and administratively designated areas (CMPA, WSRs, Wilderness, WSAs, ACECs) would be subject to a minimum level of management.	2C. Designate the CMPA as an SRMA. See Map 2.15.	2D. Same as 2C. See Map 2.16.	2E. Same as 2C. See Map 2.14.
AMU				
3A. Manage the entire AMU as an ERMA.	3B. Provide minimal recreation management. No SRMAs would be designated.	3C. Designate the Pueblo Mountains and Trout Creek Mountain as SRMAs with emphasis on undeveloped dispersed recreation opportunities and protection of natural values, while providing an associated level of support facilities. Designate the remaining public lands as an ERMA.	3D. Designate the Pueblo Mountains and Trout Creek Mountain as SRMAs to provide quality recreation opportunities while protecting resource values. Designate the remaining public lands as an ERMA.	3E. Designate the Pueblo Mountains and Trout Creek Mountain as SRMAs to enhance tourism and recreation opportunities. Designate the remaining public lands as an ERMA.
Objective 2. Manage recreation facilities to protect natural resources and to meet user needs.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
PLANNING AREA				
1A. Continue management of existing developed recreation sites and consider their expansion. Provide tourism opportunities.	1B. Provide minimal management of undeveloped recreation sites. Rehabilitate or close undeveloped sites where natural processes are being jeopardized.	1C. Emphasize dispersed recreation while assuring protection of natural and cultural values. Allow for development only to protect and interpret natural and cultural values and provide for public safety. Rehabilitate or close sites where resource values are being affected beyond acceptable levels.	1D. Continue management of existing recreation sites, areas, and their associated improvements, and allow for their expansion. Establish new recreation sites and areas to meet increased recreation demand where needed to protect natural and cultural values and provide for public safety. Allow tourism opportunities consistent with other resource objectives.	1E. Increase tourism opportunities by expanding existing developed and undeveloped recreation sites. Establish new recreation sites and areas to meet increased recreation demand.
CMPA				
2A. Continue management and maintenance of existing developed recreation sites.	2B. Same as 2A.	2C. Same as 2A.	2D. Same as 2A.	2E. Same as 2A.
3A. Maintain the Mann Lake Recreation Site in its present condition.	3B. Same as 3A.	3C. Same as 3A.	3D. Improve facilities at Mann Lake with minimal development to reduce resource damage. Monitor the area and develop a site plan.	3E. Upgrade the Mann Lake Recreation Site to a full-service campground.
4A. Maintain existing horse trail head facilities at South Steens Campground.	4B. Same as 4A.	4C. Same as 4A.	4D. Develop a trailhead facility for horse users in or near South Steens Campground to improve public safety and limit resource damage. Design and construct connecting trails from thetrailhead to other trails.	4E. Develop a trailhead facility for horse users near South Steens Campground. Design and construct connecting trails from thetrailhead to other trails.
5A. Do not install additional toilets along the Steens Loop Road.	5B. Same as 5A	5C. Install and maintain one toilet along the North Steens Loop Road in the Fish Lake area.	5D. Same as 5C.	5E. Install and maintain toilets at the three overlooks at the top of the Steens Loop Road.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
6A. Do not provide for group camping.	6B. Same as 6A.	6C. Develop a group camping area within the confines of an existing campground.	6D. In cooperation with private land owners, develop a group camping area east of Fish Lake.	6E. Same as 6D.
7A. Do not provide any facilities for winter recreation.	7B. Same as 7A.	7C. Develop a winter use staging area along the North Steens Loop Road.	7D. Develop a winter use staging area along the North Steens Loop Road. Develop a system of cross-country ski trails and nonmotorized winter play area at the west end of the WJMA.	7E. Same as 7D.
8A. Continue to manage Lily Lake as a dispersed recreation site.	8B. Designate Lily Lake as a day use area.	8C. Designate Lily Lake as a day use area. Install interpretive signs.	8D. Same as 8 A.	8E. Same as 8A. Install a toilet at Lily Lake.
9A. Do not provide trail access to the Fir Grove.	9B. Same as 9A.	9C. Minimally maintain the route to the Fir Grove protect natural values and provide for public safety.	9D. Same as 9A.	9E. Develop a small trailhead adjacent to the North Loop. Mark and minimally maintain the route to the Fir Grove.
AMU				
10A. Do not develop any new campgrounds.	10B. Same as 10A.	10C. Same as 10A.	10D. Install a toilet and fire rings in the Frog Spring area.	10E. Construct a developed campground in the Frog Spring area.
11A. Do not install a toilet at Pike Creek.	11B. Same as 11A	11C. Same as 11A.	11D. Install and maintain a toilet at Pike Creek in cooperation with the private landowner.	11E. Same as 11D.
12A. Provide trailhead parking near the mouth of Wildhorse Canyon.	12B. Do not provide a staging area near the mouth of Wildhorse Canyon.	12C. Provide a staging area near the mouth of Wildhorse Canyon.	12D. Provide a staging area with information and a toilet near the mouth of Wildhorse Canyon.	12E. Provide a staging area with information, toilet, and horse support facilities near the mouth of Wildhorse Canyon.
Objective 3. Outside of the intensive-use areas and developed recreation sites, manage the remainder of the Planning Area for dispersed recreation.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
PLANNING AREA				
1A. Continue management of existing undeveloped recreation sites. Provide for public safety and resource protection. Develop dispersed tourism opportunities.	1B. Minimally manage existing undeveloped recreation sites. Protect natural processes. Rehabilitate or close sites where natural processes are being jeopardized.	1C. Minimally manage existing undeveloped recreation sites. Protect natural and cultural values and provide for public safety. Rehabilitate or close sites where resource values are being affected beyond acceptable levels.	1D. Protect natural and cultural values and provide for public safety. Develop dispersed recreation opportunities consistent with other resource objectives.	1E. Increase tourism opportunities through management of undeveloped recreation sites and providing additional opportunities for dispersed recreation.
CMPA				
2A. Do not develop trails outside of the Steens Mountain Wilderness.	2B. Same as 2A.	2C. Develop trails outside the Steens Mountain Wilderness only where needed for protection of natural values.	2D. Develop trails outside the Steens Mountain Wilderness where needed for protection of natural resources and for public health and safety.	2E. Develop trails outside the Steens Mountain Wilderness to provide additional hiking and nonmotorized recreation opportunities.
Objective 4. Manage visitor use in the Planning Area to protect natural resources and to provide a variety of recreation opportunities.				
Actions				
PLANNING AREA				
1A. Manage visitor use for unlimited recreation opportunities.	1B. Manage visitor use for minimum recreation opportunities through closures, regulations, etc., to maximize natural processes.	1C. Manage visitor use to protect natural values.	1D. Manage visitor use in a manner which encourages economic growth and cooperative management practices for recreation opportunities consistent with other resource objectives.	1E. Manage visitor use for maximum recreation opportunities consistent with other resource objectives.
2A. Do not limit group size for any recreation activity.	2B. Implement group size limits for any activity in order to allow natural processes to be unimpaired.	2C. Implement group size limits in order to protect natural values.	2D. Evaluate group size limits on a case-by-case basis.	2E. Same as 2A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
CMPA				
3A. Do not restrict camping.	3B. Close to camping all RNAs, the Steens Loop Road above the Jackman Park and South Steens Campgrounds, the Wildhorse Road, all overlooks, Wildhorse Lake basin, and all areas above timberline within view of the Steens Loop Road.	3C. Close to camping all RNAs, the Steens Loop Road above the Jackman Park and South Steens Campgrounds, the Wildhorse Road, all overlooks, and Wildhorse Lake basin.	3D. Close Little Wildhorse RNA to camping. Allow camping in Little Blitzen and Rooster Comb RNAs in historically used areas when consistent with the purposes of the RNAs and the Wilderness Management Plan. Allow camping at Wildhorse Lake in designated campsites only. Overnight pack stock use would not be allowed at Wildhorse Lake. Close East Kiger Plateau, South Fork Willow Creek, and Big Alvord RNAs to camping.	3E. Same as 3A.
4A. Do not restrict parking on the Rooster Comb section of the Steens Loop Road.	4B. No appropriate action.	4C. No appropriate action.	4D. Close the Rooster Comb to parking or stopping, except at designated locations. Develop a small pullout at the east end of the Rooster Comb.	4E. Same as 4D.
5A. Limit snowmobile use on certain routes.	5B. Eliminate all snowmobile use in the CMPA. Continue permit system for nonmotorized winter recreation.	5C. Eliminate all snomobile use associated with the North Steens Loop Road. Continue permit system for nonmotorized winter recreation.	5D. Allow snowmobile and other across-the-snow mechanized vehicle use on certain routes. Develop cooperative agreement with private land owners for play area. Continue permit system for snowmobiles and nonmotorized winter recreation.	5E. Allow snowmobile use on all designated roads within the CMPA. Continue permit system for snowmobiles and nonmotorized winter recreation.
6A. Allow unrestricted camping throughout the CMPA.	6B. Allow camping only in developed campgrounds (outside the Steens Mountain Wilderness).	6C. Allow camping only in developed campgrounds and designated sites throughout the CMPA (outside the Steens Mountain Wilderness).	6D. Allow dispersed camping in areas more than 0.5 mile from a developed campground (outside the Steens Mountain Wilderness).	6E. Allow camping anywhere within the CMPA unless otherwise restricted.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
7A. Allow river use only when the lowest gate on the South Steens Loop Road is open.	7B. Do not allow any recreation river use.	7C. Same as 7A. Allow use only in a manner that does not affect ORVs.	7D. Same as 7C.	7E. Implement a river access system similar to the existing winter use permit system. Do not place limits on the number of users.
8A. Do not restrict visitor use at overlooks.	8B. Limit visitor use at overlooks to designated trails. Move interpretive signs to parking lots.	8C. Same as 8B.	8D. Encourage visitors to stay on designated trails. Move interpretive signs to parking lots.	8E. Same as 8A. Mover interpretive signs to parking lots.
9A. Do not require permits to visit CMPA.	Require permits for all CMPA users.	9C. Require permits for all Steens Loop Road users.	9D. Same as 9A.	9E. Same as 9A.
AMU				
10A. Allow camping in all AMU ACECs/RNAs and Mickey Hot Springs.	10B. Close Mickey Hot Springs to camping.	10C. Close all AMU RNAs and Mickey Hot Springs to camping.	10D. Same as 10C.	10E. Same as 10C.
11A. Allow dispersed users to use whatever method of solid human waste disposal that they prefer.	11B. Require dispersed users to pack out all solid human waste.	11C. Install and maintain toilets at Cottonwood Creek and Frog Spring. Encourage other dispersed users to pack out all solid human waste.	11D. Install and maintain toilets at Cottonwood Creek, Frog Spring, and other dispersed campsites throughout the AMU. Encourage other dispersed users to pack out all solid human waste.	11E. Same as 11D.
12A. Do not develop routes for mechanized vehicle use.	12B. Same as 12A.	12C. Same as 12A.	12D. Develop routes for mechanized vehicle (i.e., mountain bikes) use as demand warrants.	12E. Same as 12D.
Objective 5. Provide information and educational opportunities to public land visitors.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
PLANNING AREA				
1A. Continue providing information (e.g. maps and brochures, etc.) and education opportunities to enhance visitors' experiences.	1B. Same 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Provide extensive information and education opportunities to increase tourism activities.
2A. Continue current informational and directional sign installation and maintenance program.	2B. Minimize placement of new signs. Maintain and replace signs only as needed for public health and safety.	2C. Minimize placement of new signs. Install, maintain, and replace signs only as needed for public health and safety.	2D. Within the CMPA, same as 2C. In the AMU, install, maintain, and replace signs as needed.	2E. Install, maintain, and replace signs to maximize public safety and confidence.
Objective 6. Manage commercial, competitive, educational, and organized group recreation activities.				
CMPA				
1A. Issue SRPs on a case-by-case basis while providing for the protection of sensitive resource values.	1B. Continue to manage and renew existing long-term SRPs in the CMPA, in conformance with existing laws and regulations. No new SRPs would be issued.	1C. Issue SRPs as needed to meet the demand, while protecting cultural and natural resource values and providing for public safety. Implement allocations (e.g., limits on party size, number of trips, number of permittees) for the CMPA.	1D. Issue SRPs as needed to meet the demand, while protecting cultural and natural resource values and providing for public safety. Implement allocations (e.g., limits on party size, number of trips, number of permittees) for the CMPA as needed.	1E. Emphasize commercial, competitive, and organized group opportunities and activities through the issuance of SRPs.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
AMU				
2A. Issue SRPs on a case-by-case basis while providing for the protection of sensitive resource values.	2B. Cancel existing SRPs and do not issue additional SRPs in the AMU.	2C. Issue SRPs as needed to meet the demand, while protecting cultural and natural resource values and providing for public safety. If needed, implement allocations (e.g., limits on party size, number of trips, number of permittees) for the AMU.	2D. Same as 2C.	2E. Emphasize commercial, competitive, and organized group opportunities and activities through the issuance of SRPs.
3A. Allow organized group and commercial SRP uses of the Alvord Desert playa that do not impair the wilderness values of the Alvord Desert WSA.	3B. Do not issue SRPs for the Alvord Desert playa.	3C. Same as 3B.	3D. Same as 3A.	3E. Allow organized group, commercial, and competitive SRP uses of the Alvord Desert playa that do not impair the wilderness values of the Alvord Desert WSA.
Objective 7. Manage BCBs to protect the recognized values.				
Actions				
PLANNING AREA				
1A. Manage existing BCBs in conformance with existing laws and regulations.	1B. Eliminate current BCBs and do not designate new BCBs.	1C. Same as 1A.	1D. Same as 1A. Develop and implement interpretive management plans for existing BCBs. Designate additional byways or scenic tour routes that support cooperative management.	1E. Same as 1D. Designate new BCBs to increase tourism potential and accommodate anticipated growth in driving for pleasure.
CMPA				
2A. Do not construct vehicle pullouts along the Steens Loop Road.	2B. Same as 2A.	2C. Same as 2A.	2D. Construct vehicle pullouts along the Steens Loop Road in order to accommodate and manage visitor use.	2E. Construct vehicle pullouts at regular intervals along the Steens Loop Road.
Objective 8. Manage the Oregon High Desert National Recreation Trail to protect the recognized values and setting.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
PLANNING AREA				
1A. Continue management under the current MOU with the Desert Trail Association.	1B. Cancel the MOU and remove the trail corridor from maps.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. Do not develop trailhead facilities for the High Desert Trail.	2B. Same as 2A.	2C. Install minimal trailhead facilities at Domingo Pass and Frog Spring.	2D. Install minimal trailhead facilities at Domingo Pass, Frog Spring, and near Denio. In cooperation with the Fields Store, upgrade facilities at Fields.	2E. Install complete trailhead facilities at Domingo Pass, near Denio, and at Frog Spring. In cooperation with the Fields Store, upgrade facilities at Fields.
AREAS OF CRITICAL ENVIRONMENTAL CONCERN (Section 2.21)				
Goal - Retain existing and designate new ACECs where relevance and importance criteria are met and special management is required to protect the identified values.				
Objective 1. Retain and manage existing ACECs if they meet relevance and importance criteria and require special management or protection.				
Actions				
1A. Manage the 15 existing ACECs (nine of which are RNAs) totaling 131,907 acres.	1B. Drop the designation on the 15 existing ACECs. No existing ACECs would be retained. Since the Planning Area would be managed for maximum protection of natural processes, the additional designation would not be necessary. See Map 2.14 and Table 2.10.	1C. Retain all 15 existing ACECs (nine of which are RNAs) totaling 131,907 acres. See Map 2.15 and Table 2.10.	1D. Retain 12 existing ACECs (nine of which are RNAs) with potential additions and deletions for a total of 67,135 acres. Drop the designation on three existing ACECs totaling 75,143 acres. See Map 2.16 and Table 2.10.	1E. Drop the designation on the15 existing ACECs. No existing ACECs would be retained in order to provide for least restrictions on commodity production.
Objective 2. Designate and manage new ACECs that meet relevance and importance criteria and need special management or protection.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Manage seven potential ACEC/RNAs as specified in the BLM manual.	1B. Designate one potential ACEC for a total of 27 acres. Since the Planning Area would be managed for maximum protection of natural processes, the additional designation would not be necessary.	1C. Designate seven potential ACECs (three of which are RNAs) for a total of 20,170 acres.	1D. Designate five potential ACECs (three of which are RNAs) for a total of 3,220 acres.	1E. Designate one potential ACEC for a total of 27 acres in order to provide for least restrictions on commodity production
WILDERNESS (Section 2.22)				
<u>Goal 1</u> - Maintain or improve the wilderness values and the special features of the Steens Mountain Wilderness under a principle of nondegradation and in a manner that would leave these values unimpaired for future use and enjoyment as wilderness, while providing opportunities for public use, enjoyment, and understanding.				
Objective 1. Manage the wilderness to allow for areas of differing levels of resource use.				
Actions				
1A. Develop an integrated WSR/Wilderness Management Plan for all WSRs in the CMPA and the Steens Mountain Wilderness.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
2A. No “Management Areas”.	2B. Wilderness would be classified into two “Management Areas”: the Gorges and the Uplands.	2C. Same as 2B.	2D. Same as 2B.	2E. Same as 2A.
3A. During the years 2003 and 2004 inventory wilderness to establish baseline and monitoring data for resources and social impacts and to establish appropriate levels of use.	3B. Same as 3A.	3C. Same as 3A.	3D. Same as 3A.	3E. Same as 3A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
4A. During 2005, 2006 and 2007, evaluate monitoring data as outlined in the Wilderness Plan. Change management actions as needed if not within acceptable limits.	4B. Same as 4A.	4C. Same as 4A.	4D. Same as 4A.	4E. Same as 4A.
5A. No restrictions on dogs in wilderness.	5B. No dogs allowed in wilderness.	5C. Allow dogs in all areas but require them to be under voice or physical control.	5D. Same as 5C.	5E. Same as 5A.
6A. Encourage use of catholes and proper disposal of toilet paper.	6B. Require all human waste and toilet paper to be packed out of the wilderness.	6C. Require catholes for human waste and require them to be a minimum of 150 feet from all water sources, campsites and trails. Require all toilet paper to be packed out.	6D. Same as 6C.	6E. Same as 6A.
7A. No camping restrictions enforced.	7B. No overnight camping allowed at Wildhorse Lake or in any RNA. Require use of existing established campsites in other areas.	7C. No overnight camping allowed at Wildhorse Lake or in any RNA.	7D. Close Little Wildhorse RNA to camping. Camping would be allowed at Wildhorse Lake in a defined area in designated campsites, but no overnight pack stock. Camping would be allowed in Little Blitzen and Rooster Comb RNAs in historical areas, consistent with the purposes of the RNA and the wilderness plan.	7E. No camping restrictions.
8A. No campsite restrictions. Encourage use of existing camp sites.	8B.Campsite conditions would be limited. Five percent exceedence of guideline would initiate Level 1 actions. Ten percent exceedence of guideline would initiate Level 2 actions. 15 percent exceedence of guideline would initiate Level 3 actions.	8C. Campsite conditions would be limited. Ten percent exceedence of guideline would initiate Level 1 actions. 20 percent exceedence of guideline would initiate Level 2 actions. 30 percent exceedence of guideline would initiate Level 3 actions.	8D. Campsite conditions would be limited. 20 percent exceedence of guideline would initiate Level 1 actions. 30 percent exceedence of guideline would initiate Level 2 actions. 40 percent exceedence of guideline would initiate Level 3 actions.	8E. Same as 8A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
9A. No limits on campsite density.	9B. Campsite density would be limited. Five percent exceedence of guideline would initiate Level 1 actions. Ten percent exceedence of guideline would initiate Level 2 actions. 15 percent exceedence of guideline would initiate Level 3 actions.	9C. Campsite density would be limited. Ten percent exceedence of guideline would initiate Level 1 actions. 20 percent exceedence of guideline would initiate Level 2 actions. 30 percent exceedence of guideline would initiate Level 3 actions.	9D. Campsite density would be limited. 20 percent exceedence of guideline would initiate Level 1 actions. 30 percent exceedence of guideline would initiate Level 2 actions. 40 percent exceedence of guideline would initiate Level 3 actions.	9E. Same as 9A.
10A. No limits on party size or area of use to maintain solitude (limit crowding). No amount of use increase would initiate limits on party size or area of use.	10B. Limit group size to six people. Limit pack stock to nine head, except historic use on a case-by-case basis. Crowding limits: Five percent exceedence of the crowding guideline or a ten percent exceedence of the crowding perception guideline would initiate Level 1 actions. Ten percent exceedence of the crowding guideline or a 20 percent exceedence of the crowding perception guideline would initiate Level 2 actions. 20 percent exceedence of the crowding guideline or a 20 percent exceedence of the crowding perception guideline would initiate Level 3 actions.	10C. Limit group size to nine people. Limit pack stock to 12 head, except for historic use on a case-by-case basis. Crowding limits: Ten percent exceedence of the crowding guideline or a 15 percent exceedence of the crowding perception guideline would initiate Level 1 actions. 20 percent exceedence of the crowding guideline or a 30 percent exceedence of the crowding perception guideline would initiate Level 2 actions. 30 percent exceedence of the crowding guideline or a 40 percent exceedence of the crowding perception guideline would initiate Level 3 actions.	10D. Limit group size to 12 people. Limit pack stock to 15 head, except for historic use on a case-by-case basis, subject to NEPA review. Crowding limits: 20 percent exceedence of the crowding guideline or a 25 percent exceedence of the crowding perception guideline would initiate Level 1 actions. 30 percent exceedence of the crowding guideline or a 40 percent exceedence of the crowding perception guideline would initiate Level 2 actions. 40 percent exceedence of the crowding guideline or a 50 percent exceedence of the crowding perception guideline would initiate Level 3 actions.	10E. Same as 10A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
11A. Trail density would not be managed. Minimal maintenance of Little Blitzen, Big Indian, and Wildhorse Lake trails. No new trails constructed. Reclaim inappropriate user-created trails.	11B. No maintenance of existing trails or reclamation of user-created trails or closed roads in wilderness except in cases involving threat to life, property or wilderness values. No new trails constructed. Five percent exceedence of guideline would initiate Level 1 actions. Ten percent exceedence of guideline would initiate Level 2 actions. 15 percent exceedence of guideline would initiate Level 3 actions.	11C. Minimal maintenance on Little Blitzen, Big Indian and Wildhorse Lake trails. No new trails constructed. Reclaim inappropriate user-created trails. Ten percent exceedence of guideline would initiate Level 1 actions. 15 percent exceedence of guideline would initiate Level 2 actions. 20 percent exceedence of guideline would initiate Level 3 actions. Reclaim selected closed roads in wilderness while allowing the use of others as informal stock and hiking routes.	11D. Maintain Little Blitzen, Big Indian, and Wildhorse Lake trails. Construct new trails as needed to preserve wilderness values and protect resources from damage. Reclaim inappropriate user-created trails. Reclaim selected closed roads in wilderness while allowing the use of others as informal stock and hiking routes. 15 percent exceedence of guideline would initiate Level 1 actions. 20 percent exceedence of guideline would initiate Level 2 actions. 25 percent exceedence of guideline would initiate Level 3 actions.	11E. Same as 11C except construct new trails where appropriate as use increases and to aid with ease of visitor travel.
12A. Length of stay in wilderness limited to 14 days.	12B. Recommended length of stay limited to five days. Five percent exceedence in guideline would initiate Level 1 actions. Ten percent exceedence in guideline would initiate Level 2 actions. 15 percent exceedence would initiate Level 3 actions.	12C. Recommended length of stay limited to five days. Ten percent exceedence in guideline would initiate Level 1 actions. 15 percent exceedence in guideline would initiate Level 2 actions. 20 percent exceedence in guideline would initiate Level 3 actions.	12D. Recommended length of stay limited to five days. 15 percent exceedence in guideline would initiate Level 1 actions. 20 percent exceedence in guideline would initiate Level 2 actions. 25 percent exceedence in guideline would initiate Level 3 actions.	12E. Same as 12A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
13A. No restrictions on stock enforced.	13B. Limited stock use allowed in any RNA or at Wildhorse Lake. Five percent exceedence in guideline would initiate Level 1 actions. Ten percent exceedence in guideline would initiate Level 2 actions. 15 percent exceedence in guideline would initiate Level 3 actions. No tying of stock to trees allowed.	13C. Limited stock use allowed in any RNA or at Wildhorse Lake. Ten percent exceedence in guideline would initiate Level 1 actions. 15 percentexceedence in guideline would initiate Level 2 actions. 20 percent exceedence in guideline would initiate Level 3 actions. Require use of high lines for stock. No tying of stock to trees allowed.	13D. Limited stock use allowed in any RNA or at Wildhorse Lake. 15 percent exceedence in guideline would initiate Level 1 actions. 20 percent exceedence in guideline would initiate Level 2 actions. 25 percent exceedence in guideline would initiate Level 3 actions. No tying of stock to trees for overnight. Grazing of pack stock would be allowed consistent with Standards and Guidelines for grazing.	13E. Stock allowed in all areas. Encourage use of high lines or picketing for stock. No grazing within 150 feet of all water sources.
<u>Goal 2</u> - Manage the wilderness in such a manner that the landscape is essentially unaffected by human manipulation and influences while allowing natural processes to dominate.				
Objective 1. Accomplish necessary projects and activities occurring in wilderness with the minimum tool or requirement needed to achieve a desired result. The chosen tool, equipment, or structure would be the one that least degrades wilderness values temporarily or permanently.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. No new recreation facilities would be constructed in wilderness or at trailheads. Historic structures would be allowed to deteriorate through natural processes, including fire. Limited maintenance of Nye Cabin would take place only to correct hazards.	1B. Same as 1A except Nye Cabin would not be maintained.	1C. No new recreation facilities would be constructed in wilderness. Construct new facilities at trailheads only if resource damage/hazards exist. Ten percent exceedence of guideline would initiate Level 1 actions. 15 percent exceedence of guideline would initiate Level 2 actions. 20 percent exceedence of guideline would initiate Level 3 actions. Remove all facilities (excluding trails) and structures in wilderness except for historic ones and those needed for grazing/wildlife purposes. Historic structures would be allowed to deteriorate through natural processes, including fire. Limited maintenance of Nye Cabin would take place only to correct hazards. Remove Page Springs gauging station weir.	1D. Recreation facilities would be constructed at trailheads as needed to prevent resource damage.15 percent exceedence of guideline would initiate Level 1 actions. 20 percent exceedence of guideline would initiate Level 2 actions. 25 percent exceedence of guideline would initiate Level 3 actions. Historic structures would be maintained to preserve them. Nonconforming structures would be removed or allowed to deteriorate except for those needed for grazing and wildlife purposes. Manage Nye Cabin to maintain a safe and hazard-free environment and for its historic characteristics. Consider removal of Page Springs weir.	1E. Same as 1D except manage Nye Cabin as a rental cabin.
2A. All fire suppression would be accomplished using the Appropriate Management Response, based on life, safety, and resource values.	2B. Fire would be allowed to play its natural role. This would exclude areas along the wilderness boundary where life and property are at risk. All lightning fires would be considered for wildland fire use. Wildfires would be confined or contained within natural barriers unless additional measures are necessary to protect life/property values. No prescribed wildland fire would be allowed.	2C. Same as 2B, but prescribed fire allowed if needed to maintain the natural condition of a fire-dependent ecosystem or to re-introduce fire where past strict wildfire control measures have interfered with natural ecological processes.	2D. Same as 2C.	2E. Same as 2A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
3A. Noxious weeds and other exotic plant species in wilderness would be controlled using a full range of equipment after a minimum tool analysis.	3B. Noxious weeds and other exotic plant species in wilderness would be controlled using nonmotorized equipment.	3C. Same as 3A.	3D. Same as 3A.	3E. Same as 3A.
Goal 3 - Manage nonconforming uses of the Steens Mountain Wilderness, allowed under the Wilderness Act and the Steens Act, to have the minimum impact on wilderness characteristics.				
Objective 1. Manage livestock grazing in wilderness under the stipulations of the Congressional Grazing Guidelines (HR 101-405 Appendix A)				
Actions				
1A. Adhere to the decision records of the Motorized Access for Grazing Operations in Wilderness EA/Decision Record (2003).	1B. No mechanized transport or motorized equipment allowed for grazing operations in wilderness.	1C. Same as 1A.	1D. Same as 1A.	1E. Allow mechanized/ motorized use at historic use levels (pre-designation)
Objective 2. Provide for the level and type of commercial services necessary to enable the public to use, access, enjoy, and understand the recreational and other values of wilderness, emphasizing opportunities for primitive and unconfined types of recreation, inspiration, and solitude.				
1A. Consider new proposals.	1B. No commercial services allowed.	1C. Limit outfitters at the current level. No permanent caches allowed.	1D. Consider new proposals for outfitters after preparing a needs assessment. No permanent caches allowed.	1E. Same as 1D.
Objective 3. Allow for a level of reasonable access for the use and enjoyment of private inholdings while protecting the wilderness values.				
1A. Adhere to the decision record of the Access for Inholdings in the Steens Mountain Wilderness EA/Decision Record (2003).	1B. No mechanized transport or motorized use allowed for inholding access.	1C. Same as 1A.	1D. Same as 1A.	1E. Allow access at historic (predesignation) levels.
WILDERNESS STUDY AREAS (Section 2.23)				
Goal - Manage WSAs and areas found to contain wilderness values so as not to impair their suitability for preservation as wilderness.				
Objective 1. Manage lands found to contain wilderness values so as not to impair those values.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Do not incorporate acquired inholdings into existing WSAs.	1B. Incorporate the acquired 40- and 80-acre parcels into the Mahogany Ridge WSA. Incorporate the acquired 40-acre parcel on the southern boundary into the Bridge Creek WSA.	1C. Same as 1B.	1D. Same as 1B.	1E. Same as 1B.
2A. Do not protect any parcels found to contain wilderness values.	2B. Same as 2A.	2C. Protect the following parcels that have been found to contain wilderness values: Bridge Creek - 1,526 acres; High Steens - 629 acres; Stonehouse - 2,176 acres; and Alvord Desert - 2,033 acres. Protection would include appropriate OHV and VRM designations.	2D. Same as 2A.	2E. Same as 2A.
Objective 2. Manage existing WSAs so as not to impair their suitability for preservation as wilderness.				
Actions				
1A. Manage existing WSAs in conformance with the Interim Management Policy for Lands Under Wilderness Review.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.
WILD AND SCENIC RIVERS (Section 2.24)				
Goal 1 - Manage the existing and newly designated WSRs in conformance with the WSR Act and the Wilderness Act.				
Objective 1. Protect and enhance the ORVs of the designated WSRs.				
Actions				
1A. Develop an integrated WSR/Wilderness Management Plan for all WSRs in the CMPA and the Steens Mountain Wilderness.	1B. Same as 1A.	1C. Same as 1A.	1D. Same as 1A.	1E. Same as 1A.

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
2A. Maintain the existing wild classification throughout the river corridor.	2B. Same as 2A.	2C. Same as 2A.	2D. Recommend to Congress to change the wild classification of the Riddle Brothers Ranch Historic District, and Page Springs and Jackman Park Campgrounds to a recreational classification, and change the Blitzen Crossing classification to scenic.	2E. Same as 2D.
Goal 2 - Determine the suitability of eligible WSRs for potential inclusion into the National WSR System by Congress. Manage those rivers found suitable in conformance with BLM Manual 8351 (Wild and Scenic Rivers - Policy and Program Direction for Identification, Evaluation, and Management) for protective management of eligible and suitable WSRs.				
Objective 1. Protect and enhance the ORVs of rivers determined to be administratively suitable for potential inclusion into the National WSR System by Congress.				

Alternative A - No action. Continues present management.	**Alternative B -** Excludes commodity production and limits other uses; maximizes natural processes.	**Alternative C -** Emphasizes protection of natural values.	**Alternative D -** Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices.	**Alternative E -** Emphasizes commodity production and public uses.
Actions				
1A. Manage eligible rivers in conformance with BLM Manual 8351 for protective management of eligible WSRs.	1B. Recommend no eligible rivers as administratively suitable for potential designation as WSRs by Congress. Manage nonsuitable river segments in accordance with RMP management objectives.	1C. Recommend the following rivers as administratively suitable for potential designation as WSRs by Congress: Big Alvord-6.3 miles wild; Willow-6.2 miles wild; Threemile-4.3 miles scenic; Pike-4.2 miles scenic; Mud-7.2 miles scenic; McCoy-30.8 miles scenic; Home-5.5 miles scenic; Kiger-14.25 miles scenic; Cottonwood-12.1 miles scenic; Van Horn-9.9 miles scenic; and Big Trout-20.3 miles scenic. All rivers found suitable for inclusion in the WSR system would be managed in conformance with BLM Manual 8351 as if it were a designated WSR until Congress acts on whether or not to add these rivers into the National WSR system.All suitable rivers shall be administered in such a manner as to protect and enhance their ORVs.	1D. Same as 1B.	1E. Same as 1B.

In order to better define issues and to identify ICBEMP findings applicable to the Planning Area and adjacent public lands, staff conducted a SBR between September 2001 and January 2002. The SBR, or the second layer of the step-down process, is an intergovernmental process tiering mid- and fine-scale information to ICBEMP scientific findings. It is also an assessment of ecosystem processes and functions at the subbasin level.

The AMS (available at the Burns District Office) serves as the SBR report. Findings and recommendations from the SBR are carried forward into the RMP/EIS in the issues to be resolved and in the alternatives identified to resolve those issues. These findings and recommendations are identified in Appendix B.

2.1.1.2.1 Desired Range of Conditions

The desired range of conditions (DRC) described below applies to all alternatives, and portrays the land, resource, or social and economic conditions that would begin to be established in 20 to 50 years if management goals were achieved. The length of time to achieve the DRC would vary by alternative depending on the resources involved, the theme of the alternative, and the management actions proposed under that alternative. Appendix P contains descriptions of habitat characteristics important to wildlife.

The following DRC is a description of what the physical and biological condition or degree of function would be or would be moving toward at the end of the 20- to 50-year time frame. The DRC has been factored into the management goals of each resource management program.

2.1.1.2.2 Description of Desired Range of Conditions

Rangeland vegetation (sagebrush steppe) includes a mosaic of multiple-aged shrubs, forbs, and native perennial grasses. Shrub overstories are present in a variety of spatial arrangements and scales across the landscape level, including large continuous blocks, disjunct islands, and corridors. Plant communities not meeting DRC show upward trends in condition and structural diversity. Desirable plants continue to improve in health and vigor. New infestations of noxious weeds are not common across the landscape, and existing large infestations are declining. Populations and habitat of rare plant species and their associated communities are stable or continue to improve in vigor and distribution.

Large portions of the landscape have a protective soil cover of deep-rooted plants and litter, which supports proper hydrologic function. In thin-soiled areas and other appropriate soils, microbiotic crusts are present that increase soil stability, contribute to nutrient cycles, and act as indicators of rangeland health.

Western juniper dominance is limited to rocky outcrops, ridges, and other historic (old growth) sites where wildfire frequency is limited by lower site productivity and sparse fuels. Western juniper occurs in low densities in association with vigorous shrubs, grasses, and forbs (where site potential permits). Historic western juniper sites retain old growth characteristics. Quaking aspen groves occupy historic range and are in stable or improving condition.

Rangeland vegetation and water sources support viable, healthy herds of wild horses through time. Individual herds have diverse age structures, good conformation, and are quality animals exhibiting the characteristics unique to each herd. Wild horse numbers are in balance with the rangelands that support them. Improvements in grass/shrubland steppe and riparian areas increase the health of the herd.

The amount and diversity of wildlife habitat are maintained or improved through time. Late-seral grass/shrublands exist in blocks of various sizes in well-distributed patterns across the landscape. Ongoing management of rangeland habitat components and conditions (such as vegetation cover, forage, and roads) and of key areas helps to maintain big game populations near state wildlife agency objectives. Hunting opportunities continue to be provided throughout the Planning Area. Improvement in the condition of grass/shrubland steppe and riparian areas benefits a variety of wildlife species by increasing the quality, quantity, and variety of habitat. Such species include upland game, raptors, and nongame species. Management has helped to create the long-term habitat changes that contribute toward restoring some sensitive species and toward recovery of listed species.

The area provides a wide variety of recreational opportunities for a growing demand, as the population increases and urban dwellers seek to experience the open spaces commonly found on public land. Additional recreation facilities, restored and maintained recreation sites, and more intensive management are a few of the means used to meet the increased demand. Protection of the natural landscape is an important consideration when designing recreation facilities and planning for related activities. Certain areas are excluded from recreational development to preserve their natural character.

Areas such as wilderness, WSRs, and ACECs preserve the integrity of special or unique values over the long term.

Upland soils have sufficient vegetation cover to minimize accelerated soil erosion. Physical and chemical soil properties are adequate for vegetation growth and hydrologic function appropriate to the specific soil type, landform, and climate.

Wildland and prescribed fire play an active role in defining the composition of vegetation and limiting the dominance of woody species including shrubs and invasive juniper.

Riparian areas and stream habitat conditions have improved as a result of protection and management. Watersheds are stable and provide for capture, storage, and safe release of water appropriate to soil type, climate, and landform. Most riparian/wetland areas are stable and include natural streamflow and sediment regimes related to contributing watersheds. Soil supports native riparian/wetland vegetation to allow water movement, filtration, and storage. Riparian/wetland vegetation structure and diversity are progressing toward controlling erosion, stabilizing streambanks, healing incised channels, shading water areas, filtering sediment, aiding in floodplain development, dissipating energy, delaying floodwater, and increasing recharge of ground water appropriate to climate, geology, and landform. Stream channels are narrower, water depth and channel meanders are increasing, and floodplains are developing. Stream channels and floodplains are making important progress in dissipating energy at high-water flows and transporting and depositing sediment as appropriate for geology, climate, and landform. Riparian/wetland vegetation is increasing in canopy volume (height and width) and in healthy uneven-aged stands of key woody plants; increasing in herbaceous ground cover; and shifting toward late succession. Surface disturbances inconsistent with the physical and biological processes described above have been reduced. Disturbances such as roads, dispersed recreation sites, and inappropriate livestock use are decreasing as vegetation and soils recover naturally. There is no downward trend in riparian condition and function.

Human use of natural resources is managed to enhance fisheries, improve water quality, and promote healthy riparian conditions. Water quality is managed so that most streams are providing cool, clear, and clean water. High-quality water is in greater demand from all users. Better regulation of runoff has improved the water supply from rangelands. There is increased infiltration on upland sites, increased ground water recharge, increased spring flow, reduced peak flow during floods, and increased stability of base flow during late summer and winter.

Management activities have been implemented on nearly all high-risk sites to facilitate recovery of upland, riparian, aquatic, and water quality conditions. Improved aquatic habitat conditions allow populations of threatened and endangered aquatic species to stabilize and expand into appropriate, previously occupied habitat. Populations of native aquatic species are increasing.

Water quality is improved to provide stable and productive riparian and aquatic ecosystems. Water quality of high-priority streams is within state standards, and the remaining streams have made important progress toward attaining those standards. Upland, riparian, and aquatic ecosystems are stable and productive to a degree that leads to acceptable water quality for identified beneficial uses. Improvement has occurred in stream channel integrity and channel processes, under which the riparian and aquatic systems developed. Hydrologic and sediment regimes (the characteristic behavior or orderly occurrence of a natural phenomenon or process) in streams, lakes, and wetlands are appropriate to the surrounding soils, climate, and landform. Instream flows are sufficient to support healthy riparian and aquatic habitats, and stream functions are stable and effective. Flooding streams discharge without substantial damage to the watershed. Riparian vegetation provides sufficient vegetation debris; provides adequate regulation of air and water temperatures during both summer and winter; and helps reduce surface erosion, bank erosion, and channel migration to levels characteristic of natural conditions.

Riparian and aquatic habitats support populations of well-distributed native and desired nonnative plant, vertebrate, and invertebrate populations. The DRCs have been factored into the management goals of each resource management program.

2.1.1.3 Adaptive Management

Adaptive management is a procedure in which decisions are made as part of an ongoing process of planning, implementing, monitoring, evaluating, and incorporating new information into strategies meeting the goals and objectives of ecosystem management. This process builds on current knowledge, observation, experimentation, and learning from experience. A continuous feedback loop allows for mid-course corrections in management to meet planned goals and objectives. In addition, it provides a model for adjusting goals and objectives as new information develops and when the public recommends management changes.

The complex interrelationships of physical, biological, and social components of the ecosystem and their reaction to land management practices are often not fully understood when a land use management plan is developed. Successful plans must have the flexibility to adapt and respond to new knowledge or conditions. The following processes briefly describe the four parts of adaptive management:

1) Planning/Decision – plan development or revision is the process leading to decision-making, starting with issue identification and goal development. The next step is gathering information necessary to develop objectives for management direction that address issues and goals. The final stage of planning is to develop alternative management strategies that progress toward achieving management objectives; analyze the consequences of implementing the alternatives; and choose a preferred alternative for implementation.

2) Implementation – the process of putting plans and decisions into effect. Implementation includes short- and long-term actions taken to meet management objectives and to progress toward goals and the DRC. Unless otherwise stated, all management direction listed here is assumed to be implemented within ten years. Standards are defined as required management actions addressing the achievement of management goals. In certain situations, standards can include requirements that no action be taken.

3) Monitoring – should detect changes early enough in the process so that management activities can be modified to work toward achieving management objectives. Monitoring data provide information on the condition and trend of the ecosystem, and can indicate whether or not goals and objectives are being met. Data can also identify management strategies that appear to be working in the short term.

4) Evaluation/Assessment – the point at which plans and monitoring data are reviewed. This phase of adaptive management is used to judge the success of existing plans in meeting or progressing toward objectives and to make recommendations for mid-course corrections. The understanding gained through evaluations is critical to managing sustainable, healthy, and productive ecosystems. Evaluations are a key component of the adaptive management process. An evaluation may lead to a change in management actions that pursues the objectives identified in the approved RMP and resulting activity plans.

2.1.1.3.1 Watershed-Scale Assessment

The watershed scale is the third layer in ecosystem analysis and planning. Where management actions are likely to have a watershed-scale effect, watershed-scale assessment would be used, if necessary, to assure that potential actions are evaluated with an overall understanding of the capabilities and limitations of specific watersheds. Information gained through analysis at this scale would be used in the adaptive management process, and may support land management decisions as well as development of ecologically sustainable programs and projects.

2.1.1.3.2 RMP Monitoring

The BLM planning regulations (43 CFR 1610.4-9) call for the monitoring of resource management plans on a continual basis with a formal evaluation done at five-year intervals. The RMP/EIS would be monitored on a continual basis to allow up-to-date evaluations and to respond to changing situations. Management actions arising from activity level plan decisions would be evaluated for consistency with RMP/EIS objectives. Monitoring plans would assess implementation of the following:

1) satisfactory progress toward objectives through management actions;

2) actions consistent with current policy;

3) original assumptions correctly applied and impacts correctly predicted;

4) satisfactory mitigation measures;

5) consistency of the RMP with the plans and policies of state and local government, other federal agencies and Indian tribes; and

6) new data availability that would require plan alterations.

RMP monitoring would be conducted at multiple levels and scales. Monitoring would be conducted in a manner to allow localized information to be compiled and considered in a broader regional context, thereby addressing both local and regional issues. At the project level, monitoring would examine how well specific management direction has been applied on the ground and how effectively it produces expected results. Monitoring at broader levels would measure how successfully projects and other activities have achieved the objectives for those management areas.

Monitoring results would provide managers with the information needed to determine whether an objective has been met, and whether or not to modify the management direction. Findings obtained through monitoring, together with research and other new information, would provide a basis for adaptive management changes to the plan. The processes of monitoring and adaptive management share the goal of improving effectiveness and permitting dynamic response to increased knowledge and a changing landscape.

If monitoring and evaluation indicate that modifying the plan is necessary, the Burns District Manager would determine what, if any, changes are necessary to show that management actions are consistent with RMP objectives. If the District Manager finds that a plan amendment is necessary, an environmental analysis of the proposed change, consistent with the NEPA, would be conducted and a recommendation on the amendment made to the State Director. If approved, it may be implemented 30 days after public notice. A plan amendment may be initiated because of the need to consider monitoring findings, new data, new or revised policy, or a proposed action that may result in a change in the scope of resource uses or a change in the terms, conditions, and decisions of the approved plan.

Potential minor changes, refinements, or clarifications in the plan may take the form of maintenance actions. Maintenance actions incorporate minor data changes and are usually limited to minor refinements and documentation. Plan maintenance would not result in expansion of the scope of resource uses or restrictions, nor change the terms, conditions, and decisions of the approved RMP. Maintenance actions are not considered plan amendments and do not require a formal public involvement and interagency coordination process.

Monitoring is an essential component of natural resource management because it provides information on the relative success of management strategies. The implementation of the RMP would be monitored to show that these management actions: (1) follow prescribed management direction (implementation monitoring); (2) meet or progress toward desired objectives (effectiveness monitoring); and (3) are based on accurate assumptions (validation monitoring).

Watershed assessment is one of the principal analyses that would be used to meet the ecosystem management objectives. Information from watershed analysis would also be used in developing monitoring strategies and objectives. Specific to monitoring, the results and findings from watershed analyses are used to reveal the most useful indicators for monitoring environmental change; detecting magnitude and duration of changes in conditions; formulating and testing hypotheses about the causes of the changes; understanding these causes and predicting impacts; and managing the ecosystem for desired outcomes. Watershed analysis would provide information concerning patterns and processes within a watershed and provide information for monitoring at that scale.

2.1.2 Overview of the Alternatives

2.1.2.1 Alternatives Considered but Eliminated from Detailed Analysis

The range of alternatives was sufficiently broad to accommodate all other variations of existing alternatives. No other alternatives were presented that differed sufficiently from the five existing alternatives to warrant independent consideration.

2.1.2.2 Alternatives Analyzed in Detail

The BLM planning process calls for the development of goals, objectives and actions to manage each of the resources and uses within the Planning Area. Every decision proposed through the planning process is actually a string of components. The primary components are the goals, objectives and management actions. Additional components include management framework and monitoring. Each of these components is defined as follows:

Management Framework - primary reasoning behind the importance of pursuing the stated management goal.

Management Goal - a broad statement of a desired outcome. Goals are usually not quantifiable and may not have established time frames for achievement.

Management Objective - a description of a desired condition for a resource. Objectives can generally be quantified and measured and, where possible, have established time frames for achievement.

Management Action - measures that are to be undertaken to achieve the stated management objective. Management actions state management activities or land uses that are allowed, restricted, or excluded, and provide the basis for subsequent implementation and effectiveness monitoring.

Monitoring - assessment of the resources is conducted to determine whether or not the identified management objectives are being accomplished.

Alternatives would generally meet the goals that have been identified for all resources. However, there are differences between alternatives. These differences address how quickly the management goals are being met; the degree to which they are met; the priorities within the program; the emphasis placed on different management activities, and whether those actions are active or passive. They also identify what resources or uses society is willing to forego.

Integrated resource management was emphasized in formulating the alternatives. A primary concern was that all major ecological and socioeconomic systems go through the selection of specific management actions. Public input received through the planning process was considered in the development of alternatives.

The management goals associated with the alternatives may not be completely met over the life of the plan (up to 20 years). Funding and staffing levels would affect rates of implementation, and projected implementation rates may vary from alternative to alternative, depending on the cost of prescribed management activities. All alternatives would follow existing laws, regulations, and guidelines.

2.1.2.3 Management Themes of the Alternatives

The following is a description of the five alternatives considered in detail:

Alternative A (No action. Continues current management):

This alternative would continue management under the existing Andrews MFP and amendments, and the Andrews Grazing Management Final EIS and Rangeland Program Summary. In addition to these, the dictates of the Steens Act and the various existing activity plans would apply to the CMPA. Resource values and sensitive habitats would receive management emphasis at current levels. Emphasis would focus on maintaining existing conditions. No comprehensive plan for restoration of degraded systems would be used. Restoration would take place on a case-by-case basis and would utilize either active or passive methods.

Alternative B (Excludes commodity production and limits other uses to maximize natural processes):

This alternative would exclude all permitted discretionary uses of the public land including, but not limited to, livestock grazing, mineral sale or leasing, realty actions, recreation uses requiring permits, and new commercial ROWs. The BLM would petition the Department of Interior to withdraw the entire Planning Area from locatable mineral entry. This alternative would allow no commodity production and would include only those management actions necessary to maintain or improve natural values and protect life and property. Any management actions would utilize primarily passive methods. Some components of the alternative may not be possible to implement in the CMPA because of legal requirements and constraints of the Steens Act, but the alternative is included for purposes of impact analysis and comparison.

Alternative C (Emphasizes protection of natural values):

This alternative emphasizes the restoration of natural systems that are degraded and the maintenance of those that are functioning at a high level of condition. Commodity production would be constrained to protect natural values and systems that are in advanced ecological status or to accelerate improvement in those that are in less than advanced ecological status. Constraints to protect sensitive resources would be the most restrictive. In some cases and in some areas, commodity production could be excluded to protect sensitive resources, while still providing for overall sustainable commodity production as provided for in the Steens Act. Both active and passive restoration methods would be utilized to achieve management goals.

Alternative D (Balances cultural, economic, ecological, and social health in a manner that encourages cooperative management practices):

This alternative emphasizes natural resource use, protection, and environmental health, and places high importance on balancing cultural, economic, ecological, and social values. This would be accomplished within the limits of the natural system's ability to provide commodities on a sustainable basis and within the constraints of laws and regulations, including the Steens Act as it pertains to the CMPA. This alternative encourages cooperative management of the Planning Area by collaborative arrangements with landowners, permit holders, other land managers, and interested parties. This alternative recognizes that the long-term cultural, economic, social, and ecological integrity of the Planning Area are intertwined and cannot be maintained without involving landowners, permit holders, local and tribal governments, and interested parties in relationships involving cooperation, consultation, and coordination. This alternative would balance the values that through the generations created the area's cultural and physical environment. Constraints to protect sensitive resources would be implemented, but would be less restrictive than under Alternative B, so that sustainable commodity uses and production would be maintained.

Alternative E (Emphasizes commodity production and public uses):

This alternative would emphasize commodity production and production of goods and services such as mining, grazing, commercial recreation, harvesting commercial woodlands products, and tourism. Under this alternative, constraints on commodity production for protection of sensitive resources would be the least restrictive possible within legal limits, while still meeting the requirements of the Steens Act for management of the CMPA. Potential impacts to sensitive resources would be mitigated on a case-by-case basis. Emphasis would be on maintaining resource conditions whererequired. Restoration actions that would enhance commodity production would utilize primarily active methods. Other restoration actions would utilize passive methods.

2.1.2.4 Summary of the Management Alternatives

Table 2.1 summarizes the major management actions proposed for each alternative and organized by resource, goal, and objective. The narrative following the table provides a more detailed description of the management actions by alternative. The effects of these management actions result in the projected environmental consequences analyzed in Chapter 4.

2.2 Air Quality

2.2.1 Goal - Maintain, restore, or protect air resources to support public health, visibility, and regional haze standards and goals.

2.2.1.1 Management Framework

Smoke is a factor that may affect a land manager's ability to use larger and more frequent wildland fire for restoration and maintenance of fire-dependent ecosystems.

The Clean Air Act (CAA) requires federal agencies to comply with all federal, state, and local air pollution requirements. The CAA also requires each state to develop a state implementation plan (SIP) to ensure that the national ambient air quality standards are attained and maintained for the criteria pollutants. The DEQ is responsible for producing the SIP, but delegates the smoke management portion to the Oregon Department of Forestry (ODF). As part of the SIP, the ODF developed instructions and requirements for wildland and prescribed fire emissions in the smoke management plan. The smoke management plan does not cover those portions of the areas with range lands or agricultural lands outside of the Willamette Valley, Oregon.

The national ambient air quality standards are described in the CAA. The national ambient air quality standards have been established for six pollutants. Of these six criteria pollutants, natural resource management activities largely affect only the production of particulate matter. However, most particulate matter of concern is produced from fire and most of this is less than ten microns in diameter (PM_{10}), which is the size class that is currently regulated under the CAA. PM_{10} produced from fire does not seriously affect forest and rangeland ecosystems, because fire is a natural part of these systems. However, it does have effects on human health.

Southeast Oregon has been designated as a "clean air source" by the Grand Canyon Visibility Transport Commission. This designation, as well as the designation for other areas of the western United States, is under consideration by the Environmental Protection Agency (EPA) in its development of the Regional Haze Regulation.

2.2.1.2 Management Direction by Alternative

Objective 1. Manage wildland fires to avoid degradation of the airshed.

Management Common to All Alternatives

The BLM will cooperate with other federal, state, and local governments on smoke management related to wildland fires. This cooperation may include the use of a voluntary communication plan.

Alternative A

Conduct prescribed fire while meeting federal and state air quality and smoke management standards. An average of 5,000 to 20,000 acres would be burned per year using prescribed fire.

Alternative B

Allow wildland fire while meeting federal and state air quality and opacity standards. Prescribed fire would be used to a limited degree. Natural fire processes would be allowed to operate in the Planning Area.

Alternative C

Utilize wildland fire while meeting federal and state air quality and opacity standards. Under this alternative, prescribed fire and wildland fire use to achieve resource management objectives would not be limited.

Alternative D

Utilize wildland fire while meeting federal and state air quality and opacity standards. Under this alternative, prescribed fire and wildland fire use to achieve resource management objectives would not be limited. Ideally, a limited amount of area would be burned, which would enable landscape-scale objectives to be achieved in years when those opportunities are available.

Alternative E

Utilize wildland fire while meeting federal and state air quality and opacity standards. Under this alternative, prescribed fire and wildland fire use to achieve resource management objectives would be limited.

Objective 2. Manage mining and aggregate operations to avoid degradation of the airshed.

Alternative A

The BLM would require air quality permits from the DEQ for all operations in the Planning Area. In addition, the BLM would require dust abatement measures at the mining operations.

Alternative B

The BLM would withdraw the remainder of the Planning Area from mineral entry and development.

Alternative C

Same as Alternative B.

Alternative D

Same as Alternative A.

Alternative E

Same as Alternative A.

2.2.2 Monitoring

The Fuel Analysis, Smoke Tracking, and Report Access Computer System, an emissions information system, is used in Oregon to quantify prescribed fire emissions and to track changes in emission production in the state. Federal land managers have an obligation to complete smoke management reports and apply appropriate mitigation measures to reduce potential impacts on air quality (EPA 1992).

An air quality monitoring network has been developed for Oregon that is used to determine whether the national ambient air quality standards are met. However, no monitors are located within the Planning Area.

2.3 Water Resources

2.3.1 Goal - Maintain, restore, or improve water quality and quantity to sustain the designated beneficial uses on public lands.

2.3.1.1 Management Framework

The CWA of 1977, as amended, required the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. The State of Oregon, under delegated authority and oversight by the EPA, defines the beneficial uses, and establishes policies and standards relative to managing the quality of Waters of the State. Water quality is managed by the DEQ through implementation of the Antidegradation Policy and supporting policies defined in Oregon Administrative Rules (OAR) 340-041-0026, which includes the High Quality Waters Policy, Outstanding Resource Waters Policy, and Water Quality Limited Waters Policy. The purpose of the Antidegradation Policy is to guide decisions that affect water quality such that unnecessary degradation from point and nonpoint sources of pollution is prevented, and to protect, maintain, or improve existing surface water quality relative to designated beneficial uses. Beneficial uses designated for the Malheur Lakes Basin include domestic water supply, livestock watering, irrigation, salmonid and resident fish habitat, wildlife and hunting, fishing, water contact recreation, and aesthetic quality. High Quality Waters Policy and Outstanding Resource Waters Policy generally apply to maintenance and protection where existing water quality meets or exceeds those levels necessary to support beneficial uses. The Water Quality Limited Waters Policy addresses those waters that do not currently meet water quality standard(s).

The BLM, as a designated management agency, is responsible pursuant to the CWA for implementing land management activities that maintain, protect, or improve the quality of waters under their jurisdiction. In addition to the CWA, numerous laws, regulations, policies, and Executive Orders direct the BLM to manage water quality for the benefit of the nation and its economy (Appendix D). Thus, the BLM is required to maintain water quality where it meets state water quality standards and to improve water quality where it does not meet standards. Potential nonpoint source pollution is the primary water quality issue associated with public land management and is the focus of this discussion. Management of nonpoint source pollution is conducted through the development and implementation of best management practices (BMPs) during activity level planning and analysis. BMPs are defined as methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls, and operation and maintenance procedures. BMPs can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters (40 CFR 130.2(m), EPA's Water Quality Planning and Management). In the context of public land management, the development and implementation of BMPs are primarily relevant to actions such as recreation, grazing, fuels and transportation management. Further, the design and implementation of land management actions and BMPs are relative to the management of upland and riparian vegetation, and the associated attributes and processes that facilitate watershed function.

BMPs are identified as part of the NEPA process, with interdisciplinary involvement. Since the control of nonpoint sources of pollution is an ongoing process, refinement of BMP design may be necessary. This adaptive management process can be described in five steps: (1) selection of design for a specific BMP; (2) application of the BMP; (3)

monitoring; (4) evaluation; and (5) feedback. Data gathered through monitoring is evaluated and used to identify changes needed in BMP design, application, or in the monitoring program. The Forest Service and Bureau of Land Management Protocol for Addressing Clean Water Act Section 303(d) Listed Waters (Protocol) outlines the approach for the BLM to meet obligations for contributing to the management of the state's impaired waters. The Protocol was developed by the USFS, BLM, EPA and DEQ, as well as other agencies. The Protocol recognizes Water Quality Restoration Plan(s) (WQRPs) as the primary mechanism to address and restore impaired waters on BLM administered lands. WQRPs or equivalent would serve the purpose of surface water temperature management plan(s) described in OAR 340-041-0026.

A watershed/subwatershed priority list (Table 2.2) was generated to guide assessment of ecosystem conditions, development of site-specific management actions and associated short-term and intermediate monitoring objectives, and to provide a context of evaluating progress toward plan level objectives and goals. Work would focus on higher priority areas; however, other areas may require attention to address site-specific needs. The following list describes the criteria used to prioritize watersheds and the process that would be used to change priorities, if necessary.

- Legal mandates (Clean Water Act [CWA], Endangered Species Act [ESA], National Historic Preservation Act of 1966, as amended, etc.);
- Resources at risk;
- Potential for recovery;
- Resource conflicts or controversy;
- Opportunity for interagency or partnership assessments;
- Field staff knowledge of the area; and
- Current ongoing management.

2.3.1.2 Management Direction by Alternative

Objective 1. Comply with state and federal requirements to protect public waters.

Management Common to All Alternatives

To reasonably prevent degradation of water quality, BMPs (Appendix F) would be prescribed and implemented at the activity-plan level.

The management of riparian areas is an important component of restoring water quality, and would differ among the alternatives.

Objective 2. Protect all designated beneficial uses by preventing or limiting nonpoint source pollution; maintain or improve existing water quality and quantity through implementation of BMPs.

Management Common to All Alternatives

To reasonably prevent degradation of water quality, BMPs (Appendix F) would be prescribed and implemented at the activity-plan level. These BMPs would also be directed toward management practices to facilitate maintenance or improvement of attributes (i.e., vegetation, channel geometry) identified through PFC assessment and/or other qualitative or quantitative methods.

The management of riparian areas is an important component of restoring water quality, and would differ among the alternatives.

Alternatives A and E

Maintain existing developed water sources (i.e. spring developments, reservoirs, and wells) and develop new sources through project-level planning to promote the distribution and quantity of available water for beneficial uses such as wildlife, livestock and/or wild horses. The BLM would rely on the DEQ to determine and designate ecologically important cold-water refuges.

Alternatives B

Inventory developed water sources (i.e. spring developments, reservoirs, and wells) and evaluate contribution to beneficial uses though site-specific assessments. Maintain existing water developments in the CMPA that contribute to beneficial uses; allow natural processes to reclaim water developments that are determined through site-specific assessment to not contribute to beneficial uses, except where necessary for wild horse management. Allow natural processes to reclaim existing water developments in the AMU, except where necessary for wild horse management.

Through watershed assessment, WQRP, or other processes, stream reaches or sites would be identified that provide or contribute summertime cold water habitat in subwatersheds where stream temperatures limit the distribution and abundance of aquatic species. Protection measures (BMPs) in WQRPs, or activity level plans for such reaches/sites would be identified and implemented. The BLM would coordinate with the DEQ on locations and rationale of stream reaches/sites for evaluation as ecologically important cold-water refuges.

Alternative C

Same as Alternative B, except existing developed water sources in the CMPA and AMU that contribute to beneficial uses would be maintained. Active and passive restoration efforts may occur in reclaiming developed water sources determined as no longer providing beneficial uses, such as the No Livestock Grazing Area of the Steens Mountain Wilderness. Existing and future water developments would be maintained or implemented when determined to contribute to beneficial uses or to facilitate management, or protection of off-site natural values, such as water quality and/or riparian resources through distribution of wildlife, livestock, and/or wild horses.

Alternative D

Same as Alternative C, including specific emphasis on reclaiming existing developments in the designated No Livestock Grazing Area of the Steens Mountain Wilderness to facilitate cooperative management and future water resource developments on public and private lands through legal processes of the Oregon Department of Water Resources.

Objective 3. Impaired waters on public lands listed under Section 303(d) of the CWA would be managed to restore beneficial uses and to improve water quality so that listing is no longer warranted.

Management Common to All Alternatives

The status of waters identified on the 303(d) list would be evaluated. Impairment would be validated or, in cases where water quality improvement has resulted from restoration activities since the listing, evaluation may suggest that the listing is no longer warranted. In cases where the listing is validated, management measures that are sufficiently stringent to restore water quality may be recognized, especially in areas such as wilderness and WSRs where such management may be required to meet other objectives. In other impaired waters, WQRPs would be developed and implemented. Other available mechanisms may be explored for removing impaired waters from the 303(d) list, such as changes in water quality standards. The development and implementation of sufficiently stringent measures and WQRPs to address water quality would be based upon assessment and monitoring of existing activity level management, resource management alternatives identified through this RMP, appropriate BMPs, and subsequent activity level planning efforts. Site/reach specific objectives, guidelines, and/or standards would be set through the development of the WQRP and Total Maximum Daily Loads (TMDL).

Alternative A

Under this alternative, current management would continue. Riparian and adjacent upland areas that influence 303(d) listed waterbodies would be managed according to site or reach management objectives identified in activity level plans and modified, as necessary, relative to WQRPs and TMDLs. Development and implementation of WQRPs would follow the TMDL schedule outlined by the DEQ.

Table 2.2: Priority Streams/Subwatersheds Identified to Guide Development of Watershed Management Actions and Water Quality Restoration Plan(s) for the Planning Area

PLANNING AREA PRIORITY STREAMS/WATERSHEDS			
ALVORD SUBBASIN (TMDL 2002)			
Relative Priority	Location	Stream	Rationale
1	East Steens Mountain	Little McCoy*, Mosquito*, Willow*, Little Wildhorse*, Cottonwood**, Big Alvord**, Little Alvord**, Pike**, Wildhorse***, Indian, Mann, Castlerock	303(d) List; Lahontan cutthroat trout; Allotment Management Plans (2003); Biological Opinion(s); Wilderness/WSA
2	Pueblo Mountain	Van Horn*, Denio*, Little Willow, Willow, Little Cottonwood, Arizona, Catlow, Oliver, Colony, Cherry	303(d) List; Lahontan cutthroat trout; Biological Opinion(s); WSA
6	Trout Creek Mountains	Big Trout***, East Fork Big Trout***, Little Trout***	303(d) List; rainbow-cutthroat trout hybrid; WSA
DONNER UND BLITZEN SUBBASIN (TMDL 2007)			
3	Upstream of Page Springs	Donner und Blitzen*, Little Blitzen*, Ankle*, Mud*, Big Indian*, Indian*, Deep*, Fish*, Little Indian**	303(d) List; redband trout, Malheur mottled sculpin, and Columbia spotted frog; Redband Trout Reserve; Aquatic Stronghold (redband trout); Priority Watershed; Wilderness; Wild & Scenic River
5	Downstream of Page Springs	Bridge**, Mud**	Redband trout, Malheur mottled sculpin, Columbia spotted frog; WSA
8	Downstream of Page Springs	Kiger**, Little Kiger**	Redband trout and Malheur mottled sculpin; Wilderness
9	Downstream of Page Springs	McCoy*, Cucamonga**	303(d) List; Redband trout, Malheur mottled sculpin, and Columbia spotted frog
11	Downstream of Page Springs	Krumbo**	Redband trout (possible introduced rainbow / hybrids)
GUANO SUBBASIN (TMDL 2007)			
4	Catlow Rim	Home*, Threemile**	303(d) List; redband trout and Catlow tui chub; Wilderness
HARNEY-MALHEUR LAKES SUBBASIN (TMDL 2007)			
7		Riddle*, Coyote**	303(d) List; redband trout and Malheur mottled sculpin
10		Smyth**	Redband trout

*303(d) List/T&E, Candidate, Bureau Sensitive aquatic species present
**T&E, Candidate, Bureau Sensitive aquatic species present
***303(d) List/nonsensitive aquatic species

Alternative B

All perennial and intermittent waters would be managed toward an advanced ecological status of riparian vegetation communities. Maintenance, protection and/or restoration of riparian and aquatic function and processes would be emphasized through specific management actions and performance measures identified in the relevant WQRP and TMDL, respectively. The development and implementation of WQRPs and associated management (BMPs) would be generally guided by the stream/watershed priority list (Table 2.2) along with consideration of new circumstances or emerging opportunities. Initial WQRP priority would be assigned to waters where Lahontan cutthroat trout, protected pursuant to the ESA, are the most sensitive beneficial use. Natural processes would be emphasized and active restoration would be limited through planting riparian vegetation along reaches/sites that are not likely to achieve or progress toward attainment of advanced ecological status within the RMP goal timeframe of 20 to 50 years.

Alternative C

Management under this alternative would be the same as Alternative B; however, active restoration may be pursued to initiate or increase the rate of progress toward advanced ecological status of riparian vegetation communties.

Alternative D

All perennial waters listed under Section 303(d) of the CWA, as well as contributing perennial and intermittent streams, would be managed toward an appropriate ecological status to attain or progress toward attainment of water quality standards or other surrogate measures of water quality standards necessary to protect beneficial uses. Determination of appropriate ecological status to protect beneficial uses, and implementation of BMPs to maintain, protect and/or restore riparian and aquatic function and processes would be identified in the relevant WQRP and TMDL, respectively. The development and implementation of WQRPs and associated management (BMPs) would be generally guided by the stream/watershed priority list (Table 2.2) along with consideration of new circumstances or cooperative management opportunities. Initial WQPR priority would be assighted to waters where Lahontan cutthroat trout, protected pursuant to the ESA, are the most sensitive beneficial use.

Alternative E

Management under this alternative would be the same as Alternative A; however, development and implementation of WQRPs would be guided by the stream/watershed priority list (Table 2.2) along with consideration of new circumstances or emerging opportunities..

2.3.2 Monitoring

The intensity and scale (watershed, subwatershed or reach/site) of implementation and effectiveness monitoring would be determined through watershed or reach/site assessments, activity plans, or WQRPs. Identification of specific riparian attributes of vegetation, hydrology/geomorphology and erosion/deposition to be monitored would be identified through PFC assessments (USDI 1998 and 1999) and activity level planning. The relevance of vegetation management to the maintenance, restoration, or improvement of water quality and quantity would be reflected in monitoring the implementation and effectiveness of BMPs, and may include a variety of techniques to assess condition and trend. Hydrologic/geomorphic characteristics would be assessed to determine the relative reach/site susceptibility to disturbance, ecological potential, and appropriate management actions. Monitoring of hydrologic/geomorphic characteristics and erosion/deposition to evaluate maintenance or progress toward a desired condition may include measurements of channel slope, cross sectional profile, and substrate particle size and embeddedness. Additional monitoring of associated attributes and processes relative to water quality and quantity may include lateral extent of riparian vegetation, stream shade, aquatic macroinvertebrates, water temperature, and other water quality constituents.

2.4 Soils and Biological Soil Crusts

2.4.1 Goal 1- Manage soils on public lands to maintain, restore, or improve soil erosion classes, watershed health, and areas of fragile soils.

2.4.1.1 Management Framework

Soils provide the foundation for vegetation growth and site productivity. Management goals for vegetation, watershed, wildlife and livestock are more difficult to achieve without healthy, productive, and intact soils. Within the semiarid Planning Area, soils are young and poorly developed. Biological and chemical soil development processes such as rock weathering and decomposition, plant material decomposition, accumulation of organic matter, and nutrient cycling proceed slowly in this environment. Due to slow soil recovery processes, the disruption of soils can lead to long-term changes in soil ecology and productivity.

2.4.1.2 Management Direction by Alternative

Objective 1- Manage mineral soils to limit accelerated erosion on critical sites, protect soil characteristics on noncritical sites, and maintain or improve existing infiltration and permeability rates.

Alternatives A, C, D, and E

BMPs would be implemented to protect and manage soil for all ground disturbing activities including new projects, livestock grazing, and road maintenance and construction. See Appendix F for a complete description of

Alternative B

Natural processes would affect soil conditions in the Planning Area except where management is necessary to arrest excessive soil movement on critical sites.

2.4.2 Goal 2 - Increase the understanding of the management of Northern Great Basin biological soil crusts.

2.4.2.1 Management Framework

Biological soil crusts contribute to the functional, structural, and compositional parts of a functioning ecosystem. They function as living mulch by retaining soil moisture. In some systems they comprise up to 70 percent of the living cover. They reduce wind and water erosion, fix atmospheric nitrogen, and contribute to soil organic matter (TR-1730-2). Biological soil crusts are one of at least twelve potential indicators used in evaluating watershed function for uplands (USDI, 1997a). Management goals can be facilitated by implementing practices that encourage soil stability and properly functioning ecosystems.

2.4.2.2 Management Direction by Alternative

Objective 1. Collect biological soil crust data within the Planning Area.

Management Common to All Alternatives

A standard monitoring methodology would be developed and implemented to monitor the Pueblo-Lone Mountain Allotment and other allotments within the Planning Area. In addition, the biological soil crust community would be monitored as one of the indicators for the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington (S&Gs).

Alternative A

Biological soil crust data would be collected within the Planning Area. A standard monitoring methodology would be implemented to monitor the Pueblo-Lone Mountain Allotment and other allotments within the Planning Area.

Alternatives B, C, D, and E

Biological soil crust monitoring data would be collected and utilized to inform decisions concerning the exclusion or minimization of activities in areas that impact biological soil crusts through surface disturbance.

2.4.3 Monitoring

Soil health and condition would be monitored by conducting project reviews for the implementation and effectiveness of BMPs. Soil movement potential can be assessed by utilizing the soil surface factor form. The Slake test (TR 1730-2) can also be used to estimate soil surface stability (under wet conditions).

Biological soil crusts would be monitored for percent cover of general morphological groups (these groups are described in the technical reference TR-1730-2). The Slake test can also function as an indirect measure of the cohesive qualities of biological soil crusts. In addition, the Grazing Management Section would also consider biological soil crusts in their monitoring program.

2.5 Vegetation

2.5.1 Goal -Manage vegetation to achieve and maintain healthy watersheds

2.5.1.1 Management Framework

With the passage of the FLPMA and the Public Rangelands Improvement Act (PRIA) of 1978, objectives and priorities for the management of public land vegetation resources were more clearly defined. Guidance contained in 43 CFR 4180 of the regulations directs public land management toward the maintenance or restoration of the physical function and biological health of vegetative ecosystems. The S&Gs approved by the Secretary of the Interior on August 12, 1997 also provide guidance for the management of plant communities. The S&Gs are included as Appendix G. This objective would maintain and improve the condition in plant communities that provide wildlife habitat, recreation, forage, scientific, scenic, ecological, and water and soil conservation benefits for consumptive and nonconsumptive uses. The long-term goal of vegetation management across the landscape is to maintain or improve rangeland condition to a DRC which meets management objectives.

Management actions authorized or implemented by the BLM would influence future vegetation composition. These actions may include: season, intensity, and duration of livestock grazing within diverse vegetation communities; the influence of fire and associated suppression actions; emergency fire rehabilitation and reintroduction of grazing following fire; the use of natural and management-created firebreaks to protect early seral communities from frequent fire intervals; rehabilitation and reclamation actions following soil-disturbing activities; management of noxious weeds; OHV use; wild horse management; recreational use; and mining.

2.5.2 Riparian and Wetlands

2.5.2.1 Goal - Maintain, restore, or improve riparian vegetation, habitat diversity, and geomorphic stability to achieve healthy, productive riparian areas and wetlands and associated structure, function, process and products that provide public land values such as forage, water, cover, structure and security necessary to meet the life history requirements of fish and wildlife; public recreation and aesthetics; water quality and quantity; and livestock forage and water.

2.5.2.1.1 Management Framework

The FLPMA and PRIA direct the BLM to "... manage public lands according to the principles of multiple use and sustained yield" and "manage the public lands to prevent unnecessary degradation ... so they become as productive as feasible." Section 102 of the FLPMA also requires that public land be managed for multiple use and sustained yield in a manner that would protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values. Section 102 also mandates that public land be managed in a manner that recognizes the nation's need for domestic sources of minerals, food, timber, and fiber. In addition to the FLPMA, numerous laws, regulations, policies, Executive Orders, and memorandums of understanding (MOUs) and agreements (MOAs) direct the BLM to manage its riparian/wetland areas for biological diversity, and to maintain their productivity

and sustainability for the benefit of the nation and its economy. These directives are listed in Appendix D. While the directives listed in Appendix D relate specifically to planning requirements, they also relate to management in general.

Functioning riparian/wetland areas are essential to maintenance and improvement of water quality and quantity, fish and wildlife habitat, and soil and alluvial groundwater retention. Healthy riparian/wetland areas increase the quantity and quality of forage for wildlife and livestock. Riparian zones serve as a primary indicator of watershed health. Management of riparian/wetland areas for the DRC would be implemented to maintain or progress toward attainment of PFC. This would be a first step toward achieving water resource and fish/wildlife habitat objectives in entire watersheds and/or their components such as uplands, streams, riparian/wetland areas, springs, lakes, and ponds.

Section 102.8 of the FLPMA states that it is the policy of the United States to manage the public land in a manner that would protect the quality of multiple resources and that would provide food and habitat for fish, wildlife and domestic animals. Beaver are considered to be an important part of the riparian habitat as discussed in "Riparian Area Management" TR 1737-5 (1990), TR 1737-6 (1992) and TR 1737-15 (1998). Habitat created behind beaver dams supports a diversity of aquatic organisms, fish, and wildlife including the Columbia spotted frog, a candidate species for listing as threatened or endangered. Although beaver are still present in some locations within the Planning Area, they have been removed or have emigrated from other locations. To allow for transplanting or reestablishment of beaver into suitable habitat where they were found previously, BLM Manual 1745, "Introduction, Transplant, Augmentation, and Reestablishment of Fish, Wildlife, and Plants" (1992) states that "Decisions for making introductions transplants, or reestablishments should be made as part of the land use planning process…." Recommendations for transplants of beaver onto or removal of beaver from public lands would be coordinated with the ODFW.

2.5.2.1.2 Management Direction by Alternative

Objective 1. Achieve and/or maintain a rating of PFC for perennial and intermittent flowing and standing waterbodies relative to site capability, site potential, and BLM management jurisdictions.

Management Common to All Alternatives

Management prescriptions would be implemented or continued at the activity plan level designed to maintain, restore, and/or improve specific attributes of riparian/wetland areas to maintain or progress toward attainment of PFC.

Objective 2. Maintain, restore, or improve riparian/wetland vegetation communities relative to ecological status, site potential and capability, and/or site-specific management objectives.

Management Common to All Alternatives

Assess reach/site scale riparian/wetland vegetation, hydrology, morphology, and soil characteristics (sub-samples) to evaluate site potential and capability. To assist in riparian restoration and to preserve genetics, sources of localized riparian tree and shrub (cottonwood, willow) material would continue to be established and maintained.

Alternative A

Under this alternative, current management would be continued. Activity level management prescriptions and/or WQRP prescriptions would be developed and implemented based on reach/site assessment and site-specific resource management objectives. Existing grazing and recreation systems and improvements that maintain PFC relative to reach capability and potential would continue. Existing roads associated with riparian areas would be maintained and additional roads developed on a case-by-case basis in conformance with existing laws and regulations.

Alternative B

Activity level management prescriptions and/or WQRP prescription(s), and propagation of local woody vegetation would be developed and implemented as in Alternative A, but would be generally guided by the stream/subwatershed priority list (Table 2.2) along with consideration of new circumstances and emerging opportunities. Livestock and recreational use would be managed in riparian/wetland areas emphasizing passive measures. Riparian/wetland areas would be managed to maintain or progress toward attainment of advanced ecological status. Restoration of riparian/wetland vegetation and adjacent upland vegetation that influences riparian vegetation communities would primarily rely on natural maintenance and recovery processes. In riparian areas determined through watershed level or site/reach specific

analysis as unlikely to achieve or progress toward attainment of advanced ecological status within the RMP goal timeframe of 20 to 50 years, active restoration through planting native riparian vegetation may be initiated. Road networks would be inventoried; routes that impact riparian areas relative to site/reach specific objectives would be eliminated, relocated, or reconstructed. Natural recovery of abandoned roadbeds would be allowed where erosion potential is minimal and recovery potential is moderate to high. Active restoration of abandoned roadbeds would be pursued where erosion is likely and natural recovery potential is limited. Road crossings would be evaluated and modified, as necessary, to simulate natural stream function and process.

Alternative C

This alternative is similar to Alternative B. However, livestock and recreational use of riparian/wetland areas would be managed by active and/or passive measures, including BMPs, in both the CMPA and AMU. Active and/or passive restoration may occur within riparian areas and adjacent uplands that influence riparian areas. Planting and other manipulation of riparian/wetland vegetation may occur to accelerate progress toward advanced ecological status. Condition of upland communities that influence riparian/wetland areas, such as increased fire frequency or intensity and/or erosion potential, may be actively restored with native and/or desirable nonnative vegetation and mechanical methods. Restoration sites would be managed to progress toward native vegetation communities within the RMP goal timeframe of 20-50 years.

Alternative D

This alternative is similar to Alternative C. However, ecological status objectives would be based on maintaining or progressing toward attainment of PFC; obligations pursuant to the CWA, ESA, and appropriate Executive Orders; and site-specific objectives of multiple resource management. Management would include passive and active measures relative to site-specific emphasis of multiple resource management objective(s). Restoration of adjacent upland vegetation communities that influence riparian/wetland areas would include establishment and management for a range of vegetation, native to desirable nonnative, relative to site-specific emphasis of multiple resource management objective(s).

Alternative E

Activity level management prescriptions and/or WQRP prescription(s) would be developed and implemented as in Alternative A; priority would generally be guided by the stream/watershed priority list (Table 2.2) along with consideration of new cirumstances or cooperative management opportunities. Grazing and recreation management in riparian areas would provide maximum use while maintaining or progressing toward PFC, WQRP, and/or activity level plan objectives. Upland communities adjacent to riparian areas would be managed as in Alternative D with an emphasis on providing sustainable livestock forage, soil stability, and aesthetics along travel corridors and developed recreation sites. Riparian restoration would include passive and active measures to achieve activity level and/or WQRP objectives. Roads in riparian areas would be managed and developed to promote commodity and public uses within established laws and regulations.

Objective 3. Manage riparian/wetland areas to maintain, restore, or improve soil moisture content and retention of alluvial ground water to augment base flow conditions during warm summer months.

Management Common to All Alternatives

BMPs would be prescribed and implemented at the activity plan level to maintain, restore, or improve floodplain function and process. The ODFW would be coordinated with on the management of beaver populations on public lands.

Alternatives A and B

Beaver populations would be allowed to expand naturally on public lands as habitat conditions dictate.

Alternative C

Natural expansion and/or reintroduction of beaver would be allowed into suitable habitat on public lands.

Alternative D

Management under this alternative would be the same as Alternative C except that the BLM would recommend to the ODFW the removal of beaver from public lands if suitable habitat is not available or if economic harm or ecological damage is occurring.

Alternative E

Under this alternative, beaver populations would be allowed to expand naturally on public lands as habitat conditions dictate the BLM would recommend to the ODFW the removal of beaver from public lands if suitable habitat is not available or economic harm or ecological damage is occurring.

2.5.2.2 Monitoring

Monitoring of riparian attributes, as described in Water Resources Monitoring (2.3.2), would be based on site/reach specific management objectives determined through processes such as grazing allotment evaluations and/or management plans, recreation management plans, wilderness management plans, WQRPs, and Endangered Species Act section 7 consultations. Inventory and assessments to evaluate short-term and long-term progress toward identified objectives would be determined through PFC assessments and/or other qualitative and/or quantitative assessments. Assessments may include vegetation composition and structure, bank stability/disturbance, and stream channel configuration.

Beaver activity would be monitored and documented in cases of expansions in present habitat; activity reported in new areas would be noted. Woody riparian species use would be monitored to determine sustainability.

2.5.3 Woodlands

2.5.3.1 Goal 1 - Maintain or improve ecological integrity of old growth juniper woodlands.

2.5.3.1.1 Management Framework

Western juniper is a long-lived tree species capable of living 1,000 years or more. Historically, western juniper occupied rocky ridge tops, shallow soil areas, and other areas where surface vegetation was too sparse to carry fire. Old growth western juniper woodlands are best described on the basis of the presence of pre-European settlement trees (>120 years before present [ybp]) and structural characteristics such as standing and down dead trees, decadent living trees, bole cavities, stripbark, and branches covered with lichens. These stands accounted for less than three percent of the western juniper woodlands across eastern Oregon. The majority of western juniper expansion has primarily been on more productive plant communities; however, the number of trees in old growth stands has also increased over the last 120 years. While special characteristics of old growth woodlands provide habitat for plant and wildlife species, the recent dramatic increase in trees and invasive plants has increased the risk of unplanned wildland fire.

Fire was not a common occurrence in old growth western juniper woodlands. Historically, most fires were confined to small areas or single trees due to the sparse ground vegetation. Once every 100 to 200 years, climatic and vegetation conditions were such that large scale fires burned through these stands. These fires would kill some mature individuals and most of the younger trees. Recently, fire suppression, reduction of fine fuels by grazing, and subtle climatic shifts have allowed numerous small western juniper trees to become established. The increase in western juniper has been at the expense of the associated woody and herbaceous plants.

Western juniper woodlands are not classified as commercial forests. The bole morphology and numerous branches make juniper difficult to work with and desirable only for ornamental wood working. However, opportunities do exist for other nontraditional commercial uses such as firewood and biofuels.

2.5.3.1.2 Management Direction by Alternative

Objective 1. Maintain or improve late-seral stage ecological characteristics in old-growth western juniper woodlands.

Alternative A

Younger (<120 year old) western juniper trees would be mechanically removed from old growth juniper stands. Younger trees would be removed using chainsaws or other mechanical equipment. All lightning- and human-caused wildland fires in old growth western juniper stands would continue to be suppressed.

Alternative B

Natural processes would be allowed to define vegetation composition and structure in old growth woodlands. Wildland fire use management would occur on lightning-ignited fires that have low threat to life and property, and are determined to benefit resources in and adjacent to the fire.

Alternative C

If no threat to life or substantial resource values is present, wildland fires would be allowed to burn in old growth western juniper stands, restoring fire to its historic role in the ecosystem. Up to 90 percent of the post-European settlement western juniper trees may be individually removed from old growth stands using terra torches or other ignition devices.

Alternative D

Up to 90 percent of the younger (<120 years old) western juniper trees in old growth western juniper stands would be mechanically removed. Markets would be developed for byproducts of western juniper removal, such as secondary wood products (e.g. fence posts), biomass fuels for electricity generation, and firewood. Unplanned wildland fires would be evaluated for resource benefit. If no threat to life or private property exists, the wildland fire would be managed for resource benefit.

Alternative E

Younger (<120 years old) western juniper trees would be mechanically removed from old growth juniper stands. Markets would be developed for by-products of western juniper removal, such as secondary wood products (e.g. fence posts), biomass fuels for electricity generation, and firewood. Unplanned wildland fires would be evaluated for resource benefit. If no threat to life or private property exists, the wildland fire would be managed for resource benefit.

2.5.3.2 Goal 2 - Maintain, restore, or improve the ecological integrity of mountain mahogany and quaking aspen stands/groves.

2.5.3.2.1 Management Framework

Quaking aspen and mountain mahogany communities comprise a relatively small percentage of the landscape, but contribute substantially to the biodiversity of plants and animals in the Great Basin. Quaking aspen plant communities, especially below 7,000 feet, were influenced by fire. These plant communities are often found in productive deep soil areas and in a complex mosaic of mountain big, mountain shrub, and low sagebrush plant communities. Fire played a much less important role in the development of mountain mahogany stands. Mountain mahogany is often found on shallow soil sites in areas where long periods of time can elapse between fire events. These two plant communities share a dramatic increase in western juniper over the last 120 years.

Western juniper is an effective competitor for resources. Recent expansion of western juniper into quaking aspen and mountain mahogany stands has been at the expense of the associated vegetation. Western juniper has encroached some stands to the point that all associated woody vegetation has been replaced. This total type conversion alters the habitat for many plant and animal species. However, some areas encroached by western juniper still have varying degrees of quaking aspen or mountain mahogany remaining. Treatment of these stands, especially small isolated pockets, may require protection from wild and domestic larger herbivores until new suckers or plants can reach heights above the browse line.

2.5.3.2.2 Management Direction by Alternative

Objective1. Reduce the component of western juniper and other associated woody plant species in quaking aspen and mountain mahogany stands.

Alternative A

Western juniper would continue to be mechanically removed from quaking aspen and mountain mahogany stands where fire is inappropriate. Where western juniper has become established and has the potential to dominate aspen stands, either the stands would be rehabilitated by prescribed burning, or the stand would be burned after removing the juniper. All nonprescription wildland fires in quaking aspen and mountain mahogany stands would continue to be suppressed.

Where recovery could be suppressed by browsing livestock and/or wildlife, treated mountain mahogany and quaking aspen stands would be fenced. In general, this pertains to smaller stands or to stands where higher than normal browsing pressure could be expected to occur. Some large stands might not need to be fenced in order for regeneration to occur.

Alternative B

Allow natural processes to define vegetation composition and structure in quaking aspen groves and mountain mahogany stands. Wildland fire use management would occur on lightning fires that have low threat to life and property, and that are determined to benefit resources in and adjacent to the fire.

Alternative C

Western juniper would be mechanically removed from quaking aspen and mountain mahogany stands. Where western juniper has become established and has the potential to dominate aspen stands, either the stands would be rehabilitated by prescribed burning, or the stand would be burned after removing the juniper. Wildland fires would be allowed to burn in quaking aspen and mountain mahogany stands that have been invaded by western juniper in order to reduce the influence of western juniper.

Where recovery could be suppressed by browsing by livestock and/or wildlife, treated mountain mahogany and quaking aspen stands would be fenced. In general, this would pertain to smaller stands or to stands where higher than normal browsing pressure could be expected to occur. Some large stands might not need to be fenced in order for regeneration to occur.

Alternative D

Western juniper would be mechanically removed from quaking aspen and mountain mahogany stands. Markets would be encouraged for by-products of western juniper removal. Some targeted uses could be fence posts, molding, biomass for cogeneration, and firewood.
Where western juniper has become established and has the potential to dominate aspen stands, the stands would be rehabilitated by prescribed burning where possible. Wildland fires would be allowed to burn in quaking aspen and mountain mahogany stands that have been invaded by western juniper in order to reduce the influence of western juniper.

Where recovery could be suppressed by browsing by livestock and/or wildlife, treated mountain mahogany and quaking aspen stands would be fenced. In general, this would pertain to smaller stands or to stands where higher than normal browsing pressure could be expected to occur. Some large stands might not need to be fenced in order for regeneration to occur.

Western juniper would be mechanically removed from quaking aspen and mountain mahogany stands. Markets would be encouraged to utilize the byproducts of western juniper removal. For example, markets for fence posts, biomass for cogeneration, and firewood could be encouraged in the local community.

Where western juniper has become established and has the potential to dominate quaking aspen stands, prescribed fire would be used to reduce the influence of western juniper, or the stand would be mechanically treated and then burned to achieve the same goal. Burned areas would be reseeded with native and introduced forage species.

Wild and domestic herbivores would be allowed access to additional forage produced by cutting and/or burning mountain mahogany and quaking aspen stands.

2.5.3.3 Goal 3 - Manage woodland habitat so that the forage, water, cover, structure, and security necessary to meet the life history requirements of woodland-dependent and -associated wildlife species are available on public lands.

2.5.3.3.1 Management Framework

Currently, 97 percent of western juniper stands are less than 120 years old. The prehistoric record indicates that the range of western juniper woodlands has fluctuated greatly over the last 5,000 years. Historically, western juniper increased its range during mild, wet periods. As fire frequency increased at the end of these periods, the range of western juniper contracted. Recent expansions (since 1870) have occurred under different climatic conditions and in more productive and deeper soil sites than the previous expansions.

Western juniper is an effective competitor for resources. Recent expansion of western juniper into more productive big sagebrush, low sagebrush, and riparian plant communities has been at the expense of the associated vegetation and animal communities. The result of this encroachment has been a reduction in the total number of species present and an increase in the amount of mineral soil exposed. Forage for livestock and wildlife has also been reduced as western juniper density and cover has increased. Sagebrush obligate wildlife species have experienced a reduction in habitat due to western juniper encroachment. A similar trend has occurred in riparian plant communities where western juniper has replaced riparian woody and herbaceous plants.

2.5.3.3.2 Management Directions by Alternative

Objective 1. Reduce the influence of post-settlement (stands with trees <120 years old) western juniper to restore riparian and sagebrush habitats.

Alternative A

Post-settlement juniper trees (<120 years old) would be mechanically removed from riparian areas and sagebrush habitats. Human-ignited prescribed broadcast fire would be used to reduce the influence of western juniper on sagebrush and riparian habitats. All unplanned wildland fires would be suppressed with the appropriate management actions.

Alternative B

Naturally ignited fires would be evaluated for risk to public and firefighter safety, threats to private property, and resource damage. Fires with low risks to firefighter and public safety, private property, and resources would be managed for resource benefits. Prescribed fires would be used to reduce the influence of western juniper on sagebrush and riparian plant communities.

Alternative C

All younger western juniper trees (<120 years old) would be mechanically removed from riparian areas and sagebrush habitats. Naturally ignited fires would be evaluated for risk to public and firefighter safety, threats to private property, and resource damage. Fires with low risks to firefighter and public safety, private property, and resources would be managed for resource benefits.

Alternative D

Post-settlement trees (<120 years old) would be mechanically removed from riparian areas and sagebrush plant communities. Naturally ignited fires would be evaluated for risk to public and firefighter safety, threats to private property, and resource damage. Fires with low risks to firefighter and public safety, private property, and resources would be managed for resource benefits. Human ignited prescribed fires would be used to reduce the influence of western juniper on sagebrush and riparian plant communities.

Alternative E

Post-settlement trees (<120 years old) would be mechanically removed from riparian areas and sagebrush plant communities. Naturally ignited fires would be evaluated for risk to public and firefighter safety, threats to private property, and resource damage. Fires with low risks to firefighter and public safety, private property, and resources would be managed for resource benefits. Human ignited prescribed fires would be used to reduce the influence of western juniper on sagebrush and riparian plant communities. Local markets would be encouraged to utilize by-products of western juniper removal.

2.5.3.4 Monitoring

See monitoring in Rangelands Section.

2.5.4 Wildland Juniper Management Area

2.5.4.1 Goal - Manage the WJMA for the purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and pre-settlement native vegetation communities on Steens Mountain, compatibly with preservation of desirable juniper woodland ecological values in nonexperimental areas.

2.5.4.1.1 Management Framework

The restoration of historic fire regimes in the CMPA is specified in the Steens Act and discussed elsewhere under Fire Management. The WJMA was established by the Steens Act in order to provide an opportunity to demonstrate current management actions and evaluate the applicability of new or untested management techniques. In order to make the WJMA most useful, plant and animal communities should be inventoried in order to provide generalized baseline information and to assist in planning demonstration areas and field experiments.

Common to all objectives is the establishment of a science advisory group, which will help set direction for research and demonstration conducted within the WJMA. Composition and number in this group would be determined by the SMAC and the District Manager.

2.5.4.1.2 Management Direction by Alternative

Objective 1. Establish a series of demonstration areas within the 3,267-acre WJMA for technology transfer and public education. Evaluate different treatments and management strategies for plant communities dominated by western juniper.

Management Common to All Alternatives

Livestock grazing would continue within the Frazer Field Pasture. Temporary fences would be constructed to protect demonstration areas within the WJMA where livestock grazing is outside the scope of the evaluation. Every effort would be made to mitigate any loss of forage resource to the permittee.

Alternative A

Plant and animal communities present in the WJMA would be inventoried.

Alternatives B, C, D and E

Plant and animal communities present in the WJMA would be inventoried. Areas would be established to demonstrate and evaluate the effects of different treatments (fire, cutting, or other strategies) on western juniper and on the recovery or rehabilitation of native plant communities. Interpretive sites would be established at the boundary of the WJMA identifying the management area, its intent, and eventually some experimental results.

2.5.4.2 Monitoring

See Rangelands Section.

2.5.5 Rangelands

2.5.5.1 Goal 1 - Maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.

2.5.5.1.1 Management Framework

Beginning in the 1960s, awareness began to evolve concerning the importance of public lands for the maintenance of biological diversity. The passage of the FLPMA and PRIA provided objectives and priorities for the management of vegetation resources on public lands. Across the landscape, the long-term goal of vegetation management is to improve or maintain rangeland condition to the DRC that meets management objectives.

2.5.5.1.2 Management Direction by Alternative

Objective 1. Maintain or restore native vegetation communities through sound landscape management practices.

Alternatives A and D

Maintain or improve ecological status of native plant communities.

Alternative B

Natural processes would define the vegetation composition across the landscape.

Alternative C

Natural values associated with the diverse composition and structure of native vegetation would be emphasized. Emphasis on commodity production of herbaceous and shrubby vegetation would be minimized.

Alternative E

The production of native herbaceous and shrubby vegetation for commodity uses would be emphasized within the constraints of other resource management objectives.

Objective 2. Manage desirable nonnative seedings to meet resource objectives.

Alternative A

Nonnative seedings would be managed and/or manipulated to maintain vegetation composition and to meet S&Gs. In Greater Sage-Grouse habitat and/or deer winter range, native vegetation and diversity would be maintained or restored through interseeding of native plant species on approximately 200 acres of nonnative seedings. Brush beating and/or disking in a mosaic pattern would be allowed on 50 percent of nonnative seedings where brush cover is high.

Alternative B

Natural processes would define the vegetation composition in nonnative seedings.

Alternative C

Actions to diversify structure and composition of selected nonnative seedings would be implemented, with emphasis on natural values and other resource objectives, such as reestablishment of native plant species. In Greater sage-grouse habitat and/or deer winter range, interseeding to establish native plant species on approximately 20,000 acres of nonnative seedings throughout the Planning Area would be utilized where vegetative species diversity is low. Low species diversity means seeded areas that are predominantly crested wheatgrass, or that have reverted to cheatgrass dominance, or few herbaceous plants with an overstory of sagebrush. The emphasis would be on reestablishing native species, but other desirable nonnative species could be used in the seeding mix where appropriate. Livestock grazing could be used to suppress plant competition and allow sagebrush establishment. In areas to be reseeded, coordination

with permittees, the ODFW, and the USFWS would occur to set livestock grazing prescriptions on a site-specific basis. Emphasis of this project would be the seedings on the north and west sides of Steens Mountain. Brush beating of sagebrush in a mosaic pattern would be allowed on 50 percent of seeded areas where brush cover is high.

Alternative D

Actions to diversify structure and composition of selected nonnative seedings would be implemented when consistent with other resource objectives. In Greater sage-grouse habitat and/or deer winter range, interseeding to establish native plant species onto approximately 10,000 acres of nonnative seedings throughout the Planning Area would be utilized where vegetative species diversity is low. Low species diversity means seeded areas that are predominantly crested wheatgrass, or that have reverted to cheatgrass dominance, or few herbaceous plants with an overstory of sagebrush. Other desirable nonnative species could be used in the seeding mix. Livestock grazing could be used to suppress competition and allow sagebrush establishment. In areas to be reseeded, coordination with permitees, the ODFW, and the USFWS would occur to set livestock grazing prescriptions on a site-specific basis. Emphasis of this project would be the seedings on the north and west sides of Steens Mountain. Brush beating of sagebrush in a mosaic pattern would be allowed on 50 percent of seeded areas where brush cover is high.

Alternative E

Existing nonnative seedings presently in poor or fair condition would be restored. New seeding in areas capable of additional biomass production would be established. In Greater sage-grouse habitat and/or deer winter range, interseeding to establish native and other desirable nonnative plant species onto approximately 5,000 acres of nonnative seedings throughout the Planning Area would be utilized where vegetative species diversity is low. Low species diversity means seeded areas that are predominantly crested wheatgrass, or that have reverted to cheatgrass dominance, or few herbaceous plants with an overstory of sagebrush. Livestock grazing would be used to suppress competition and allow sagebrush establishment. In areas to be reseeded, coordination with permittees, the ODFW, and the USFWS would occur to set livestock grazing prescriptions on a site-specific basis. Emphasis of this project would be the seedings on the north and west side of Steens Mountain. Brush beating of sagebrush in a mosaic pattern would be allowed on 75 percent of seeded areas where brush cover is high.

Objective 3. Rehabilitate plant communities that do not have the potential to meet the DRC through management.

Alternative A

Vegetation manipulation projects would be implemented under this alternative, consistent with existing management objectives. Areas burned by wildland fire would be rehabilitated to protect soil, water, and vegetation resources.

Alternative B

Under this alternative, natural processes would determine vegetation composition. Wildland fire areas would not be rehabilitated unless noxious weeds or other undesirable weedy plant species have the potential to dominate the site.

Alternative C

Plant communities that do not meet the DRC due to dominance by undesirable weedy species or invasive juniper would be rehabilitated utilizing native plant species.

Alternative D

Plant communities that do not meet the DRC due to dominance by undesirable weedy species or invasive juniper would be rehabilitated utilizing native and nonnative plant species where appropriate.

Alternative E

Plant communities that do not meet the DRC due to dominance by undesirable weedy species or invasive juniper would be rehabilitated utilizing species that would provide optimal forage and vegetative cover.

Objective 4 - Increase species and structural diversity at the plant community and landscape levels in the big sagebrush communities. Provide multiple successional stages within the landscape.

Alternative A

Prescribed fire and mechanical removal of western juniper would be used to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plant species.

Alternative B

Wildland fire would be utilized to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plant species.

Alternative C

Wildland fire and mechanical removal of western juniper would be utilized on selected sites to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plant species.

Alternatives D and E

Prescribed fire, all wildland fire, and mechanical removal of western juniper would be utilized to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plant species.

2.5.5.2 Goal 2 - Manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands.

2.5.5.2.1 Management Framework

With the passage of the FLPMA and PRIA, objectives and priorities for the management of public land vegetation resources were more clearly defined. Guidance contained in 43 CFR 4180 of the regulations directs public land management toward the maintenance or restoration of the physical function and biological health of vegetative ecosystems. The S&Gs (USDI 1997a) also provide guidance for the management of plant communities with relation to rangeland condition. This goal would maintain and improve the condition in plant communities that provide wildlife habitat, recreation, forage, scientific, scenic, ecological, and water and soil conservation benefits for consumptive and nonconsumptive uses. The long-term goal of vegetation management across the landscape is to maintain or improve rangeland condition to the DRC, which meets management objectives. Numerous wildlife species (e.g. Greater sage-grouse, mule deer, pygmy rabbits, sage sparrows, sage thrasher, other migratory birds and small mammals) depend on native upland sagebrush steppe habitats to meet life history needs. In managing uplands, the BLM needs to consider the consequences and relationships of management to the life history needs of wildlife.

2.5.5.2.2 Management Direction by Alternative

Objective 1. Manage big sagebrush, quaking aspen, and western juniper plant communities to meet habitat requirements for wildlife.

Alternative A

Variable desired conditions of big sagebrush cover would be determined on a site-by-site basis to benefit game and nongame species.

Alternative B

Natural processes would be allowed to determine the future condition of wildlife habitat in big sagebrush, quaking aspen, and western juniper plant communities.

Alternative C

Big sagebrush, quaking aspen, and western juniper plant communities would be managed for the benefit of all wildlife and to meet the DRC in all habitats throughout the Planning Area.

Alternative D

Big sagebrush, quaking aspen, and western juniper plant communities would be managed for the benefit of all wildlife and to meet the DRC in most habitats throughout the Planning Area.

Alternative E

Big sagebrush, quaking aspen, and western juniper habitat types would be managed where economically important wildlife are present. Big sagebrush would be reestablished where economically important game species are present.

Objective 2. Manage big sagebrush communities to meet the life history requirements of sagebrush-dependent species.

Alternative A

Variable desired conditions of big sagebrush cover would be determined on a case-by-case basis in cooperation with the ODFW to provide mosaics of sagebrush cover on portions of big game habitat. Limited emphasis would be placed on specifically providing habitat for nongame wildlife species. Crucial big game and greater sage-grouse habitat would be protected from large-scale vegetation treatment projects or wildland fires.

Alternative B

Future big sagebrush conditions would be variable and would be determined by natural processes.

Alternative C

Big sagebrush habitat would be managed for shrub cover, structure, and forage values for the benefit of game and nongame wildlife. The DRC would include shrub cover values that meet or exceed the requirements described in Wildlife Habitats in Managed Rangelands (1984) and big sagebrush distribution over a large enough area to avoid the adverse impacts of habitat fragmentation. The DRC would strive for big sagebrush overstories that emphasize the presence of mature, light- to moderately-stocked shrub canopies capable of supporting diverse herbaceous understories and that are present in a variety of spatial arrangements important to wildlife. This would apply to all native range or seeded areas in big sagebrush habitats throughout the Planning Area.

Alternative D

Same as Alternative C, except that the DRC would apply to most areas in big sagebrush habitat throughout the Planning Area.

Alternative E

Big sagebrush habitat would be reestablished on native rangelands or seedings where economically important wildlife are present.

2.5.5.3 Monitoring

Over the life of this plan, vegetation communities would be monitored to determine progress toward attaining the DRC. Monitoring to determine the success in meeting vegetation management objectives would include periodic measurements of plant composition, vigor, and productivity. Measurements of the amount and distribution of plant cover and litter would also be determined. Vegetative and litter cover protects the soil surface from raindrop impact, detains overland flow, protects surface from wind erosion, and retards soils moisture loss through evaporation. Additional data collection to determine the effectiveness of established tools in meeting objectives may include herbaceous or woody utilization studies, actual use data, and climate.

2.5.6 Noxious Weeds

2.5.6.1 Goal - Control the introduction and proliferation of noxious weeds and reduce the extent and density of established populations to acceptable levels.

2.5.6.1.1 Management Framework

The FLPMA and PRIA direct the BLM to "manage public lands according to the principles of multiple-use and sustained yield" and to "manage the public lands to prevent unnecessary degradation…so they become as productive as feasible." The introduction and spread of noxious weeds and undesirable plants within the Planning Area contributes to the loss of rangeland productivity, increased soil erosion, reduced species and structural diversity, loss of wildlife habitat, and in some instances may pose a threat to human health and welfare. The Carlson-Foley Act (Public Law 90-583), the Federal Noxious Weed Act (Public Law 93-629), and the Burns District's Integrated Management Program EA direct weed control on public lands in the Planning Area. In the future, additional weed management direction will come from the new national Vegetation Management EIS, which is currently being developed. Protection of natural resource values depends on educating people about the negative impacts of weeds, and the actions, which agencies and individuals can take to prevent introduction and establishment of invasive species.

The Burns District Noxious Weed Management Program addresses the dynamic nature of noxious weeds such as the increasing number of species, changing conditions of infestations, and changing technologies. Currently, 18 noxious weed species are known to occur within the AMU, totally 1,457 acres. There are currently 17 noxious weed species known to occur within the CMPA, totaling 336 acres. Selection of the appropriate control method is based on such factors as the growth characteristics of the target species, size and location of infestation, accessibility/feasibility of equipment, potential impacts to nontarget species, human use of the area, effectiveness of the treatment on target species, and cost. In addition, all BLM authorized activities are evaluated for their potential to spread or cause new infestations. If necessary, proposed activities shall be mitigated so that weed establishment would be minimal.

Depending on the plant's characteristics, control methods may be used individually or in combination and may be utilized over several years. Due to the length of seed viability, annual germination of seed from previous years, and the characteristics of certain plants, treatment could occur annually for a period of ten or more years. Since weed infestations vary annually due to new introductions, spread of existing infestations, and results of prior treatments, annual site-specific reviews of known locations would be conducted prior to initiating weed treatment activities.

Herbicides that may be used are those approved in the "Vegetation Treatment on BLM Lands in Thirteen Western States EIS" (1991b), or any that are approved through an amendment or other agency approval process (see Appendix H for the current list of approved chemicals). Application would take place only in accordance with the manufacturer's label and by qualified/certified applicators. Methods of application include wiping or wicking, backpack spraying, spraying from a vehicle with a handgun or boom, aerial spraying, or other approved methods.

Noxious weeds occurring in special management areas, including areas with T&E species/habitat, would be treated with methods to protect resource values and in accordance with the provisions of the Burns District's Integrated Management Program EA directing weed management.

2.5.6.1.2 Management Direction by Alternative

Objective 1. Treat noxious weeds and inventory for new infestations using the most effective means available, as outlined in the Burns District's Integrated Management Program EA/Decision Record.

Management Common to All Alternatives

Noxious weed prevention and control would continue to be a priority in all Alternatives. Weeds would be controlled in an integrated weed management program, which includes prevention, education, and cultural, physical, biological, and chemical treatments. Preventive measures such as public education and livestock and wildlife management would be employed to maintain or enhance desirable vegetation cover and reduce the distribution and introduction of noxious weed seed and plant parts. Mechanical and manual control methods and burning treatments would physically remove noxious weeds and unwanted or invasive vegetation; biological controls would introduce and cultivate factors such as insects and pathogens that naturally limit the spread of noxious weeds; and chemical treatments using approved herbicides would

be applied where mechanical and/or biological controls are not feasible. Periodic inventories would detect new infestations. Monitoring the extent of known infestations is the key to controlling or eradicating noxious weeds.

Alternative A

The application of approved noxious weed control methods including mechanical, biological, and chemical treatments would be continued through integrated management. Control on disturbed areas such as roads, ROWs, waterholes, and recreational sites would be emphasized, as would inventories to detect new infestations.

Alternatives B and C

Only high priority areas of noxious weeds would be treated in order to protect high quality natural resource values and adjacent private land. Manual or biological control methods would be preferred. Inventories for noxious weeds would increase to provide maximum detection of new infestations.

Alternatives D and E

Integrated management would be implemented for the control of noxious weeds. Control on disturbed areas such as roads, ROWs, waterholes, and recreational sites would be emphasized. Priority would be given to lands with high quality natural resource values. Emphasis would be on prevention, restoration, research, and expanded efforts to inventory and detect new infestations.

Objective 2. Create public awareness on how to utilize public lands without inadvertently spreading noxious weeds.

Alternative A

Public education concerning noxious weeds would continue in the local area.

Alternatives B, C, D and E

Public education concerning noxious weeds would be expanded to include areas outside of Harney County.

Objective 3. Maintain partnerships with local groups and government agencies to combine efforts in the control and prevention of noxious weed infestations.

Management Common to All Alternatives

The Harney County Weed Management partnership would continue under all of the alternatives.

2.5.6.2 Monitoring

Evaluation of treatments would continue in cooperation with the State of Oregon, private interests, Harney and other neighboring counties, and federal jurisdictions. Inventories to identify new introductions, as well as distribution and density of noxious weed populations, would be carried out on an annual basis in cooperation with the aforementioned entities.

Monitoring of riparian vegetation and associated attributes and processes would be identified through watershed assessment, PFC assessment, and/or activity level management actions. Methods to evaluate effectiveness of management actions may include qualitative and/or quantitative techniques such as photo-points; trends in vegetation composition and/or density; stream shade; bank stability; and channel width-to-depth ratio.

Monitoring of pre-treatment conditions and experimental results would be done by the specialist, researcher, or other individual or entity carrying out each experiment or demonstration.

2.6 Fish and Wildlife

2.6.1 Goal – Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms.

2.6.1.1 Management Framework

Section 102.8 of the FLPMA states that the policy of the United States is to manage public land in a manner that would protect the quality of multiple resources and provide food and habitat for fish, wildlife, and domestic animals. The PRIA directs the BLM to improve rangeland conditions with due consideration given the needs of wildlife and their habitats.

The character of vegetation, including arrangements, densities, and age classes, greatly influences fish and wildlife habitat quality and productivity. Since vegetation character can vary in response to federal land use authorizations, the BLM considers the consequences to the health of fish and wildlife habitat of various land uses such as grazing and mining, and treatments such as burning and seeding.

The BLM's role in the management of fish and other aquatic resources is to provide the habitat that supports these resources. Aquatic habitat values are products of the attributes and processes of properly functioning riparian and aquatic systems at a desired ecological status. Therefore, the maintenance, restoration, or improvement of aquatic habitat to support these resources is primarily relative to the alternatives identified under the Water Resources, Vegetation, and Special Status Species sections. Species manipulation, such as introduction or removal, is under the authority of the ODFW and the USFWS.

Wildlife must have a reasonable amount of protection from adverse impacts associated with human disturbances and most human activities. This is especially true during breeding seasons and when wildlife use winter ranges.

The ODFW manages wildlife species populations through management objectives specified in their respective management plans; the BLM manages adequate habitat to support these numbers. The BLM and the ODFW will work cooperatively to benefit the management of wildlife and wildlife habitat as described in the MOU of 2001 between the two agencies. Bighorn sheep have been reintroduced and elk have expanded their range in the Planning Area, while pronghorn numbers have remained fairly stable and deer numbers have decreased. Changes in numbers of wildlife depend on availability, quality and quantity of seasonal and year long habitat, and other factors.

To allow for transplanting or reestablishment of wildlife into suitable habitat where they were found previously, BLM Manual 1745, "Introduction, Transplant, Augmentation, and Reestablishment of Fish, Wildlife, and Plants" (1992) states that "Decisions for making introductions, transplants, or reestablishments should be made as part of the land use planning process...." Recommendations for transplants of wildlife onto or removal from public lands would be coordinated with the ODFW. Management of special status species in wilderness areas will be conducted in accordance with Appendix B of House Report 101-405 of the 101st Congress.

2.6.1.2 Management Direction by Alternative

Objective 1. Maintain, restore, or improve habitat.

Management Common to All Alternatives

Maintenance, restoration, or improvement of habitat to support these resources is primarily relative to the alternatives identified under the Water Resources, Vegetation, and Special Status Species sections. Fish and wildlife habitat management and monitoring would be coordinated with the ODFW, DEQ, USFWS, and other cooperators, as appropriate.

Alternative A

Single-species-oriented management would be emphasized in most habitats.

Approximately 9,000 acres of deer winter range in unsatisfactory condition would be reseeded with sagebrush and a mix of other native and nonnative species in coordination with the USFWS, ODFW, and permittees. Opportunities for

improvements and/or restoration of fish and wildlife habitat would be identified and undertaken, such as vegetation manipulation and water developments.

Alternative B

This alternative assumes that habitat conditions would be determined by the consequences of natural events. The emphasis would be on managing self-sustaining native species.

Where appropriate, at least 9,000 acres of deer winter range would be reseeded by aerial application. Opportunities would be identified and undertaken for improvements and/or restoration of fish and wildlife habitat through the use of wildland fire, fence removal, and other mainly passive methods.

Alternative C

Equal emphasis would be placed on habitat requirements for game and nongame fish and wildlife. To the extent possible and practical, fish and wildlife community connectivity and interrelationships would be emphasized in most habitats. This approach would stress landscape or ecosystem management and would be distinctly different from single-species management emphasis.

The emphasis would be on managing self-sustaining native species.

Throughout the Planning Area, approximately 20,000 acres nonnative seedings and all the native vegetation in deer winter range where vegetative species diversity is low would be inter-seeded to establish native plant species. Other desirable nonnative plant species may be used on a limited basis. Low species diversity means seeded areas that are predominantly crested wheatgrass, or that have cheatgrass dominance, or few herbaceous plants with an overstory of sagebrush. Livestock grazing would be used to suppress competition and allow sagebrush establishment. In areas to be reseeded, coordination with permittees, the ODFW, and the USFWS would occur to set livestock grazing prescriptions on a site-specific basis.

Opportunities for improvements and/or restoration of wildlife habitat through the use of wildland fire, other vegetation manipulations, limited fence removal, water developments, etc., would be identified and undertaken.

Alternative D

Equal emphasis would be placed on habitat requirements for game and nongame fish and wildlife. To the extent possible and practical, fish and wildlife community connectivity and interrelationships would be emphasized in most habitats. This approach would stress landscape or ecosystem management and be distinctly different from single-species management emphasis.

Throughout the Planning Area, approximately 10,000 acres of nonnative seedings and most of the native vegetation in deer winter range where vegetative species diversity is low would be inter-seeded to establish native plant species. Where appropriate, other desirable nonnative plant species could be used. Low species diversity means seeded areas that are predominantly crested wheatgrass, or that have cheatgrass dominance, or few herbaceous plants with an overstory of sagebrush. Livestock grazing would be used to suppress competition and allow sagebrush establishment. In areas to be reseeded, coordination with permittees, the ODFW, and the USFWS would occur to set livestock grazing prescriptions on a site-specific basis.

Opportunities would be identified and undertaken for improvements and/or restoration of fish and wildlife habitat through the use of wildland fire, other vegetation manipulations, water developments, etc. Functional fence removal would not be conducted due to livestock grazing.

Alternative E

Single-species-oriented management would be emphasized in most habitats.

Throughout the Planning Area, approximately 5,000 acres of nonnative seedings and some of the native vegetation in deer winter range where vegetative species diversity is low would be inter-seeded to establish native and other desirable nonnative plant species. Low species diversity means seeded areas that are predominantly crested wheatgrass, or that

have cheatgrass dominance, or few herbaceous plants with an overstory of sagebrush. Livestock grazing would be used to suppress competition and allow sagebrush establishment. In areas to be reseeded, coordination with permittees, the ODFW, and USFWS would occur to set livestock grazing prescriptions on a site-specific basis. Opportunities would be identified for improvements and/or restoration of fish and wildlife habitat through the use of wildland fire, other vegetation manipulations and water developments. Fence removal would not be conducted due to livestock grazing.

The emphasis of the improvements would be to benefit livestock.

Objective 2. Manage forage production to support wildlife population levels identified by the ODFW.

Alternative A

Forage for wildlife would be allocated at management objective levels; wildlife populations would be allowed to expand naturally or through limited transplants in coordination with the ODFW.

Alternative B

Forage for wildlife would be allocated at greater than management objective levels. Wildlife populations would be allowed to expand naturally.

Alternative C

Forage for wildlife would be allocated at greater than management objective level. Wildlife populations would be allowed to expand naturally or through limited transplants in coordination with the ODFW.

Alternative D

Forage for wildlife would be allocated at management objective levels. Wildlife populations would be allowed to expand naturally or through limited transplants in coordination with the ODFW.

Alternative E

Forage for wildlife would be allocated at management objective levels. Wildlife populations would be allowed to expand naturally or through limited transplants. Forage allocation would increase concurrent with improved range conditions and other improvements in coordination with the ODFW.

2.6.1.3 Monitoring

Monitoring of wildlife habitat would occur as described previously in the monitoring section for Rangelands. Monitoring would also include ODFW survey data on the locations and numbers for various wildlife species, which would allow for evaluation of the adequacy of wildlife forage allocations.

2.7 Special Status Species

2.7.1 Goal 1 - Maintain, restore, or improve special status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future Endangered Species Act listings.

2.7.1.1 Management Framework

The Endangered Species Act mandates management that leads to the conservation or recovery of federally listed threatened and endangered species. This Act, as well as BLM policy, encourages management to conserve special status species not currently listed as threatened or endangered.

Section 102.8 of the FLPMA requires that public lands be managed to protect the quality of ecological and environmental values, and where appropriate, to protect their natural condition. The FLPMA further requires that public land be managed to protect the quality of multiple resources and provide food and habitat for fish, wildlife, and domestic

animals. Rangeland health regulations identify the need to foster productive and diverse populations and communities of plants and animals.

Most animals assigned to a special status category are limited in their distributions, populations, or habitats and may be at risk over various geographic areas. Where evidence suggests land uses are adversely affecting special status species not currently listed as threatened or endangered, it is in the public interest to prevent the need for federal listing under the Endangered Species Act. Listing of a species as threatened or endangered may lead to restrictions on land uses, and under some circumstances may cause adverse socioeconomic impacts to commodity users. In most cases, both socioeconomic and biological benefits are associated with conserving species to avoid federal listing.

Conservation efforts for special status species may include maintenance, restoration, or improvement of habitat through resource management actions relative to the habitat needs or specific circumstances of a species. Active and/or passive measures may be developed and implemented to promote suitable habitat condition and to minimize or avoid adverse effects to the species. Two potential limitations to developing and implementing conservation efforts are: 1) the lag between management implementation and the realization of environmental benefits and 2) the fact that physical and biological mechanisms adversely affecting a species are not necessarily fully understood.

Bats are an economically important group due to their impact on insect populations. Many of the bat species present in the Planning Area are special status species. Abandoned mines can be important roosting habitats for bats, but are also subject to disturbance by humans. Gating of mine entrances can protect important bat habitat as well as reduce the possibility of injury to people exploring these old mines.

Numerous wildlife species depend on native upland sagebrush steppe habitats to meet life history needs. In managing uplands, the BLM needs to consider the consequences and relationships of management to the life history needs of wildlife. The Executive Order on the Responsibilities of Federal Agencies to Protect Migratory Birds, and the Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Management Guidelines give direction to protect or restore habitat for these species, many of which are special status species.

Public land supplies a high percentage of the total available and currently unoccupied land suitable for bighorn sheep. As the principle land administrator of habitat capable of supporting bighorn sheep, BLM involvement in this program is necessary. The BLM has a policy and responsibility to cooperate with state agencies to accommodate species management goals to the extent they are consistent with the principles of multiple use management.

The ODFW and the USFWS manage special status species populations through recovery plans, conservation agreements and management objectives specified in their respective management plans. The BLM is involved in the development of these plans manages habitat in cooperation with the other agencies in support of these plans. The BLM and the ODFW will work cooperatively to benefit the management of special status species and their habitat as described in the MOU of 2001 between the two agencies. Management of special status species and their habitat in wilderness areas will be conducted in accordance with Steens Act, the Wilderness Act and Appendix B of House Report 101-405 of the 101st Congress. Minimum tool analysis is required and would be conducted on all actions proposed for management of special status species and their associated habitats.

To allow for transplanting or reestablishment of special status species into suitable habitat where they were found previously, BLM Manual 1745, "Introduction, Transplant, Augmentation, and Reestablishment of Fish, Wildlife, and Plants" (1992) states that "Decisions for making introductions transplants, or reestablishments should be made as part of the land use planning process…." Recommendations for transplants of special status species onto or removal from public lands would be coordinated with the ODFW and the USFWS.

The ODFW has been pursuing a statewide effort to restore bighorn sheep into suitable unoccupied habitat and to enhance populations in currently occupied areas. Both the BLM and the ODFW have agency management plans and have coordinated over the years to foster communication between agencies and the public. Although the ODFW has been successfully releasing and managing bighorn sheep on public land since the mid-1960s, current populations and distributions are still considered to be below their potential.

Bighorn sheep are native to eastern Oregon. Their presence contributes to the overall biological diversity and productivity of public land. Public interest in observing bighorn sheep in their natural setting is widespread, and they are highly prized as a big game animal.

2.7.2 Special Status Plant Species

2.7.2.1 Management Direction by Alternative

Objective 1. Manage special status plant species and their habitats so management actions do not contribute to their decline or listing as T&E.

Management Common to All Alternatives

Known populations of special status plants would be monitored periodically to assess their condition and trend. Inventories for new occurrences of special status plants would be completed in areas where public land is disturbed or targeted for disposal. Specific habitats would be managed to protect special status plants so populations can be maintained or increased.

2.7.2.2 Monitoring

Monitoring would include surveys to determine the distribution, resource conditions, and trends of special status plant species and representative habitats. Any new ground disturbing activities, noxious weed control activities, or the NEPA actions would require survey clearance for presence or absence of special status plant species.

2.7.3 Special Status Animal Species

Objective 2. Conserve special status animal species and the ecosystems on which they depend.

Management Common to All Alternatives

Maintenance, restoration, or improvement of habitat to support these resources is primarily relative to the alternatives identified under Water Resources and Vegetation. Fish and wildlife habitat management and monitoring would be coordinated with the ODFW, DEQ, USFWS, and other cooperators, as appropriate.

Alternative A

Management would emphasize achieving the DRC that maintains, restores, or improves habitats or populations of any special status species regardless of economic importance. The habitats and populations of all special status species would be managed for conservation. Management actions that affect threatened or endangered species would be conducted in accordance with existing and future biological opinions.

Management would provide habitat conditions that meet individual species requirements. Fish and wildlife community goals would generally be secondary to goals for individual species.

A variety of management actions or land use adjustments could be required to maintain, restore, or improve habitat for special status species. Management may include avoidance or mitigation measures to prevent or minimize adverse effects to special status animal species. Restoration or improvement measures could involve specific remedies with the potential for adjustments in ongoing resource management. Due to the variability in habitat use by special status species, management actions could be required within any of the habitat types described in this plan.

Bat gates would be installed at the entrances to abandoned mines to protect roost sites from disturbances while still allowing bat movement.

Alternative B

Natural processes would be emphasized except for management of critical habitat for federally listed animal species where natural processes are likely to conflict with species conservation or recovery. Management of special status species habitat would primarily be through passive measures associated with development and implementation of other resource management actions and associated themes of this RMP, except where required by law, such as compliance with the Endangered Species Act, CWA, or Steens Act.

Permanent protection of designated critical habitat for the Borax Lake chub would be pursued through purchase of nonpublic lands within critical habitat currently owned by The Nature Conservancy (TNC) or through establishment of a Conservation Agreement and easement among the BLM, TNC, USFWS and/or the ODFW to close the area to livestock grazing, mineral/geothermal exploration, and motorized access. The BLM would coordinate development of water quality standards and monitoring with the DEQ, USFWS, ODFW, and TNC concerning habitat and population trends for Borax Lake chub.

Bat gates would be installed at the entrances to abandoned mines. These areas would be withdrawn from mineral entry.

Alternative C

Management of special status species habitat could include active and passive measures associated with development and implementation of other resource management actions and associated themes of this RMP. Active restoration for specific habitat attributes may be developed through watershed analysis and/or site-specific activity plans. Where natural processes conflict with or substantially delay conservation, active restoration could be implemented to promote restoration of natural processes.

A variety of management actions or land use adjustments could be required to maintain, restore, or improve habitat for special status species. Management may include avoidance or mitigation measures to prevent or minimize adverse effects to special status animal species. Restoration or improvement measures could involve remedies that lead to adjustments in ongoing resource management. Due to the variability in habitat use by special status species, management actions could be required within any of the habitat types described in this plan.

Permanent protection of designated critical habitat for the Borax Lake chub would be pursued through the purchase of nonpublic lands within critical habitat currently owned by TNC, or through establishment of a Conservation Agreement and easement among the BLM, TNC, USFWS and/or the ODFW to close the area to livestock grazing, mineral/geothermal exploration, and motorized access. The BLM would coordinate development of water quality standards and monitoring with the DEQ, USFWS, ODFW, and TNC concerning habitat and population trends for Borax Lake chub.

Bat gates would be installed at the entrances to abandoned mines. These areas would be withdrawn from mineral entry.

Alternative D

Management of special status species under this alternative would be similar to Alternative C. However, development and implementation of passive and active measures to maintain, restore, or improve specific habitat attributes would be developed through watershed analysis and/or site-specific activity plans to balance a variety of resource management and uses. Protection of Borax Lake chub critical habitat would be pursued through establishment of a Conservation Agreement or other cooperative agreement among the BLM, TNC, USFWS and/or the ODFW to manage and protect the area for the conservation or recovery of the species. The BLM would coordinate development of water quality standards and monitoring with the DEQ, USFWS, ODFW, and TNC concerning habitat and population trends for Borax Lake chub.

Bat gates would be installed at the entrances to abandoned mines to protect roost sites from disturbances while still allowing bat movement. Specific critical sites would be considered for withdrawal from mineral entry.

Alternative E

Management of special status species would be conducted through development and implementation of passive and active measures to maintain, restore, or improve specific habitat attributes while promoting commodity production and public uses. Localized protection of habitat, such as riparian exclosures, and mitigation of potential adverse affects to threatened or endangered species would be emphasized. Management would provide habitat conditions that favor individual special status species. Fish and wildlife community goals would be secondary to goals for individual species. Restoration or improvement of habitat for special status species would focus on game species, and would serve as on-site and off-site mitigation.

Bat gates would be installed at the entrances to abandoned mines to protect roost sites from disturbances, while allowing bat movement.

Objective 3. Manage big sagebrush communities to meet the life history requirements of sagebrush-dependent special status species.

Alternative A

Variable desired conditions of big sagebrush cover would be determined on a site-by-site basis to benefit special status species. Big sagebrush habitat would be managed in accordance with the Migratory Bird Executive Order and the Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Management Guidelines. Areas used by Greater sage-grouse and other special status species would be identified with the ODFW and/or the USFWS. Habitat management would be coordinated across agency boundaries.

Limited emphasis would be placed on specifically providing habitat for nongame wildlife species. Crucial big game and Greater sage-grouse habitat would be protected from large-scale vegetation treatment projects or wildland fires.

Alternative B

Natural processes would be allowed to determine future big sagebrush conditions. To the extent practicable, management would be in accordance with the Migratory Bird Executive Order and the Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Management Guidelines. Areas used by Greater sage-grouse and other special status species would be identified in coordination with the ODFW and/or the USFWS. Habitat management would be coordinated across agency boundaries.

Alternative C

Big sagebrush habitat would be managed for the benefit of game and nongame species, and to meet the DRC in all big sagebrush habitats throughout the Planning Area. Big sagebrush habitat would be managed in accordance with the Migratory Bird Executive Order and the Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Management Guidelines. Areas used by Greater sage-grouse and other special status species would be identified in coordination with the ODFW and/or the USFWS. Habitat management would be coordinated across agency boundaries.

Alternative D

Big sagebrush habitat would be managed for the benefit of special status species and to meet the DRC in most big sagebrush habitats throughout the Planning Area. Big sagebrush habitat would be managed in accordance with the Migratory Bird Executive Order and the Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Management Guidelines. Areas used by Greater sage-grouse and other special status species would be identified in coordination with the ODFW and/or the USFWS. Habitat management would be coordinated across agency boundaries.

Alternative E

Big sagebrush would be reestablished where economically important special status species are present. To the extent practicable, management would be in accordance with the Migratory Bird Executive Order and the Greater Sage-Grouse and Sagebrush Steppe Ecosystem Management Guidelines. Areas used by Greater Sage-Grouse and other special status species would be identified in coordination with the ODFW and/or the USFWS. Habitat management would be coordinated across agency boundaries.

Objective 4. Evaluate habitat requirements and conditions for the reintroduction of extirpated species into historic habitat in the Planning Area.

Alternative A

In coordination with the USFWS and the ODFW, a determination would be made whether habitat conditions exist to allow the successful reintroduction of locally or regionally extirpated special status species such as Columbia sharp-tailed grouse and mountain quail. A determination would be made whether habitat improvements, if any, are needed to create suitable habitat for reintroductions.

Alternative B

In coordination with the USFWS and the ODFW, a determination would be made whether habitat conditions exist to allow the successful reintroduction of locally or regionally extirpated special status species such as Columbia sharp-tailed grouse and mountain quail, and other species.

Alternatives C, D, and E

In coordination with the USFWS and the ODFW, a determination would be made whether habitat conditions exist to allow the successful reintroduction of locally or regionally extirpated special status species such as Columbia sharp-tailed grouse and mountain quail, and other species. A determination would be made whether habitat improvements, if any, are needed to create suitable habitat for reintroductions.

Objective 5. Maintain, restore, or improve bighorn sheep habitat and allow for maintenance or further expansion of bighorn sheep populations as defined by the ODFW in Oregon's Bighorn Sheep Management Plan.

Management Common to All Alternatives

In the Steens Mountain Wilderness Area, all actions such as transplants, trapping, distribution of medicine, emergency situations, and maintenance of existing guzzlers would be authorized in accordance with the Steens Act, the Wilderness Act, and Appendix B of House Report 101-405 of the 101st Congress. Minimum tool analysis would be completed on all actions. Where these same actions occur in WSAs, the Interim Management Policy for Lands Under Wilderness Review (WSA IMP) would be followed.

Alternatives A and E

The BLM would coordinate with the ODFW on population management of bighorn sheep. Transplants, reintroductions, and natural expansion of bighorn sheep would be allowed. Where needed, poor quality habitat in identified historic range would be improved. If the ODFW determines that excess animals are available, transplants out of the herds would be authorized.

Up to ten sites would be identified for construction of low impact, natural appearing water sources or wildlife guzzlers (2000-3000 gal capacity) in identified historic habitat.

Bighorn sheep habitat maintenance, restoration, and enhancement would be emphasized within existing use areas and proposed reintroduction areas as identified in current land use plans, wildlife habitat management plans, and the ODFW's most current bighorn sheep management plan. Bighorn sheep pioneering outside the range would be allowed where no disease transmission conflicts exist.

A nine-mile buffer, as recommended in "Mountain Sheep Ecosystem Management Strategy in 11 Western States and Alaska" (USDI 1995), would be required, based on local conditions, between new domestic sheep and goat permitted use areas and bighorn sheep use areas, as a mechanism to further avoid disease transmission.

Alternative B

Bighorn sheep management would allow for natural processes to occur. The range expansion of bighorn sheep populations would be determined by natural processes such as population growth and natural dispersal. No reintroductions or transplants would be conducted in identified historic range. Population numbers would be allowed to exceed management objectives, but no transplants out of the herds would be allowed.

Up to five sites would be identified for construction of low impact, natural appearing water sources in identified historic habitat. Fences that restrict bighorn movements and impede access to water would be removed.

Habitat maintenance, restoration, and enhancement would be emphasized within all suitable range and with no limitations on public land. Livestock grazing, including domestic sheep and goats, would not be authorized; therefore, a buffer would not be required to minimize disease transmission.

Alternative C

The BLM would coordinate with the ODFW on population management of bighorn sheep. Transplants, reintroductions, and natural expansion of bighorn sheep would be allowed. Population numbers would be allowed to exceed management objectives. Transplants out of the herds would be authorized if the ODFW determines that excess animals are available for removal.

Up to ten sites would be identified for construction of low impact, natural appearing water sources in identified historic habitat.

Bighorn sheep habitat maintenance, restoration, and enhancement would be emphasized within existing use areas and proposed reintroduction areas as identified in current land use plans, wildlife habitat management plans, and the ODFW's most current bighorn sheep management plan. Bighorn sheep pioneering outside the range would be allowed where no disease transmission conflicts exist.

A nine-mile buffer, as recommended in "Mountain Sheep Ecosystem Management Strategy in 11 Western States and Alaska" (USDI 1995), would be required, based on local conditions, between new domestic sheep and goat permitted use areas and bighorn sheep use areas as a mechanism to further avoid disease transmission.

Alternative D

The BLM would coordinate with the ODFW on population management of bighorn sheep. Transplants, reintroductions, and natural expansion of bighorn sheep would be allowed. Where needed, poor quality habitat in identified historic range would be improved. If the ODFW determines that excess animals are available, transplants out of the herds would be authorized.

Up to ten sites would be identified for construction of low impact, natural appearing water sources or wildlife guzzlers (2000-3000 gallon capacity) in identified historic habitat. Bighorn sheep maintenance, restoration, and enhancement would be emphasized within existing use areas and proposed reintroduction areas as identified in current land use plans, wildlife habitat management plans, and the ODFW's most current bighorn sheep management plan. Bighorn sheep pioneering outside the range would be allowed where no disease transmission conflicts exist.

A nine-mile buffer, as recommended in "Mountain Sheep Ecosystem Management Strategy in 11 Western States and Alaska" (USDI 1995), would be required, based on local conditions, between new domestic sheep and goat permitted use areas and bighorn sheep use areas as a mechanism to further avoid disease transmission.

2.7.3.1 Monitoring

Monitoring would consist of checking constructed gates for vandalism and collecting data on bat movement as well as numbers of bats exiting these gated mines.

Periodic surveys would determine the distribution, resource conditions, and trends of important habitats that support special status species. Refer to the monitoring sections of the Wildlife and Wildlife Habitat, Rangeland, Water Resources/Watershed Health, Noxious Weeds and Competing Undesirable Vegetation, and Plant Communities in this chapter for more information on monitoring.

Monitoring would include ODFW survey data on the general locations and numbers of bighorn sheep, and livestock utilization and rangeland trend studies.

A cooperative monitoring program (the BLM, DEQ, USFWS, ODFW and TNC) would be developed and implemented to monitor water quality, habitat characteristics, and population trends in Borax Lake and Lower Borax Lake Reservoir. This monitoring would be used to develop site-specific water quality standards for Borax Lake chub.

2.7.4 Redband Trout Reserve

2.7.4.1 Goal - Manage the Redband Trout Reserve (RTR) to conserve, protect and enhance the Donner und Blitzen population of redband trout, and provide opportunities for scientific research, environmental education, and fish and wildlife oriented recreation.

2.7.4.1.1 Management Framework

The Steens Act mandates the Secretary of the Interior to designate the RTR and administer it consistent with the Wilderness Act and the Wild and Scenic Rivers Act (WSR Act). Administration of the RTR shall be through consultation with the SMAC and cooperation with the ODFW. The legislation identifies the RTR as consisting of the Donner und Blitzen River in the Steens Mountain Wilderness above its confluence with Fish Creek and the federal riparian lands immediately adjacent to the river, excluding private lands adjacent to the Donner und Blitzen River or its tributaries.

2.7.4.1.2 Management Direction by Alternative

Objective 1. Define the RTR boundary.

Alternative A

The boundaries of the RTR are not currently delineated.

Alternatives B, C, and D

The RTR would consist of the public land portion of the Donner und Blitzen River and tributaries upstream of its confluence with Fish Creek to the longitudinal extent of current and future redband trout distribution, and the width of the flood prone area.

Alternative E

The RTR would consist of the public land portion of the mainstream Donner und Blitzen River upstream of its confluence with Fish Creek, and the width of the flood prone area.

Objective 2. Maintain genetic integrity of redband trout in the RTR.

Management Common to All Alternatives

Coordinate and cooperate with the ODFW and the Malheur NWR in developing and/or revising Native Fish Conservation Plan(s) for the Donner and Blitzen River subbasin in support of the ODFW's Native Fish Conservation Policy.

Objective 3. Increase the distribution and abundance of redband trout in the RTR through maintenance and/or restoration of habitat quality and quantity.

Alternative A

Riparian and aquatic habitats would be managed to maintain or progress toward PFC, water quality standards, and fish habitat values through existing management. The RTR would be managed in accordance with the Wilderness Act and the WSR Act, as appropriate. The Page Springs gauging weir would be removed if scientifically justified and funds are available.

Alternatives B, and C

Riparian and aquatic habitats would be managed for an advanced ecological status that provides a diversity of fish habitat values including spawning, rearing, cover, forage, and cold-water refuge, and in accordance with the Wilderness Act and the WSR Act, as appropriate. Alternatives would be developed, evaluated, and implemented with the USFWS, ODFW, SMAC, and local interests and organizations, for removal or modification of the Page Springs gauging weir in order to facilitate upstream migration of redband trout and other aquatic species while limiting the migration capabilities of nonnative fish.

Alternatives D and E

Riparian and aquatic habitats would be managed in a manner that provides a diversity of fish habitat values including spawning, rearing, cover, forage, and cold-water refuge, and in accordance with the Wilderness Act and the WSR Act,

as appropriate. Alternatives would be developed, evaluated, and implemented for removal or modification of the Page Springs gauging station weir with the USFWS, ODFW, SMAC, and local interests and organizations in order to facilitate upstream migration of redband trout and other aquatic species while limiting the migration capabilities of nonnative fish.

2.8 Paleontological Resources

2.8.1 Goal 1 - Preserve, protect, and manage vertebrate, noteworthy invertebrate, and plant paleontological resources in accordance with existing laws and regulations to make these resources available for appropriate uses by present and future generations.

2.8.1.1 Management Framework

The BLM is required by law, regulations, and Executive Orders to manage paleontological resources such that they would be preserved and protected from destruction, and that appropriate uses would be made of such resources.

The BLM regulates the collection of fossils on public lands under its jurisdiction according to the following laws and regulations: FLPMA Section 310 and 302(b); 43 CFR 8365.1-5; and 43 CFR 3622. These laws provide direction for what individuals who wish to collect fossils on public land may do. Other federal agencies have similar authorities and policies for the lands they administer.

The Federal Land Policy and Management Act

Included in the many charges given to the BLM by the FLPMA are the following items: (a) to manage the public lands in such a manner that protects the quality of scientific and other values; (b) to see that these lands and resources are periodically and systematically inventoried; (c) to use such inventory data in developing plans for the management of these lands; and (d) to manage the use of such lands and resources through easements, licenses, and permits. Management actions on public lands would be inventoried for paleontological resources prior to ground disturbing activity.

BLM Regulations 43 CFR 8365.1-5

Subject to the provisions of this regulation, common invertebrate and paleobotanical fossils may be collected in reasonable amounts for noncommercial purposes without a permit. However, in order to protect significant localities, areas may be closed to the collection of invertebrate and paleobotanical fossils except under permit. Vertebrate fossils such as dinosaur bones, fish, footprints, etc., may only be collected under a permit. The BLM issues permits to qualified paleontologists who agree to put their collections into repositories where they remain the property of the federal government and are accessible for study, education, and public enjoyment.

BLM Regulations 43 CFR 3622

Subject to the provisions of this regulation, persons may collect, without a permit, up to 25 pounds plus one piece per person per day of petrified wood, up to a maximum of 250 pounds in one calendar year, for personal, noncommercial purposes.

All areas within the Planning Area would be evaluated for classification into three paleontological conditions as written in the BLM Manual H-8270-II-3.
Condition 1 - Areas that are known to contain vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils. Consideration of paleontological resources would be necessary if the Field Office review of the available information indicates that such fossils are present in the area.

Condition 2 - Areas with exposures of geological units or settings that have high potential to contain vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils. The presence of geologic units from which such fossils have been recovered elsewhere may require further assessment of these same units where they are exposed in the area of consideration.

Condition 3 - Areas that are very unlikely to produce vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils based on their surficial geology, igneous or metamorphic rocks, extremely young alluvium, colluvium or aeolian

deposits or the presence of deep soils. However, if possible, it should be noted at what depth bedrock may be expected in order to determine whether fossiliferous deposits may be uncovered during surface disturbing activities.

2.8.1.2 Management Direction by Alternative

Objective 1. Using predictive modeling, locate significant localities, which may be in conflict with other resource uses.

Alternative A

A portion of the Planning Area has not been inventoried for paleontological resources. Under this alternative, no program is in force to find significant localities in other resource use areas.

Alternative B

Management would implement sample inventory for significant localities within recreational use areas in the entire Planning Area and livestock use areas within the CMPA.

Alternative C

Management would Implement Planning Area-wide sample inventory for significant localities where they may be in conflict with other resource uses.

Alternative D

This alternative is the same as Alternative C.

Alternative E

This alternative is the same as Alternative C, except that the inventory sample would be larger in order to account for increased commodity production in other resources.

Objective 2. Research significant paleontological localities in cooperation with universities and other federal agencies.

Alternatives A, C, and D

Significant localities would be researched to generate data for use in site management and off-site interpretation. Research efforts would be focused in areas where resource conflicts require management action. Eroding paleontological material at Thousand Springs, Catlow, Pueblo localities, and other similar localities would be recorded and/or salvaged on an annual basis.

Alternative B

Management would implement limited research of significant localities to generate data for use in site management and off-site interpretation. Surface paleontological material at Thousand Springs, Catlow, Pueblo localities, and other similar localities would be recorded and/or salvaged on an annual basis.

Alternative E

Management would emphasize natural history tourism and would implement large scale prospecting and excavation at significant localities, as well as recover fossil specimens and data used for interpretation and site management.

Objective 3. Protect significant paleontological localities.

Management Common to All Alternatives

Law enforcement surveillance would be focused in areas in Catlow Valley, Pueblo Valley, and in the Long Draw. Protective measures at significant sites would be used as appropriate.

2.8.2 Goal 2 - Increase public knowledge of, appreciation for, and sensitivity to paleontological resources.

2.8.2.1 Management Framework

The BLM is required by law to preserve and protect cultural and paleontological resources. In order to do so, the public must be aware of resource values and the impact that human activities have upon them. Cultural and paleontological resources are fragile and irreplaceable when damaged or destroyed by actions of the public. Through vandalism and natural erosion, these resources are disappearing. If the public understands the effects of their actions and feels it has equity in the nation's cultural and natural history heritage, the resources would be appreciated and better protected from vandalism. Additionally, interpretation of paleontological resources enhances recreational opportunities in the Planning Area and provides a high-demand public service.

2.8.2.2 Management Direction by Alternative

Objective 1. Create paleontology interpretive opportunities for public education.

Management Common to All Alternatives

Actions would be initiated to develop public appreciation and protection through education regarding the values and importance of cultural resources. All interpretation projects would be implemented only if they would not impact the paleontological values at the subject locality.

Alternative A

Construct portable and static displays for local, regional, and national education where applicable.

Cost-share programs with universities, museums, researchers, and volunteers would be continued to inventory, analyze, and research the paleontological resources within the Planning Area.

Alternative B

Same as Alternative A, except on-site interpretative facilities would not be constructed. The focus of paleontological interpretation under this alternative would be the creation of portable and static off-site displays and brochures.

Alternative C

Same as Alternative A, except on-site interpretative signage would not be implemented. The focus of paleontological interpretation under this alternative would be the creation of portable and static off-site displays and self-guided walking tour brochures.

Alternative D

Management actions would be the same as described under Alternative A.

Alternative E

Same as Alternative A, except a higher level of interpretation, including on-site facilities, would be implemented to enhance natural history tourism opportunities.

2.8.3 Monitoring

Monitoring the condition of localities on a regular basis would be required to establish a baseline at known significant localities. Monitoring all localities within the Planning Area would be practical, as they are few in number and relatively discrete.

2.9 Cultural Resources

2.9.1 Goal 1–Preserve, protect, and manage cultural resources in accordance with existing laws, regulations, and Executive Orders, in coordination/consultation with the Burns Paiute Tribe, other American Indian tribes, Harney County Historical Society and other heritage groups to make cultural resources available for appropriate uses by present and future generations.

2.9.1.1 Management Framework

The BLM is required by laws, regulations, and Executive Orders to manage cultural resources such that they would be preserved and protected from destruction, and that appropriate uses would be made of such resources. The Antiquities Act of 1906 provides for the protection of archaeological resources on all public lands and requires permits for those who excavate or appropriate these resources. The Archaeological Resources Protection Act of 1979, as amended, defines and protects archaeological resources on public lands, establishes a permit system for resource users, and requires agencies to provide for public education and continuing inventory of public lands. Sections 106 and 110 of the National Historic Preservation Act of 1966, as amended, provide a national policy for historic preservation, establish a National Register of Historic Places designation for important properties, protect sites from destruction without appropriate data recovery, and require that historic properties be utilized in agency missions, when warranted. Executive Order 11953 directs federal agencies to inventory public lands and to nominate eligible properties to the National Register of Historic Places. These laws, regulations, and Executive Orders further require that such management be coordinated with the appropriate American Indian tribes and individuals.

All management actions on public lands and private land projects, which are federally funded, permitted, or assisted would require completion of Section 106 of the National Historic Preservation Act of 1966, as amended. This would consist of a literature review, a site survey on the ground to determine the presence or absence of sites, and site evaluation in coordination with the Burns Paiute Tribe and other tribes, as appropriate. Consultation with the State Historic Preservation Officer (SHPO) would occur with projects outside the scope of the Oregon Protocol of the National Programmatic Agreement of 1997 and when National Register listed or eligible properties may be impacted.

All sites that have currently been identified, as well as sites identified in the future, would be evaluated for placement in one of four use categories as specified in BLM Manual 8110. These four uses are as follows:

1) Conservation for future use: This category places a site in protection from destruction with the intent to have it available at an unspecified date in the future for use in research or public interpretation.

2) Public use: Sites placed in this category would be used for recreation, public interpretation, education, etc.

3) Experimental use: Sites placed in this category would be used in scientific research. Such use may result in the complete consumption of the site in some cases. Sites may be placed in public use as a result of the research that is conducted.

4) Discharged sites: These are sites that no longer exist or have been so damaged that they have no value of any kind. Sites may be destroyed by erosion, consumption in research, or through destruction caused by humans.

2.9.1.2 Management Direction by Alternative

Objective 1. Using predictive modeling, locate significant sites that may be in conflict with other resource uses.

Alternative A

Ninety three percent of the Planning Area has not been inventoried for cultural resources. As a result, an unknown number of significant sites may be impacted by other resource uses. Under this alternative, no program is in force to find significant sites in disturbed areas.

Alternative B

Management would inventory for significant sites in recreation use areas Planning Area-wide and in livestock use areas within the CMPA.

Alternatives C and D

Planning Area-wide sample inventory would be implemented for significant sites where they may be in conflict with other resources uses.

Alternative E

This alternative is the same as Alternative C, except that the inventory sample would be larger to account for increased commodity production in other resources.

Objective 2. Use Section 110 inventories to locate significant sites in the Planning Area.

Alternatives A, B, C, and D

Management would complete cultural program funded archaeological inventories in areas of high potential for significant sites within the Planning Area. Five hundred acres per year would be the proposed accomplishment.

Alternative E

Heritage tourism and increased cultural program funded inventories would be emphasized in areas of high potential for significant sites within the Planning Area. Inventory data and archaeological specimens would be utilized in interpretation and other heritage recreation opportunities.

Objective 3. Research significant cultural sites in cooperation with universities, the Burns Paiute Tribe, other tribes, and other heritage partners.

Alternatives A, C, and D

Management would research significant sites or groups of sites to generate data for use in site management and off-site interpretation. Research efforts would be focused in areas where resource conflicts require management action.

Eroding cultural material at significant sub-surface sites would be recorded and/or salvaged on an annual basis.

Alternative B

Management would research significant sites or groups of sites on a limited basis to generate data for use in site management and off-site interpretation.

On an annual basis, eroding cultural material at significant sub-surface sites would be recorded and/or salvaged.

Alternative E

Heritage tourism and increased archaeological research would be emphasized at sites or groups of sites. Research data and archaeological specimens would be utilized in interpretation and other heritage tourism opportunities.

Objective 4. Use protective measures to safeguard significant cultural sites.

Alternative A

No physical protection measures have been currently implemented with the exception of a caretaker at Riddle Brothers Ranch National Historic District.

Law enforcement would be provided, focusing surveillance in the Catlow Valley, Alvord Valley, and Coyote Lake regions.

Known cultural sites within wildland fire areas would be monitored to study fire impacts and prevent post-fire looting.

Alternative B

Llaw enforcement would be provided, focusing surveillance in the Catlow Valley, Alvord Valley, and Coyote Lake regions.

Known cultural sites within wildland fire areas would be monitored and assessed in order to study fire impacts and to prevent post-fire looting.

Alternatives C, D, and E

At significant sites in Catlow Valley, management would fence the BLM portion; close the area to OHV use; close roads except for administrative and permittee use; fence and apply rip-rap to a significant site in the Alvord Basin; and apply other physical protection measures at other sites where applicable.

Law enforcement would be provided, focusing surveillance in the Catlow Valley, Alvord Valley, and Coyote Lake regions.

Known cultural sites within wildland fire areas would be monitored in order to study fire impacts and to prevent post-fire looting.

Objective 5. Pursue land acquisitions to bring significant sites into public ownership.

Alternative A

No land acquisitions are currently being proposed under this alternative.

Alternatives B, C, and D

As the opportunity arises, the private portion of Skull Creek Dunes, the Juniper Lake site and other non-BLM owned significant archaeological sites would be acquired.

Alternative E

As this alternative would not encourage land acquisitions, land purchases funded by the cultural resources program would not be pursued.

Objective 6. Stabilize, restore, or reconstruct significant historic structures to provide public safety and recreational and interpretive opportunities.

Alternatives A, C, and D

Historic structures at Riddle Brothers Ranch National Historic District would be restored or reconstructed.

Management would inventory and assess other historic structures in the Planning Area, develop restoration plans, and implement them where appropriate.

Alternative B

Historic structures at Riddle Brothers Ranch National Historic District would be maintained in their current condition.

Other historic structures in the Planning Area would be inventoried and assessed.

Alternative E

Management would increase inventory, assessment, and restoration activities in order to support heritage tourism.

2.9.2 Goal 2 - Increase public knowledge of, appreciation for, and sensitivity to cultural resources.

2.9.2.1 Management Framework

The BLM is required by law, regulation and policy to preserve and protect cultural resources. Public education and interpretation efforts are intended to improve understanding of these resources, their value, and agents of impact. The result should be a greater appreciation of the resources and ultimately, less site vandalism.

Another facet of public education and interpretation is the positive link to enhanced heritage tourism, a high demand public service.

Cultural resources interpretation projects would be done in coordination with American Indians, and implemented only if they would not impact cultural resource values.

2.9.2.2 Management Direction by Alternative

Objective 1. Create cultural resources interpretive opportunities and sites for public education in coordination with Burns Paiute Tribe, other tribes, and/or other heritage partners, as appropriate.

Alternative A

On-site interpretation at Riddle Brothers Ranch National Historic District, Andrews Town Site and other sites has not been implemented under this alternative. Portable interpretive displays on various aspects of history in the Planning Area have been created under this alternative.

Alternative B

Management would construct portable and static interpretive displays for presentation at off-site locations only.

Alternatives C and D

Interpretive panels would be constructed and installed at Riddle Brothers Ranch National Historic District, Andrews Town Site, and other sites where applicable. Portable and static displays for local, regional, and national education would be constructed where applicable.

Alternative E

Under Alternative E, cultural program funding for interpretation may be increased in order to support heritage tourism.

2.9.3 Monitoring

National Register of Historic Places listed and selected eligible sites would be monitored to determine baseline site condition. However, monitoring all sites within the Planning Area would not be practical or possible, due to the large number of known sites.

2.10 Native American Traditional Practices

2.10.1 Goal – Protect traditional sites, landforms, burial sites, resources, and other areas of interest in consultation with the Burns Paiute Tribe and other tribes.

2.10.1.1 Management Framework

Federal policy, laws, regulations, and Executive Orders require the BLM to consult and coordinate activities with American Indian tribes so that their rights and interests are considered when land use decisions are made, and that American Indian traditions and traditional uses are addressed. Specifically, the agency must comply with the National Historic Preservation Act; the Native American Graves Protection and Repatriation Act; the American Indian Religious Freedom Act; Regulations 36 CFR 800, section 106 and 119; and Executive Order 13007 (Sacred Sites). BLM Manual Section 8160, entitled "Native American Coordination and Consultation", establishes agency policy regarding American Indians, and integrates into all programs the management of resources valued by American Indians.

2.10.1.2 Management Direction by Alternative

Objective 1. Monitor and protect Burns Paiute tribal and other tribal interest areas.

Management Common to All Alternatives

Management would continue consultation/coordination with the Burns Paiute Tribe and other tribes to identify traditional practice areas in the Planning Area. Applicable Traditional Cultural Properties would be nominated. Burial sites in the Planning Area would be monitored. Coordination and consultation with American Indian tribes would be documented under all alternatives.

Objective 2. Integrate maintenance and protection of native subsistence species into vegetation management activities.

Management Common to All Alternatives

Management would identify plants of cultural, traditional, and economic importance during botanical and cultural inventories, and would input information into the Freedom of Information Act-exempt Geographical Information System (GIS) layer.

The Burns Paiute Tribe and other tribes would be consulted on vegetation management projects, especially those involving large scale vegetation management project studies.

Coordination and consultation with American Indian tribes would be documented under all alternatives.

2.10.2 Monitoring

On-the-ground monitoring of identified traditional practice sites would be developed in order to determine condition, impacts, deterioration, and use of such sites.

Procedures would be developed to track consultation and to document all written, telephone, electronic, and in-person communications, with yearly review for adequacy.

2.11 Visual Resources

2.11.1 Goal - Manage public land actions and activities in a manner consistent with VRM class objectives.

2.11.1.1 Management Framework

Section 102(8) of the FLPMA declares that public land would be managed to protect the quality of scenic values and, where appropriate, to preserve and protect certain public land in its natural condition. The NEPA, Section 101(b), requires federal agencies to "assure for all Americans...esthetically pleasing surroundings." Section 102 of the NEPA requires agencies to "utilize a systematic, interdisciplinary approach that would ensure the integrated use of...Environmental Design Acts in the planning and decision making" process. Guidelines for the identification of visual resource inventory classes on public land are contained in BLM Manual Handbook H-8410-1, Visual Resource Inventory. The establishment of visual resource inventory classes on public land is based on an evaluation of the landscape's scenic qualities, public sensitivity toward the landscape, and visibility of the landscape from travel routes or observation points. VRM classes are designated through the RMP process. VRM class objectives are managed through application of BLM Manual Handbook H-8431-1, Visual Resource Contrast Rating.

2.11.1.2 Management Common to all Alternatives

WSAs, designated wild WSRs, and the Steens Mountain Wilderness would be designated as VRM Class I. Should a WSA not be designated as wilderness by Congress, the area would be evaluated to determine the appropriate VRM designation.

2.11.1.3 Management Direction by Alternative

Objective 1. Protect, maintain, improve, or restore visual resource values by managing all public lands in accordance with the VRM system.

Alternative A

Planning Area
Maintain existing Andrews MFP VRM classes in all areas.

Management would continue as described in the existing Andrews MFP and plan amendments. Visual resources in existing ACECs/RNAs would be managed as shown in Table 2.22. Eligible WSRs would be managed according to the surrounding VRM class designation.

Alternative B

Planning Area
Manage visual resources to allow natural processes to determine visual quality. All lands within the Planning Area would be designated as VRM Class II, except where VRM Class I is required by law, policy, or regulation.

Visual resources in the ACECs/RNAs would be designated as shown in Table 2.3.

Table 2.3: Visual Resources Management Class Designation Acres by Alternative in the Planning Area (Public Land Acres Only)

Designation	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)	Alternative D (acres)	Alternative E (acres)
Class I	852,209	850,338	854,266	852,214	852,214
Class II	239,362	799,132	250,977	207,012	28,880
Class III	121,048	0	544,227	214,488	66,978
Class IV	436,851	0	0	375,756	701,398
TOTAL	**1,649,470**	**1,649,470**	**1,649,470**	**1,649,470**	**1,649,470**

Alternative C

Planning Area
Visual resources would be managed to emphasize protection of natural values. Existing VRM classes would be amended. The VRM classes for the ACECs/RNAs would be designated as shown in Table 2.11. All existing seedings would be designated as VRM Class III. The visual resources of all suitable WSRs would be managed according to the surrounding VRM class designation. Should a suitable WSR be designated as a wild WSR by Congress, the WSR would be designated as VRM Class I. Other existing Andrews MFP VRM classes would be amended. Four parcels found to contain wilderness values would be designated as VRM Class II.

CMPA
The Steens Mountain ACEC would be designated as VRM Class I. The WJMA would be designated as VRM Class III, and the remainder of the CMPA would be designated as VRM Class II.

AMU
All VRM Class IV areas would be designated as VRM Class III. All VRM Class II and III areas would not be amended.

Alternative D

Planning Area
All visual resources would be managed to improve natural values. ACECs/RNAs would be designated as shown in Table 2.11. All existing seedings would be designated as VRM Class III. Other existing Andrews MFP VRM classes would be amended.

CMPA
The WJMA would be designated as VRM Classes III and IV. The remainder of the CMPA would be designated as VRM Classes II and III.

AMU
The existing Andrews MFP VRM classes would be maintained.

Alternative E

Planning Area
Visual resources would be managed as determined in the Andrews MFP, as re-inventoried or as detailed below. ACECs/RNAs would be designated as shown in Table 2.11. All existing seedings would be designated as VRM Class IV. Other existing Andrews MFP VRM classes would be amended.

CMPA
The WJMA would be designated as VRM Class IV. The remainder of the CMPA would be designated as VRM Classes II, III, and IV.

AMU
The areas between the Trout Creek Mountains WSAs and the area around Denio Creek would be designated as VRM Class II. The remainder of the AMU would be designated as VRM Class IV.

2.11.2 Monitoring

The visual contrast rating system described in BLM Manual Handbook 8431-1 would be used when assessing proposals for projects on public lands.

2.12 Social and Economic Values

2.12.1 Goal - Manage public lands to provide social and economic benefits to local residents, businesses, visitors, and future generations.

2.12.1.1 Management Framework

The BLM is required by Section 202 of the FLPMA to integrate "..physical, biological, economic and other sciences..." in developing land use plans (43 U.S.C. 1712). Section 102 of the NEPA requires the integrated use of the social sciences in assessing impacts of an action on the human environment (42 U.S.C. 4332). The Council on Environmental Quality (CEQ) regulations state that when an EIS is prepared "and economic or social and natural or physical environmental effects are interrelated, then the [EIS] would discuss all of these effects on the human environment" (40 CFR 1508.14). Executive Order 12898 (Environmental Justice) requires federal agencies to "...identify and address... disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States..." As indicated by these legal mandates, social science information is required to make informed, legal land use planning decisions. This section outlines the various management alternatives as they relate to social and economic values.

Historically, commodity values on public lands have been made available to private individuals or businesses through sales, permitting, or other methods. The federal government collects revenues when commodities are used. These commodities also generate private economic activity in the local, regional, national, and in some cases international economies.

Public lands provide or contribute to numerous environmental amenities such as clean water, scenic quality, and recreational opportunities. These amenities enhance local communities as places to live, work, or visit. Public lands also attract visitors to the area, many of whom purchase goods and services, which generate local economic activity. Business activities of federal agencies generate economic activity in the local, regional, and national economies as both an employer and purchaser of goods and services.

Public lands contribute to local governments where they are located. Many commodity programs include provisions to share collections with local governments. Payments in Lieu of Taxes (PILT) are also made to compensate counties due to public lands being exempt from local property taxes. Continuation of programs limits disruption of existing economic structures. Guidance within the plan defines the amount of economic opportunity in the future, especially related to mining, recreation, grazing, agriculture, and tourism.

In its resource management planning, the BLM generally strives for a balance among current and future generations; local, regional and national interests; commodity uses and natural values; and physical, biological, and socioeconomic values.

2.12.1.2 Management Direction by Alternative

The following section outlines the management actions and emphasis by alternative for social and economic values as well as economically based resource uses including the following: energy and minerals; grazing management; lands and realty; transportation and roads; recreation; and OHV. See Table 2.2 and Sections 2.13 (Energy and Minerals), 2.15 (Grazing Management), 2.17 (Lands and Realty), 2.18 (Transportation and Roads), 2.19 (OHV), and 2.20 (Recreation) for more details regarding the goals, objectives and management actions for these resource uses.

Objective 1. Work cooperatively with private and community groups and local government, Burns Paiute tribal, and other tribal governments to provide for customary uses consistent with other resource objectives and to sustain or improve local economies.

Alternative A

Commodity use would continue at existing levels. Contracts for services and sale of products would be made available to local residents as need and conditions permit. Natural resources would be managed as outlined in existing land use plans and the Steens Act, and staff would work cooperatively with public land users consistent with resource objectives.

Management of existing facilities (roads, recreation sites, and rangeland facilities and improvements) to promote commodity uses and continued access and availability of natural resource amenities would continue as outlined in existing land use plans and the Steens Act. When determining the need for additional facilities, existing management direction would continue.

Public and private partnerships would be created to achieve shared economic objectives. Mining, grazing, and recreation management would remain the same, with the exception of restrictions and designations as required by the Steens Act.

Livestock grazing use would continue to be authorized in the AMU consistent with the existing land use plan, the S&Gs (USDI 1997a), and applicable activity plans. Interim and long-term grazing management and stocking levels would continue to be adjusted in accordance with results of monitoring studies, allotment evaluations, and rangeland health assessments.

Lands currently open to locatable mineral activity would continue to be available. Approximately 468,109 acres would be open to locatable mineral exploration and development. Mineral leases and stipulations would be identified following completion of the RMP. Mineral materials would be removed from existing sources and from new sources identified in areas open to saleable minerals. Approximately 468,109 acres would be open to saleable minerals.

Renewable energy authorization management would continue as necessary, consistent with existing land use planning, regulation, and law. There would be no renewable energy authorization exclusion or avoidance areas, although special designations, planning decisions, and other factors may constrain or exclude renewable energy development.

Public lands would be retained, exchanged, and sold as outlined in Section 2.17. Lands may be acquired in any zone on a case-by-case basis by exchange, donation, or purchase, consistent with existing land use planning, regulation, and law.

New ROW facilities would be located within corridors on a case-by-case basis and designed to minimize impairment to SMAs. There would be no land use authorization exclusion or avoidance areas except the Stonehouse WSA exclusion zone and the Kiger HMA avoidance area. Subject to the constraints discussed in Section 2.17, the entire Planning Area would be available on a case-by-case basis to ROW and other land uses including energy development, communications sites and military uses. Withdrawal and land classification actions would also be managed on a case-by-case basis.

Legal public or administrative access, including conservation and scenic easements, would be acquired on a case-by-case basis as the need arises. Emphasis would be placed on providing access for BLM administrative facilities and program-related activities. All land tenure actions would be reviewed for their effect on access.

Construction of new roads around private lands may be considered where easement acquisition is not feasible or desirable, subject to the limitations expressed in the Steens Act. Roads and trails would be constructed and maintained as needed in the AMU. Roads in the CMPA would be retained and maintained at current levels, subject to the Steens Act. Existing recreation sites would generally be maintained at the current level, and alterations and/or development of new sites would be undertaken when deemed advantageous to recreation management and the public. SRPs would be issued on a case-by-case basis. OHV use would continue at present levels.

Alternative B

This alternative emphasizes natural processes and limits commodity production; therefore, no commodity production from public land would be allowed except as required by law (i.e. the Steens Act). Natural resource amenities would continue to be provided at levels that meet or exceed existing legal requirements. Where needed, environmental quality would be improved to meet or exceed requirements, using administrative or project-related solutions that emphasize elimination of commodity production and public uses to protect natural values. In addition, the Department of the Interior would be petitioned to withdraw the entire Planning Area from mineral entry, subject to valid existing rights.

Under this alternative, natural processes would be allowed to operate with minimal human interference while providing for public health, safety, and facility maintenance. Alternatives would be developed for existing facilities that negatively impact natural values. Public and private partnerships would be created to achieve shared economic objectives within existing legal, regulatory, and administrative authorities.

No grazing use would be authorized in the AMU, and rangeland projects that support livestock grazing would not be planned or implemented. Rangeland projects that do not function to enhance resource values and/or assist in meeting management objectives would be removed, and project sites would be rehabilitated.

There would be no locatable mineral exploration or development under this alternative and all mineral estate in the Planning Area would be closed to energy and mineral leasing. The entire Planning Area would be closed to saleable minerals, except where required by law or where essential to protect human safety such as road construction under critical or emergency conditions. The entire Planning Area would also be considered a renewable energy authorization exclusion area.

All public lands in the Planning Area would be identified for retention to protect resources from commodity producing activities that could occur if the lands were conveyed into nonpublic ownership. The entire Planning Area would also be considered a ROW and land use authorization exclusion zone except for those authorizations necessary to provide reasonable access to nonpublic lands and interest in land subject to valid existing rights. In addition, the entire Planning Area would be recommended for withdrawal to protect the lands from mining, energy and mineral development, military activities, and other commodity production.

Legal public or administrative access, including conservation and scenic easements, would be acquired, with emphasis on controlling public access, for protection of sensitive resource values. Land tenure actions would be designed to avoid facilitating public access to these areas. Construction of new roads around private lands would not be considered as an alternative for access easement acquisition. Some roads would be closed in order to maximize natural processes. Only recreation that enhances public knowledge and appreciation of natural resources and processes would be encouraged or permitted. New commercial permits would not be issued and existing permits would be terminated. OHV use would be eliminated throughout the Planning Area.

Alternative C

Under this alternative, commodity production would be restricted in order to increase protection of natural values. New commodity use levels that can be maintained through time and that contribute to stability in the local livestock and mining industries would be established. Natural resource amenities would continue to be provided at levels that meet or exceed existing legal requirements. Where needed, administrative or project related solutions that protect or improve natural values would be used to improve environmental quality to meet or exceed requirements. Local contracts would

be targeted for services to restore and maintain natural systems. Public and private partnerships would also be created to achieve shared economic objectives within existing legal, regulatory, and administrative authorities.

Natural values would be protected and conserved while allowing for tourism and commodity use of natural resources that would not negatively impact natural values. Management of existing facilities (e.g. roads, recreation sites, and range improvements) would continue in order to facilitate commodity uses and continued access and availability of natural resource amenities. Alternatives would be developed, where possible, for existing facilities that negatively impact natural values; otherwise, such facilities would be eliminated.

Nonconsumptive uses would be emphasized in the AMU while providing for minimal sustainable livestock grazing that meets allotment management (natural resource) objectives, and the S&Gs (USDI 1997a). Administrative actions (e.g. season of use changes, stocking level adjustments, exclusion of livestock from specific areas, etc.) would be emphasized to accomplish natural resource management objectives. Rangeland projects and/or accepted livestock management practices would be implemented when administrative actions alone would not accomplish natural resource objectives. Rangeland projects that do not enhance resource values and/or assist in meeting management objectives would be removed, and project sites would be rehabilitated.

Approximately 212,972 acres would be open to locatable mineral exploration and development. Approximately 255,137 acres would be closed to leasable energy and mineral exploration and development, no acres would be open with no surface occupancy (NSO), no acres would be open with seasonal and/or other special stipulations, and the remaining 212,972 acres would be open with standard stipulations (Table 2.4). This acreage would increase or decrease as additional or fewer areas are identified as having natural values that would be impaired by leasing. In addition, approximately 212,972 acres would be open to saleable minerals.

All ACECs, WSAs, WSRs, the Steens Mountain Wilderness, and the CMPA would be designated as renewable energy authorization exclusion areas. Applications for renewable energy authorizations in the AMU would be processed on a case-by-case basis.

Public land holdings containing WSAs, ACECs, HMAs, special status species, and important cultural/historical sites, as well as those in the Steens Mountain Wilderness and the CMPA, would be retained and increased with an emphasis on acquiring land with natural or cultural values. Other lands may be acquired by purchase, donation, conservation agreements/easements, or by exchange in order to obtain lands with natural or cultural values.

All ACECs, WSAs, WSRs, the Steens Mountain Wilderness, and the CMPA would be designated as ROW and realty use authorization exclusion areas, except those authorizations necessary to provide reasonable access to nonpublic lands and interests in land. No new communications sites would be authorized in the Planning Area. Except as noted in Section 2.17, applications for ROWs and other realty use authorizations in the AMU, including those for energy development and military uses, would be processed on a case-by-case basis.

Approximately 255,137 acres as identified in Table 2.4 would be recommended for withdrawal from the public land and mining laws. Access and easement acquisition management would be the same as Alternative B, except that closed roads would be actively reclaimed.

Roads that are determined not essential or that contribute to negative impacts on natural resources would be closed and rehabilitated. Recreation that does not negatively impact natural resources would be permitted and closely monitored. Only SRPs that contribute to public education and appreciation of natural resources would be issued. OHV use would be limited to specific areas of low resource value on a case-by-case basis.

Alternative D

This alternative emphasizes balancing social, economic, cultural, and ecological components and using cooperative management practices. To achieve the objective, cooperative and collaborative processes, contracts, and cooperative agreements would be made for services and products available locally when need and conditions permit. In addition, local contracts would be targeted for services to restore and maintain natural systems, while providing for sustainable tourism, production, and industry. Collaboration with local populations would be implemented to encourage a high level of natural resource protection, which contributes to tourism and attracts sustainable commodities industries. Public and private partnerships would also be created to achieve shared economic objectives within existing legal, regulatory, and administrative authorities.

Management actions would provide for sustainable livestock grazing in the AMU that meets allotment management (natural resource) objectives and the S&Gs (USDI 1997a). Revision of Allotment Management Plans (AMPs) would be based on evaluations and rangeland health assessments, which would determine allowable Animal Unit Months (AUMs) and plant community management. Interim and long-term grazing management and stocking levels would be adjusted in accordance with results of monitoring studies, allotment evaluations, and rangeland health assessments.

Accepted livestock management practices would be implemented (e.g. adjustment of the timing, duration, frequency of grazing, and/or periodic rest or deferment). These would be supplemented by administrative actions (e.g. season of use changes, stocking level adjustments, exclusionary pastures, etc.) and/or rangeland projects to accomplish natural resource management objectives.

Approximately 447,742 acres would be open to locatable mineral exploration and development. No acres would be closed to leasable energy and mineral exploration and development, 9,355 acres would be open with NSO, 241,961 acres would be open with seasonal and/or other special stipulations, and the remaining 216,793 acres would be open with standard lease stipulations (Table 2.4). Approximately 446,052 acres would be open to saleable minerals and 22,057 acres would be closed (Table 2.4).

All WSRs and the Steens Mountain Wilderness would be designated as renewable energy authorization exclusion areas. All WSAs and ACECs would be designated as renewable energy authorization avoidance areas. Applications for renewable energy authorizations in the AMU would be processed on a case-by-case basis.

Public land holdings containing WSAs, ACECs, HMAs, special status species, and important cultural/historical sites, as well as those in the Steens Mountain Wilderness and the CMPA, would be retained and increased with emphasis on acquiring lands with high public resource values. Emphasis would also be on acquisition of nonpublic lands within an

Table 2.4: Acres of Mineral Restrictions Within Areas of High Mineral Potential, by Alternative[1]

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
LOCATABLE MINERALS					
Total available BLM acres in the Planning Area[2]	468,109	468,109	468,109	468,109	468,109
Total Closed acres in the Planning Area[3]	0	468,109	255,137	20,367	0
Total Open acres in the Planning Area	468,109	0	212,972	447,742	468,109
Total available BLM acres with high potential for hot-springs gold and mercury	32,284	32,284	32,284	32,284	32,284
Closed	0	32,284	24,960	8,005	0
Open	32,284	0	7,324	24,279	32,284
Total available BLM acres with high potential for uranium	0	0	0	0	0
Total available BLM acres with high potential for vein gold	0	0	0	0	0
Total available BLM acres with high potential for porphyry copper, gold and molybdenum	1,313	1,313	1,313	1,313	1,313
Closed	0	1,313	1,294	10	0
Open	1,313	0	19	1,303	1,313
Total available BLM acres with high potential for diatomite	1	1	1	1	1
Closed	0	1	1	1	0
Open	1	0	0	0	1
LEASABLE MINERALS					

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Total available BLM acres in the Planning Area	468,109	468,109	468,109	468,109	468,109
Total Closed acres in the Planning Area	0	468,109	255,137	0	0
Total No Surface Occupancy in the Planning Area	0	0	0	9,355	0
Total Open with Special Stipulations in the Planning Area	0	0	0	241,961	0
Total Open with Standard Stipulations in the Planning Area	468,109	0	212,972	216,793	468,109
Total available BLM acres in the Planning Area with high potential for oil and gas resources	0	0	0	0	0
Total available BLM acres in the Planning Area with high potential for geothermal resources	332	332	332	332	332
Closed	0	332	289	0	0
No Surface Occupancy	0	0	0	0	0
Open with Seasonal or other Special Stipulations	0	0	0	281	0
Open with Standard Lease Stipulations	332	0	43	51	332
Total available BLM acres in the Planning Area with high potential for sodium or potassium mineral resources	0	0	0	0	0
SALEABLE MINERALS					
Total available BLM acres in the Planning Area	468,109	468,109	468,109	468,109	468,109
Closed	0	468,109	255,137	22,057	0
Open	468,109	0	212,972	446,052	468,109

[1] These acreages are for areas of Public Land only; surface and mineral estates are both under BLM administration
Total Planning Area = 1,649,470 acres
Steens Mineral Withdrawal Area (includes some WSAs, all WSRs and all Steens Mountain Wilderness) = 748,118 acres
All other WSAs (outside of the Steens Mineral Withdrawal Area) = 433,243 acres
Total Closures due to Congressional action and WSA IMP (Steens Mineral Withdrawal Area, WSAs, WSRs, and the Steens Mountain Wilderness) = 1,181,361 acres

[2] Total available BLM acres in the Planning Area: 1,649,470 acres - 1,181,361 acres = 468,109 acres

[3] Total Closed acres in the Planning Area means acres recommended for withdrawal from public land and mining laws through this RMP process

ACEC, the CMPA, WSA, or proposed or designated WSRs, or of nonpublic lands containing a critical access need as identified in an approved BLM land use plan, riparian or wetland values, habitat for listed T&E species, or cultural/historical resources listed on the National Register of Historic Places.

Corridor designations would be the same as Alternative C. All large-scale facilities, as specified in Section 2.17, would be encouraged to locate in the designated corridors. All WSRs and the Steens Mountain Wilderness would be designated as ROW and realty use authorization exclusion areas, except those authorizations necessary to provide reasonable access to nonpublic lands and interests in land. All WSAs and ACECs would be designated as ROW and realty use authorization avoidance areas. Communications lease applications for new locations would be considered on a case-by-case basis and site management plans would be developed concurrent with processing applications. Except as noted in Section 2.17, applications for ROWs and other realty use authorizations in the Planning Area would be processed on a case-by-case basis.

Approximately 20,367 acres would be recommended for withdrawal from the public land and mining laws. Legal public or administrative access, including conservation and scenic easements, would be acquired where public demand or an administrative need exists, including any rights necessary to control and minimize access to areas containing sensitive resource values. Emphasis would be placed on providing access to areas containing high public values and on the protection of natural values. Land tenure transactions would be designed to maintain and improve public access. Where easement acquisition for access is not feasible or desirable but a critical access need has been identified, new roads would be constructed around nonpublic lands, subject to the limitations expressed in the Steens Act.

Existing roads would be maintained to meet resource goals and objectives that balance cultural, economic, ecological, and social values. Activities would be encouraged and permitted that attract tourism and recreational uses but are primarily nonimpairing to natural resources. Recreation sites that would attract visitors to specific maintained areas would be developed, in turn alleviating widespread impacts to natural resources. OHV areas would be developed in locales of low resource value on a case-by-case basis. SRPs would be issued on a case-by-case basis.

Alternative E

This alternative emphasizes commodity production while targeting services and products for competitive contracting to local firms/individuals, where legally permitted, and managing natural resources on the public lands to enhance tourism, maximize production, and attract industry. In addition, existing commodities available for extraction would be advertised and public and private partnerships would be created to achieve shared economic objectives within existing legal, regulatory, and administrative authorities.

Grazing opportunities would be maximized in the AMU to the extent possible while meeting the S&Gs (USDI 1997a). Rangeland projects and accepted livestock practices would be emphasized as the preferred solution to meet natural resource management objectives. Administrative actions would be applied when structural developments and/or accepted livestock management practices would not accomplish natural resource management objectives.

The maximum amount of area (468,109 acres) would be open to locatable mineral exploration and development. No acres would be closed to leasable energy and mineral exploration and development as mandated by the Steens Act; no areas would require NSO; no areas would require seasonal and/or other special stipulations; and the maximum amount of area would be open with standard lease stipulations. Saleable minerals under this alternative would be similar to Alternative A except that no new areas would be closed to saleable minerals. Approximately 468,109 acres would be open to saleable minerals and no acres would be closed. Renewable energy exclusion and avoidance designations and renewable energy administration would be the same as Alternative D.

Public land holdings containing WSAs, ACECs, HMAs, special status species and important cultural/historical sites, as well as those in the Steens Mountain Wilderness and the CMPA, would be maintained in their approximate current acreage. Emphasis would be on securing land containing commodity-producing values or that facilitates commodity production. Leases, permits, and other authorizations would be considered and encouraged for agricultural, occupancy, filming, and other commodity producing land uses.

The designated corridors would include all corridors identified by the Western Regional Corridor Study, all county roads, and all federal and state highways. Otherwise, corridor management, exclusion and avoidance designations, and general ROW administration would be the same as Alternative D.

No new protective withdrawals would be considered for public land. Legal public or administrative access would be acquired with emphasis on providing access to facilitate commodity production. No conservation or scenic easements would be considered. New roads would be constructed around private lands where easement acquisition is not feasible or desirable, subject to the limitations expressed in the Steens Act. Land tenure transactions would be designed to maintain and improve public access.

New roads would be constructed and existing roads upgraded on a case-by-case basis to facilitate public uses and commodity production. Recreational activities would be permitted to the fullest extent possible, while not damaging sensitive resources protected by laws and regulations. New recreation sites would be created to attract visitors to the area. Except where prohibited by law or regulation, the Planning Area would be open to OHVs. Areas would be developed for OHV events and general use. SRPs would be issued on a case-by-case basis.

Objective 2. Maintain and promote the cultural, economic, ecological, and social health of the Steens Mountain area.

Management Common to All Alternatives

The Steens Act requires that management of the CMPA would accomplish the following:

1) Provide for predictable and sustainable levels of commodity outputs.

2) Meet subsistence needs of tribes and tribal communities to the greatest extent practicable.

3) Provide natural resource amenities on public lands that enhance local communities as places to live, work, or visit (this could include water quality, scenic views, recreation sites, wildlife viewing, hunting, and fishing).

4) Protect special designated areas with unique natural resource values for the enjoyment of future generations (this could include habitats of endangered species).

5) Target local economies for government business activities associated with public land management to the extent permitted by the existing authorities (procurement and contracting can be tracked through BLM records to evaluate whether local versus nonlocal government spending changes over time).

These requirements meet both objectives for Social and Economic Values.

Alternative A

Under this alternative, current management mandated by the Steens Act would continue. Livestock grazing use would continue to be authorized in the CMPA consistent with the existing land use plan, the Steens Act, the S&Gs (USDI 1997a), and applicable activity plans. Minerals and land authorizations would be managed as outlined in existing land use plans and the Steens Act. Therefore, subject to valid existing rights, no mining or mineral exploration would be permitted anywhere in the CMPA.

Pursuant to the Steens Act, a Transportation Plan for the CMPA is being written in conjunction with the development of this RMP. No new roads are to be constructed in the CMPA. The Steens Act dictates that no mechanized/motorized vehicles can be operated off designated roads. Existing SRPs would continue to be issued, but no new developments would be allowed in the CMPA. Existing recreation sites would be retained.

Alternative B

This alternative emphasizes natural process and limits commodity production to the extent required by the Steens Act. Nonconsumptive uses would be emphasized in the CMPA while providing for sustainable livestock grazing consistent with the Steens Act, and that also meets allotment management (natural resource) objectives and the S&Gs (USDI 1997a). Rangeland projects and/or accepted livestock management practices would be implemented when administrative actions alone would not accomplish natural resource objectives. Rangeland projects that do not function to enhance resource values and/or assist in meeting management objectives would be removed, and project sites would be rehabilitated.

In the entire Planning Area, no mineral entry, no leasing, no saleable minerals or development and no renewable energy authorizations would be permitted.

Transportation and recreation/OHV are the same as for Alternative A.

Alternative C

Under this alternative, provisions of the Steens Act would continue to be enacted while emphasizing protection of the natural values of the CMPA. Nonconsumptive uses would be emphasized in the CMPA while providing for sustainable livestock grazing consistent with the Steens Act, and that also meet allotment management (natural resource) objectives and the S&Gs (USDI 1997a).

The CMPA would be designated as a renewable energy authorization exclusion area.

Lands within the CMPA may be disposed of only by exchange that furthers the purpose and objectives of the Steens Act. All ACECs, WSAs, WSRs, the Steens Mountain Wilderness, and the CMPA would be designated as ROW and realty use authorization exclusion areas, except those authorizations necessary to provide reasonable access to nonpublic lands and interests in land.

Transportation and recreation/OHV are the same as for Alternative A.

Alternative D

This alternative emphasizes sustainable economic operations while protecting the ecological, social, and cultural integrity of the CMPA. Management actions would provide for sustainable livestock grazing in the CMPA that is consistent with the Steens Act and that meets allotment management (natural resource) objectives and the S&Gs (USDI 1997a). Revision of AMPs would be based on evaluations and rangeland health assessments, which would determine allowable AUMs and plant community management.

Minerals and land use authorizations would be managed as described under Objective 1, Alternative D.

Transportation and recreation/OHV are the same as for Alternative A.

Alternative E

Under this alternative, commodity production would be provided to the maximum extent allowable under the Steens Act. Grazing opportunities would be maximized in the CMPA consistent with the Steens Act, and to the extent that is possible while meeting the S&Gs (USDI 1997a).

Minerals and land use authorizations would be managed as described under Objective 1, Alternative E.

Transportation and recreation/OHV are the same as for Alternative A.

2.12.2 Monitoring

BLM records would be used to determine the amounts of commodity uses (i.e., AUMs, tons of minerals, range products, etc.). Employment in related industries would be monitored using public information sources. BLM budget information would be utilized to project and ascertain expenditures for environmental quality projects and facilities development. This information would then be correlated to employment and revenue in related industries.

Recreation management information systems (RMIS) and other site-specific measures would be used to determine visitor use levels. BLM procurement records would be utilized to track local versus nonlocal contracts, and payroll records would be utilized to track BLM employment levels.

2.13 Energy and Minerals

2.13.1 Goal 1 - Provide opportunities for the exploration and development of locatable minerals in a culturally- and environmentally-sound manner.

2.13.1.1 Management Framework

The General Mining Law of 1872 gives the public the basic right to explore and locate mining claims on public land. The Mining and Minerals Policy Act of 1970 declares that it is the continuing policy of the federal government to foster and encourage private enterprise in the development of domestic mineral resources. Section 102 of the FLPMA directs that the public land be managed in a manner that recognizes the nation's need for domestic sources of minerals and other resources. BLM mineral policy (1984) states that public lands shall remain open and available for mineral exploration and development unless withdrawal or other administrative action is clearly justified in the national interest.

Split estate land is shown on the map titled “Surface and Mineral Estate Ownership” that is included on the CD that accompanies this draft document. Split estate land with nonfederal surface estate and federal mineral estate may be either due to patenting of the surface estate under the Stock Raising Homestead Act or due to sale or exchange of public land.

Within the Steens Mineral Withdrawal Area within the Planning Area there are approximately 44,000 acres of split estate land with nonfederal surface estate. Of those, approximately 40,000 acres are Stock Raising Homestead Entry lands and 4,000 acres are due to sale or exchange of public land. Outside of the Steens Mineral Withdrawal Area within the Planning Area there are approximately 28,000 acres of split estate land with nonfederal surface estate. Of those, approximately 14,000 acres are Stock Raising Homestead Entry lands and 14,000 acres are due to sale or exchange of public land.

The Stock Raising Homestead Act allowed the surface estate to be patented while the mineral estate remained in federal ownership. Mining claims may be located on these lands under the special procedures of Public Law 103-23, which is the Stock Raising Homestead Act Amendment of April 16, 1993. Potential claimants must file a Notice of Intent to Locate prior to entering this land to explore for minerals or to locate mining claims. If the surface owner will not grant access, then it becomes a civil matter that must be decided in court. After location of claims, further surface entry requires either surface owner consent or an approved plan of operations. There has been no interest in locatable minerals on Stock Raising Homestead Act lands in the Planning Area.

When public lands are sold or exchanged, minerals reserved to the United States are removed from the operation of the mining laws unless a subsequent land-use planning decision expressly restores the land to mineral entry, and BLM publishes a notice to inform the public (43 CFR 3809.2(a)). All past and future public lands sold or exchanged, where minerals are reserved to the United States, shall be opened to operation under the mining laws upon the publication of opening orders in the Federal Register informing the public of such action, unless otherwise closed to the land and mineral laws in accordance with the Steens Act, other applicable law, or land use planning decisions.

Locatable mineral exploration and development are regulated under 43 CFR 3802 for WSAs and 43CFR 3809 for other public lands. Within the Planning Area, there are no grandfathered claims within WSAs or the Steens Mountain Wilderness. The WSA IMP states that location of new claims and the assessment work necessary to hold claims would be allowed as long as these activities are carried out in a manner that does not impair the area's wilderness suitability. Generally, all activities permitted in Oregon WSAs after the September 1990 reclamation deadline passed must be temporary uses that create no surface disturbance nor involve placement of permanent structures. This policy restriction effectively closes WSAs to mineral exploration and development activities. However, should the WSA IMP be revised or Congress take action to remove some areas from WSA status, some of these areas could eventually be made available for mineral exploration and development activities during the life of the RMP.

A plan of operations is required for all mining activity (note that mining activity is distinguished from exploration activity) that is not casual use, regardless of the number of acres disturbed. A plan of operations is also required for all exploration activities that disturb more than five acres, bulk sampling that would remove 1,000 tons or more of presumed ore for testing, or for any surface disturbing operations greater than casual use proposed in areas within the WSRs, areas designated for potential addition to the WSRs, ACECs, the Steens Mountain Wilderness, WSAs, areas designated "closed" to off-road vehicle use, and any lands or waters known to contain federally proposed or listed T&E species or their proposed or designated critical habitat. The approval of plans of operation is a federal action that requires NEPA compliance to ensure that no unnecessary or undue degradation would occur. Examples of compliance measures that could be required as a result of NEPA review are rerouting proposed access roads located within 0.6 mile of sage grouse leks, or seasonal closure of access roads within big game winter range.

A notice is required for exploration activities on five acres or less if they are outside of the WSRs; areas designated for potential addition to the WSRs, ACECs, Steens Mountain Wilderness, or WSAs; areas designated "closed" to off-road vehicle use, and any lands or waters known to contain federally proposed or listed T&E species or their proposed or designated critical habitat. Acknowledging a notice is not a federal action that requires compliance with the NEPA, so no environmental documentation must be prepared. The BLM does review notices to ensure that no unnecessary or undue degradation would occur, and that a plan of operations is not required.

The BLM reviews notices and plans to ensure that an adequate financial guarantee is provided by the operator for reclamation of all proposed surface disturbances. Mining claim use and occupancy under 43 CFR 3715 requires NEPA compliance.

Many areas within the Planning Area are subject to overlapping designations, making the amount of area that is open or closed to mineral exploration and development difficult to determine. For example, an ACEC (which is open to mineral location and development under a plan of operations) may partially overlap a WSA (which is effectively closed to mineral exploration and development). For simplicity, such an area of overlap has been classified as "closed" to reflect

the most restrictive management measure in place. Any WSAs that are later removed from WSA status would be managed in accordance with the remaining restrictions. In the above example, an area where a WSA overlaps an ACEC would change from "closed" to "open" if Congress removed WSA status during the life of the RMP.

By Congressional Action and WSA IMP, no locatable mineral exploration and development activities are authorized within the Steens Mineral Withdrawal Area (748,118 acres) and designated WSRs, Steens Mountain Wilderness, and WSAs (433,243 acres outside of the Steens Mineral Withdrawal Area), which together cover 1,181,361 acres in the Planning Area.

2.13.1.2 Management Direction by Alternative

Objective 1. Identify land with federal mineral estate available to locatable mineral exploration and development.

Alternative A

Management of locatable mineral exploration and development would continue on lands currently open to locatable mineral activity, consistent with regulations and laws, and no additional withdrawals would be proposed. Under the Andrews MFP, no mineral withdrawals were proposed beyond those specified in the Steens Act. Approximately 468,109 acres would be open to locatable mineral exploration and development and no acres would be closed (Table 2.4).

Alternative B

Actions would be taken to withdraw the portion of the Planning Area not currently withdrawn from locatable mineral entry, subject to valid existing rights. Since the withdrawal would exceed 5,000 acres, Congressional approval would be required. No acres would be open to locatable mineral exploration and development and approximately 468,109 acres would be closed (Table 2.4).

Alternative C

This alternative emphasizes protection of natural values. The following areas would be recommended for withdrawal from mineral exploration and development: all ACECs; existing BLM recreation and administrative sites; potential BLM recreation sites when development is approved; National Register eligible and listed cultural sites; significant paleontological localities; big game winter range; RCAs; areas containing special status species and their habitats; and within 0.6 mile of identified sage grouse leks. The land outside of these areas and outside of the areas closed by Congressional action and WSA IMP would be open to mineral exploration and development. Approximately 212,972 acres would be open to locatable mineral exploration and development and 255,137 acres would be closed (Table 2.4).

Alternative D

Areas recommended for withdrawal from locatable mineral exploration and development are existing BLM recreation and administrative sites; potential BLM recreation sites when development is approved; National Register listed cultural sites; significant paleontological localities; areas containing federally listed species and their designated critical habitat; and within 0.6 mile of identified sage grouse leks. The land outside of these areas and outside of the areas closed by Congressional action and WSA IMP would be open to mineral exploration and development. Approximately 447,742 acres would be open to locatable mineral exploration and development and 20,367 acres would be closed (Table 2.4).

Alternative E

No new areas would be recommended for withdrawal from locatable mineral exploration and development so that the maximum amount of land would be available. This is similar to Alternative A. Approximately 468,109 acres outside of the Steens Mineral Withdrawal Area would be open to locatable mineral exploration and development (Table 2.4).

2.13.2 Goal 2 - Provide opportunities for the leasing and development of oil and gas, geothermal, and solid leasable mineral resources in a culturally- and environmentally-sound manner.

2.13.2.1 Management Framework

As declared in the Mineral Leasing Act of 1920, as amended; the Geothermal Steam Act of 1970, as amended; and the Mining and Minerals Policy Act of 1970, the continuing policy of the federal government is to foster and encourage private enterprise in the development of domestic mineral resources. Section 102 of the FLPMA directs that the public land be managed in a manner that recognizes the nation's need for domestic sources of mineral and other resources. BLM mineral policy (1984) states that public lands shall remain open and available for mineral exploration and development unless withdrawn or unless other administrative action is clearly justified in the national interest.

From most restrictive to least restrictive, the leasing categories that must be identified for areas within the Planning Area are: (1) closed to leasing, (2) open with NSO, (3) open with seasonal and/or other special stipulations, and (4) open with standard stipulations (BLM Land Use Planning Handbook H-1601-1). The leasing category of each area is determined by the resources contained in that area and identification of the least restrictive leasing category that would protect those resources under each management alternative.

Oil and gas leasing and development are regulated under 43 CFR 3100; geothermal leasing and development are regulated under 43 CFR 3200; and solid mineral leasing is regulated under 43 CFR 3500. The least restrictive leasing category is “open with standard stipulations.” In order to protect special resource values and investments, some areas would be subject to additional stipulations shown in Table 2.4.

Many areas within the Planning Area are subject to overlapping designations, making the amount of area open to each leasing category difficult to determine. For example, an ACEC (which may be open to leasing with NSO) may partially overlap a WSA (which is closed to leasing). For simplicity, such an area of overlap has been classified as "closed to leasing" to reflect the most restrictive management measure in place. Any WSAs that are later removed from WSA status by Congressional action and WSA IMP would be managed in accordance with the remaining restrictions. In the example above, an area where a WSA overlaps an ACEC would change from "closed to leasing" to "open to leasing with NSO" if Congress removed WSA status during the life of the RMP.

By Congressional action and WSA IMP, no energy and mineral lease activities are authorized within the Steens Mineral Withdrawal Area (748,118 acres) and designated WSRs, the Steens Mountain Wilderness, and WSAs (433,243 acres outside of the Steens Mineral Withdrawal Area), which together cover 1,181,361 acres in the Planning Area.

The primary form of authorization for wind and solar energy development would be ROW or other realty use authorization. In addition off-site infrastructure such as roads, pipelines and powerlines necessary for mineral development would be permitted by realty authorizations. Discussions on the management actions and their effects associated with these realty use authorizations may be found in the Lands and Realty sections of this document.

2.13.2.2 Management Direction by Alternative

Objective 1. Identify leasing categories for the land.

Alternative A

Under the Andrews MFP, no leasable energy and mineral withdrawals were proposed. Since then, some land was closed to leasable mineral exploration and development by Congressional action and WSA IMP. Consistent with the Andrews MFP, no new areas would be closed to leasing under this alternative. Areas of NSO would be identified prior to leasing in order to protect those areas where natural values would be impaired by surface disturbance, although no areas with those natural values are currently identified under this alternative. Areas would be designated for seasonal and/or other special stipulations where natural values would be impaired by seasonal leasing activities, although no areas with those natural values are currently identified under this alternative. No new lease sales are planned until after completion of this RMP.

No additional acres would be closed to leasable energy and mineral exploration and development beyond those closed by Congressional action and WSA IMP. No acres would be subject to NSO or seasonal and/or other special stipulations

unless publicly-reviewed environmental analysis prior to leasing indicates otherwise. Approximately 468,109 acres would be open to leasing under standard leasing stipulations (Table 2.4).

Alternative B

The mineral estate in the entire Planning Area (468,109 acres beyond those closed by Congressional action and WSA IMP) would be closed to energy and mineral leasing (Table 2.4).

Alternative C

This alternative emphasizes protection of natural values. Areas would be closed to leasing where natural values would be impaired by leasing, including all ACECs; existing BLM recreation and administrative sites; potential BLM recreation sites when development is approved; National Register eligible and listed cultural sites; significant paleontological localities; big game winter range; RCAs; areas containing special status species and their habitat; and within 0.6 mile of identified sage grouse leks. Areas would be designated for NSO where natural values would be impaired by surface disturbance, although no areas with those natural values are currently identified. Areas would be designated for seasonal and/or other special stipulations where natural values would be impaired by seasonal leasing activities, although no areas with those natural values are currently identified.

Approximately 255,137 acres would be closed to leasable energy and mineral exploration and development, including those areas listed in the above paragraph and in addition to those areas closed by Congressional action and WSA IMP. No acres would be subject to NSO or seasonal and/or other special stipulations unless analysis prior to leasing indicates otherwise. Approximately 212,972 acres would be open to leasing under standard leasing stipulations (Table 2.4).

Alternative D

No new areas would be closed to leasing. Areas of NSO would include ACECs identified for NSO under Alternative D in Table 2.10, National Register listed cultural sites, and significant paleontological localities. Areas of seasonal and/or special stipulations would include big game winter range, RCAs, areas containing federally listed species and their designated critical habitat, and within 0.6 mile of identified sage grouse leks.

No acres would be closed to leasable energy and mineral exploration and development beyond those areas closed by Congressional action and WSA IMP. Approximately 9,355 acres would be subject to NSO stipulations. Approximately 241,961 acres would be subject to seasonal and/or other special stipulations. Approximately 216,793 acres would be open to leasing under standard leasing stipulations (Table 2.4).

Alternative E

No new areas would be closed to leasing under this alternative. All areas would be available for surface occupancy except as restricted by current laws or regulations. No seasonal and/or other special stipulations would be applied except as required by laws and regulations.

No acres would be closed to leasable energy and mineral exploration beyond those areas closed by Congressional action and WSA IMP. No acres would be subject to NSO stipulations. No acres would be subject to seasonal and/or other special stipulations. Approximately 468,109 acres would be open to leasing under standard leasing stipulations (Table 2.4).

2.13.3 Goal 3 - Provide opportunities for the production of saleable minerals by local, state, and federal agencies and the public in a culturally- and environmentally-sound manner.

2.13.3.1 Management Framework

The Materials Act of 1947, as amended, authorized the disposal of mineral materials such as sand and gravel. The Mining and Minerals Policy Act of 1970 declares that the continuing policy of the federal government is to foster and encourage private enterprise in the development of domestic mineral resources. Section 102 of the FLPMA directs that the public land would be managed in a manner that recognizes the nation's need for minerals and other resources. BLM

mineral policy (1984) states that public land shall remain open and available for mineral exploration and development unless withdrawal or other administrative action is clearly justified in the national interest.

Mineral materials exploration and disposal are regulated under 43 CFR 3600. Under all alternatives, effort would be made to work with the state and counties to rehabilitate exhausted rock sources and identify new sources as needed. Surface disturbances would be reclaimed at the earliest feasible time, concurrent with development.

By Congressional action and WSA IMP, all WSAs, the Steens Mountain Wilderness, designated WSRs, and the Steens Mineral Withdrawal Area are closed to mineral materials development except at those sites specifically identified in the Steens Act, which are permitted for road maintenance use only. Saleable minerals removal would be permitted on a case-by-case basis in WSAs eliminated from wilderness consideration in the future, with priority consideration given to protecting sensitive resources.

2.13.3.2 Management Direction by Alternative

Objective 1. Permit development of mineral materials sources on a case-by-case basis in areas where development does not conflict with resource values.

Alternative A

Saleable minerals removal would be permitted throughout the Planning Area on a case-by-case basis except where it is closed by Congressional action and WSA IMP. Mineral materials would be removed from existing sources, and from new sources identified in areas open to saleable minerals. Approximately 468,109 acres would be open to saleable minerals (Table 2.4).

Alternative B

The entire resource area (468,109 acres), beyond those already closed by Congressional action and WSA IMP, would be closed to saleable minerals, except where required by law or where essential to protect human safety such as road construction under critical or emergency conditions (Table 2.4).

Alternative C

Permit saleable minerals development throughout the Planning Area on a case-by-case basis except where it is closed by Congressional action and WSA IMP; however, do not allow permits in any ACECs; existing BLM administrative and recreation sites; potential BLM recreation sites; National Register eligible and listed cultural sites; significant paleontological localities; RCAs; areas containing special status species and their habitat; and within 0.6 mile of identified sage grouse leks.

Under this alternative, which emphasizes protection of natural values, approximately 212,972 acres would be open to saleable minerals and 255,137 acres would be closed (Table 2.4).

Alternative D

Saleable minerals development would be permitted throughout the Planning Area on a case-by-case basis except where it is closed by Congressional action and WSA IMP; however, do not allow permits in any ACECs; existing BLM administrative and recreation sites; potential BLM recreation sites; National Register listed cultural sites; significant paleontological localities; RCAs; areas containing federally listed species and their designated critical habitat; and within 0.6 mile of sage grouse leks.

Under this alternative, approximately 446,052 acres would be open to saleable minerals and 22,057 acres would be closed (Table 2.4).

Alternative E

Saleable minerals disposal under this alternative would be similar to Alternative A except that no new areas would be closed, beyond those closed by Congressional action and WSA IMP, to saleable minerals. Approximately 468,109 acres would be open to saleable minerals and no acres would be closed (Table 2.4).

2.13.4 Monitoring

Locatable Minerals

For locatable minerals, monitoring of activities on mining claims would be conducted to promote compliance with the 43 CFR 3802/3809/3715 regulations. These regulations provide for locatable minerals activities on public lands while preventing unnecessary or undue degradation; provide for reclamation of disturbed areas; and provide for coordination with state agencies. The 43 CFR 3809 regulations establish minimum inspection frequencies for mining operations as follows: at least four times each year, the BLM would inspect all operations using cyanide or other leachate or where significant potential for acid drainage exists. There is no stated frequency for inspections for all other activities. According to BLM policy, activities in sensitive areas or activities with a high potential for greater than usual impacts would be inspected more often than annually.

Leasable Minerals

For leasable minerals, inspections would be conducted to determine compliance with applicable laws, regulations, and the requirements of approved exploration and development plans. Where mineral production is occurring, inspections would show (1) an accurate accounting of materials removed; (2) proper compensation to the federal government; and (3) protection of the environment, public health, and safety. Activities in sensitive areas or activities with a high potential for greater than usual impacts would be inspected more frequently, according to BLM policy.

Saleable Minerals

Inspections of saleable minerals operations would be conducted to determine compliance with applicable laws, regulations, and the requirements of approved exploration and development plans. Where mineral production is occurring, inspections would show (1) an accurate accounting of materials removed; (2) proper compensation to the federal government; (3) protection of the environment, public health, and safety; and (4) identification and resolution of saleable mineral trespass. Activities in sensitive areas or activities with a high potential for greater than usual impacts would be inspected more frequently, according to BLM policy.

2.14 Wild Horses and Burros

2.14.1 Goal 1 – Manage and maintain healthy wild horse herds in established HMAs at AMLs to maintain a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values. Enhance and perpetuate the special or rare and unique characteristics that distinguish the respective herds.

2.14.1.1 Management Framework

The Wild Free-Roaming Horse and Burro Act of 1971, as amended, requires the BLM to protect and manage wild horses in areas where they were found at the time the Steens Act was passed, and in a manner designed to achieve and maintain a thriving ecological balance in keeping with the public land multiple-use concept. BLM policy regulations direct that wild horses shall be managed as self-sustaining populations of healthy animals. The physical traits of members of various herds are historic characteristics and are desirable to retain and maintain.

2.14.1.2 Management Direction by Alternatives

Objective 1. Designate/Retain/Adjust Herd Management Areas.

Alternative A

The existing HMAs would be retained (see Map2.1 and Table 2.5).

Alternatives B and C

The existing HMAs would be retained, except for the following modifications: the Alvord-Tule Springs HMA (Burns District) would be combined with the Coyote Lake HMA (Vale District) and managed under the guidelines and decisions

of the SEORMP (USDI 2002); the Kiger HMA would be reduced in acreage and its boundary changed to reflect the legislated Steens land exchanges; the South Steens HMA would be reduced in acreage and its boundary changed to reflect the legislated Steens land exchanges and the removal of the Ankle Creek Basin portion of the "No Livestock Grazing Area" (see Map 2.2 and Table 2.5).

Alternative D

The existing HMAs would be retained, except for the following modifications: the Alvord-Tule Springs HMA (Burns District) would be combined with the Coyote Lake HMA (Vale District) and managed under the guidelines and decisions of the SEORMP (USDI 2002); the Kiger HMA would be reduced in acreage and its boundary changed to reflect the legislated Steens land exchanges; the South Steens HMA would be reduced in acreage and its boundary changed to reflect the legislated Steens land exchanges (see Map 2.1 and Table 2.5).

Alternative E

The existing HMAs would be retained, except for the following modifications; the Alvord-Tule Springs HMA (Burns District) would be combined with the Coyote Lake HMA (Vale District) and managed under the guidelines and decisions of the SEORMP (USDI 2002); the Kiger HMA would be reduced in acreage and its boundary changed to reflect the legislated Steens land exchanges; the net size of the South Steens HMA would be increased and its boundary changed to reflect the addition of a portion of the No livestock Grazing Area known as the Dry Creek and Big Springs Pastures of the Fish Creek-Big Indian Allotment (#06003), the addition of that part of the South Steens Herd Area that includes Serrano Point Allotment (#6019), Carlson Creek Allotment (#6027), and Bone Creek and Miners Field pastures in the Alvord Peak Allotment (#6038), and the loss of public land acreage due to the legislated Steens land exchanges (see Map 2.3 and Table 2.5).

Objective 2. Designate/Retain/Adjust Herd Areas in inactive status.

Alternative A

Retain current Herd Areas (see Map 2.1 and Table 2.6).

Alternatives B and C

The existing Herd Areas would be retained except for the following modifications: A Kiger Herd Area would be created to reflect the loss of public lands resulting from the legislated Steens land exchanges; and the South Steens Herd Area would be increased in size to reflect the addition of the Ankle Creek Basin portion of the No Livestock Grazing Area and the changes in land ownership resulting from the legislated Steens land exchanges (see Map 2.2 and Table 2.6).

Alternative D

The existing Herd Areas would be retained except for the following modifications: a Kiger Herd Area would be created to reflect the loss of public lands resulting from the legislated Steens land exchanges; and the South Steens Herd Area would be increased in size to reflect the change in land ownership resulting from the legislated Steens land exchange (see Map 2.1 and Table 2.6).

Alternative E

The existing Herd Areas would be retained except for the following modifications: a Kiger Herd Area would be created to reflect the loss of public lands resulting from the legislated Steens land exchanges; and the South Steens Herd Area would be decreased in size to reflect the increase of the South Steens HMA to include the Serrano Point Allotment (#6019), Carlson Creek Allotment (#6027), and Bone Creek and Miners Field pastures in the Alvord Peak Allotment (#6038) as well as reflect the change in land ownership resulting from the legislated Steens land exchange (see Map 2.3 and Table 2.6).

Alternative A

The current AMLs and wild horse forage allocations would be maintained in all HMAs (see Table 3.19).

Objective 3. Maintain/Adjust AMLs and yearlong forage allocations for each HMA.

Alternatives B, C, D, and E

The current AMLs and wild horse forage allocations would be maintained in all HMAs (See Table 3.19). Permanent increases or decreases in AML and forage allocations would be considered if monitoring data determines changes in long-term forage availability.

Objective 4. Maintain a thriving natural ecological balance within HMAs.

Alternative A

Wild horses would be periodically gathered and removed based on rangeland monitoring studies, climatic conditions, census data, and the occurrence of catastrophic events such as wild fire and drought. Wild horse numbers would be reduced to the low end of the AML range when gathering is conducted.

HMA perimeter fences would be maintained and any wild horses that stray outside HMA boundaries would be removed or returned to the HMA. Gates in interior pasture division fences would be managed to maximize horse access to the HMA.

Table 2.5: Herd Management Area Acres by Alternative

Total BLM Acres					
HMA	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**
Alvord-Tule Springs-Coyote Lake	343,201	556,981	556,981	556,981	556,981
Heath Creek/ Sheepshead	62,427	198,843	198,843	198,843	198,843
Kiger	38,359	26,873	26,873	26,873	26,873
Riddle Mountain	28,346	28,346	28,346	28,346	28,346
South Steens	127,838	102,343	102,343	126,732	182,485
Total	**600,171**	**913,387**	**913,387**	**937,775**	**993,528**

Table 2.6: Herd Area Acres by Alternatives

Total BLM Acres					
Herd Area	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**
Kiger	0	2,769	2,769	2,769	2,769
Pueblo-Lone Mountain	233,084	233,084	233,084	233,084	233,084
South Catlow	42,078	42,078	42,078	42,078	42,078
South Steens	58,947	84,444	84,444	60,055	15,983
Total	**334,109**	**362,375**	**362,375**	**337,986**	**293,914**

Alternatives B, C, D, and E

Wild horse numbers would be managed through gathering, removal, and other approved methods of population control. The initiation of gathering and/or other methods of population control would be based on census data, herd health, rangeland health, and productivity, as determined by rangeland monitoring studies, climatic conditions, and the occurrence of catastrophic events such as wild fire and drought. Wild horse numbers would normally be reduced to the low end of the AML range when gatherings are conducted.

Perimeter fences would be maintained and any wild horses that stray outside HMA boundaries would be removed or returned to the HMA. Gates in interior pasture division fences would be managed to maximize horse access to the HMA.

Objective 5. Maintain/Improve year-round water sources to sustain wild horse herds.

Alternative A

Water sources that are critical to wild horses would be maintained.

Alternatives B and C

Management would maintain water sources that are critical to wild horses; develop additional water sources in areas where greater animal distribution would benefit natural processes and values and where water is lacking during periods of drought; and acquire legal access to private water sources that are critical to wild horses.

Alternative D

Management would maintain water sources that are critical to wild horses; develop additional water sources to improve animal distribution and provide more stable water sources during periods of drought; and seek cooperative management agreements for access to or acquire legal access to private water sources that are critical to wild horses.

Alternative E

Management would maintain water sources that are critical to wild horses and develop additional water sources to improve animal distribution and provide water during periods of drought.

Objective 6. Maintain herd viability, genetic diversity, and the genetic and physical characteristics that distinguish individual herds.

Alternative A

A 50:50 male/female sex ratio and a diverse age structure would be maintained. New animals would occasionally be introduced to small herds to maintain genetic diversity.

An HMA's animals returned to the range after a gather and those introduced from outside HMAs would possess characteristics representative of the herd's conformation, size, unique markings, and color.

Alternatives B, C, D, and E

A diverse age structure and sex ratios ranging from 40 to 50 percent female and 50 to 60 percent male would be maintained. An HMA's animals that are returned to the range after a gather would possess representative characteristics of the herd's conformation, size, color, and unique markings. New animals from outside HMAs would be introduced when needed to increase the diversity of the genome or maintain the herds' characteristics.

2.14.2 Monitoring

Wild horses and their habitat would be monitored to determine the need for and timing of gatherings, which animals to remove, and whether to maintain or adjust AMLs. Habitat monitoring would include collecting climatic data, conducting vegetation utilization studies, recording actual use by horses and livestock, and determining vegetation condition, trend, and areas of use by livestock and horses. Animal monitoring would include periodic horse counts, determination of horse

locations and seasonal movements/use areas, annual reproduction rates, herd age structure, sex ratios, physical traits (size, color, weight, unique markings), and establishment and reassessment of herd baseline genomes.

2.15 Grazing Management

2.15.1 Goal - Manage for a sustained level of livestock grazing while maintaining healthy public land resources.

2.15.1.1 Management Framework

The Taylor Grazing Act of 1934 provides the basic legislative authority for livestock grazing on public lands, with provisions for protection of the lands from degradation and for orderly use and improvement of public rangelands. The Taylor Grazing Act established a system for the allotment of grazing privileges to livestock operators based on grazing capacity and use priority, and for the delineation of allotment boundaries. It also established standards for rangeland improvements and implemented grazing fees. Approximately 142 million acres of land in the western United States were placed under the jurisdiction of the Grazing Service, which became the BLM in 1946. The FLPMA and PRIA mandate the management of public land for multiple use and sustained yield. Specifically, these acts call for rangeland management strategies that provide for the maintenance or restoration of watershed function, nutrient cycling, water quality, and habitat quality for special-status species and communities of native plants and animals. These management strategies have been supported and implemented by the development of national policies and the S&Gs. The five specific applicable Standards are described in Section 3.15.1.

2.15.1.2 Management Direction by Alternative

Objective 1. Provide for a sustained level of livestock grazing in the AMU while meeting resource objectives and requirements for the S&Gs.

Management Common to All Alternatives

Where livestock grazing is found to limit achievement of multiple use objectives, management changes would be required in order to meet habitat and other resource objectives. The intent of grazing management is to leave sufficient herbaceous material to provide adequate soil and watershed protection, to provide forage and cover for wildlife and wild horses, and to meet other resource objectives. Wherever existing grazing management practices on public land are determined to be contributing to nonattainment of resource objectives, appropriate actions would be implemented.

Current grazing levels and management practices (summarized in Appendix I) would be maintained until evaluation of monitoring data or rangeland health assessments identify a specific need for change in order to meet objectives.

Areas burned by wildland or prescribed fire would be rested for a minimum of two growing seasons before being reopened to grazing, and then only when monitoring data support resumption of grazing. Rest for less than two growing seasons may be justified on a case-by-case basis, based upon resource data and plant community requirements.

Alternative A

Livestock grazing use would continue to be authorized in the AMU, consistent with the existing land use plan, the S&Gs (USDI 1997a), and applicable activity plans.

Additional forage, periodically available as the result of favorable growing conditions, would be made available to qualified applicants through temporary nonrenewable (TNR) grazing authorizations as consistent with existing land use plans.

Alternatives B and C

Nonconsumptive uses would be emphasized in the AMU while providing for minimal sustainable livestock grazing that meets allotment management (natural resource) objectives, and the S&Gs (USDI 1997a).

Additional forage production, available during years of favorable growing conditions, would not be made available to livestock. The additional forage would be retained on site for values other than livestock production.

Alternative D

Management actions would provide for sustainable livestock grazing in the AMU that meets allotment management (natural resource) objectives, and the S&Gs (USDI 1997a). Revision of AMPs would be based on evaluations and rangeland health assessments, which would determine allowable AUMs and plant community management.

TNR grazing use may be authorized to make additional forage available to livestock operators in years of favorable growing conditions, consistent with meeting resource objectives. Resource objectives may include reducing competition from undesirable annual species with desirable perennial species or reducing the quantity of standing, dead herbaceous material in nonnative seedings.

Alternative E

Grazing opportunities would be maximized in the AMU, to the extent possible, while meeting the S&Gs (USDI 1997a).

Optimize authorization of TNR grazing use of additional production in years of favorable growing conditions, consistent with meeting resource objectives.

Objective 2. Promote viable and sustainable livestock grazing operations in the CMPA while meeting resource objectives and requirements for the S&Gs.

Management Common to All Alternatives

Where livestock grazing is found to limit achievement of multiple use objectives, management changes are required to meet habitat and other resource objectives. The intent of grazing management is to leave sufficient herbaceous material to provide adequate soil and watershed protection, to provide forage and cover for wildlife and wild horses, and to meet other resource objectives. Wherever existing grazing management practices on public land are determined to be contributing to nonattainment of resource objectives, appropriate actions would be implemented.

Current grazing levels and management practices (summarized in Appendix I) would be maintained until evaluation of monitoring data or rangeland health assessments identifies specific need for change in order to meet objectives.

Areas burned by wildland or prescribed fire would be rested for a minimum of two growing seasons before being reopened to grazing, and then only when monitoring data support resumption of grazing. Rest for less than two growing seasons may be justified on a case-by-case basis based upon resource data and plant community requirements.

Alternative A

Livestock grazing use would continue to be authorized in the CMPA consistent with the existing land use plans, the Steens Act, the S&Gs (USDI 1997a), and applicable activity plans.

Alternatives B and C

Nonconsumptive uses would be emphasized in the CMPA, while providing for sustainable livestock grazing consistent with the Steens Act, and also meeting allotment management (natural resource) objectives, and the S&Gs (USDI 1997a).

Alternative D

Management actions would provide for sustainable livestock grazing in the CMPA that is consistent with the Steens Act and that meets allotment management (natural resource) objectives, and the S&Gs (USDI 1997a). Revision of AMPs would be based on evaluations and rangeland health assessments, which would determine allowable AUMs and plant community management.

Alternative E

Grazing opportunities would be maximized in the CMPA consistent with the Steens Act, and to the extent possible, while meeting the S&Gs (USDI 1997a).

Objective 3. Implement administrative solutions and rangeland projects to provide proper management for livestock grazing while meeting resource objectives and requirements for S&Gs (USDI 1997a).

Alternative A

Interim and long-term grazing management and stocking levels would continue to be adjusted in accordance with results of monitoring studies, allotment evaluations, and rangeland health assessments. Accepted livestock management practices would continue to be implemented (e.g. adjustment of the timing, duration, frequency of grazing, and/or periodic rest or deferment). These practices would continue to be supplemented by administrative actions (e.g. season of use changes, stocking level adjustments, exclusionary pastures and/or rangeland projects) to accomplish natural resource management objectives.

Relinquished permits and vacant allotments would continue to be handled on a case-by-case basis through land use plan amendments. Non-use would continue to be authorized for periods of up to three years.

Alternative B

Within the CMPA, administrative actions (e.g. season of use changes, stocking level adjustments, exclusion of livestock from specific areas) would be emphasized to accomplish natural resource management objectives. Rangeland projects and/or accepted livestock management practices would be implemented when administrative actions alone would not accomplish natural resource objectives. In the AMU, rangeland projects would not be planned or implemented in support of livestock grazing. Rangeland projects that do not function to enhance resource values and/or assist in meeting management objectives would be removed, and project sites would be rehabilitated.

Permitted use would be discontinued in all allotments where permits have been relinquished.

Alternative C

Administrative actions (e.g. season of use changes, stocking level adjustments, exclusion of livestock from specific areas) would be emphasized to accomplish natural resource management objectives. Rangeland projects and/or accepted livestock management practices would be implemented when administrative actions alone would not accomplish natural resource objectives. Rangeland projects that do not function to enhance resource values and/or assist in meeting management objectives would be removed, and project sites would be rehabilitated.

Allotments with relinquished permits would be held in vacant status for two years. During this period, permitted grazing use in allotments having resource conflicts may be transferred to vacant allotments with few or no resource conflicts. Permitted use would be discontinued in vacant allotments that have resource conflicts.

Alternative D

Interim and long-term grazing management and stocking levels would be adjusted in accordance with results of monitoring studies, allotment evaluations, and rangeland health assessments. Accepted livestock management practices (e.g. adjustment of the timing, duration, frequency of grazing, and/or periodic rest or deferment) would be implemented. These would be supplemented by administrative actions (e.g. season of use changes, stocking level adjustments, exclusionary pastures) and/or rangeland projects to accomplish natural resource management objectives.

Allotments with relinquished permits would be held in vacant status for two years. During this period, where few or no resource conflicts exist, the vacant allotment could be used as a reserve forage allotment to help resolve resource conflicts in other allotments, or permitted grazing use could be reallocated to the vacant allotment. In vacant allotments with high resource conflicts, permitted use could be reserved, discontinued, or reallocated.

Alternative E

Rangeland projects and accepted livestock practices would be emphasized as the preferred solution to meet natural resource management objectives. Administrative actions would be applied when structural developments and/or accepted livestock management practices would not accomplish natural resource management objectives.

Allotments with relinquished permits having management that meets all natural resource objectives could be reallocated to other qualified applicants.

2.15.2 Monitoring

Monitoring of livestock grazing includes recording actual use, measurements of forage utilization, climate and trend. This monitoring data is utilized to determine attainment of the five standards. Trend in rangeland condition is monitored to provide data for periodic evaluation to determine effectiveness of current grazing management practices in attaining resource objectives.

2.16 Wildland Fire Management

2.16.1 Goal 1 - Provide an appropriate management response to all wildland fires emphasizing firefighter and public safety.

2.16.1.1 Management Framework

Firefighter and public safety are the highest priority during all wildland fire incidents. Once life safety has been secured, protection of private property and natural and cultural resources becomes the priority in suppression actions.

The Federal Wildland Fire Management Policy and Program Review (USDA/USDI, 1995) states that fire is a critical natural process and that it must be reintroduced into the ecosystem on a landscape scale. In many areas, this should occur at a higher frequency (shorter return interval) than has been the case over the past 50 or more years. Wildland fire evaluations and management decisions are based upon approved fire management and activity level plans that are or would be tiered to current and future RMPs. The Policy emphasizes that for all natural (i.e., lightning caused) ignitions, the manager must be able to choose from the full spectrum of management actions from prompt and full suppression to allowing a wildland fire to burn freely and function in its natural ecological role. Wildland fire management strategies and suppression activities should minimize damage to long-term ecosystem function and emphasize the protection, restoration, or maintenance of key habitat types.

A Fire Management Plan (FMP) would be developed for the Burns District, including the Planning Area. Wildland Urban Interface (WUI) areas would be identified in the FMP. Fire suppression actions within the Planning Area would follow current agency policy. Firefighter and public safety are the first priority in all fire management actions. All naturally ignited wildland fires would be evaluated to determine whether they are appropriate for wildland fire use to achieve resource benefits. Fire suppression actions, including the use of heavy equipment and aerially delivered retardant, would follow current agency policies and procedures.

2.16.1.2 Management Direction by Alternative

Objective 1. Implement appropriate fire suppression actions in the WUI and areas identified as possessing significant values that could be significantly altered by unplanned wildland fire.

Management Common to All Alternatives

All wildfires would be suppressed using appropriate management actions. An FMP would be developed for the Burns District, including the Planning Area.

Alternative A

Under current management, WUI areas have not been identified in the Burns District.

Alternatives B, C, D, and E

WUI areas within the Burns Interagency Fire Zone would be identified.

Objective 2. Implement the appropriate management actions upon discovery of wildland fires in areas outside of the designated WUI or areas that possess significant values that could be impaired by uncontrolled wildfire.

Alternative A

All wildfires would continue to be suppressed using appropriate fire management methods.

Alternative B

All wildfires that threaten human life, private property, or areas that possess significant resource value would be suppressed using appropriate fire management methods. Wildland fires would be evaluated to determine whether they are appropriate for wildland fire use for resource benefits. The appropriate suppression action would be implemented on all wildland fires that are not suitable for wildland fire use.

Alternative C

All wildfires that threaten human life, private property, or areas that possess significant resource value would be suppressed using appropriate fire management methods. Wildland fires would be evaluated to determine whether they are appropriate for wildland fire use for resource benefits. The appropriate suppression action would be implemented on all wildland fires that are not suitable for wildland fire use.

Alternative D

All wildfires that threaten human life, private property, or areas that possess significant resource or economic value would be suppressed using appropriate fire management methods.

Alternative E

All wildfires would be suppressed using appropriate fire management methods.

2.16.2 Goal 2 - Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses.

2.16.2.1 Management Framework

Fire is recognized as an ecological process. However, past management actions have intentionally and unintentionally altered the role of fire in the Planning Area. Changes to the role of fire have resulted in unprecedented fuel loads and in many cases have increased the risk of large, catastrophic wildland fires. Naturally ignited wildland fires may not be sufficient to achieve desired ecosystem conditions; therefore, prescribed fire and mechanical treatments may be used to reduce hazardous fuels and restore ecosystems.

The BLM's Emergency Fire Rehabilitation Handbook (H-1742-1) outlines the process for implementing emergency fire rehabilitation projects following wildland fires. Emergency fire rehabilitation funds may be used for the following purposes:

- to protect life, property, and soil, water, and vegetation resources;
- to prevent unacceptable on-site or off-site damage;
- to facilitate meeting land use plan objectives and complying with applicable laws; and
- to reduce the invasion and establishment of undesirable or invasive plant species.

2.16.2.2 Management Direction by Alternative

Objective 1. Implement management actions across the Planning Area that maintain or return plant communities to the historic fire regime, except where changes to the biophysical environment have progressed to the point that a return to historic conditions is impractical. In areas where the biophysical environment has changed significantly and a return to historic conditions is not possible or ecologically desirable, the appropriate fire regime would be determined based upon current conditions. Management actions would be implemented to establish the appropriate fire regime.

Alternative A

Mechanical treatments and/or prescribed fire would continue to be used to reduce hazardous fuel accumulations and for the restoration of ecosystems across the Planning Area.

Alternative B

WUI and other areas with resource values that are suitable for fuels reduction treatment would be identified. Mechanical treatments and/or prescribed fire would be used to reduce fuel loading in areas where the fire regime has been altered.

Alternative C

WUI and other areas with resource values that are suitable for fuels reduction treatment would be identified. Mechanical treatments and/or prescribed fire would be used to reduce fuel loading in areas where the fire regime has been altered.

Alternative D

WUI and other areas with resource values that are suitable for fuels reduction treatment would be identified. Mechanical treatments and/or prescribed fire would be used to reduce fuel loading in areas where the fire regime has been altered. The BLM would assist local government in developing new markets for by-products from fuels reduction treatments.

Alternative E

WUI and other areas with resource values that are suitable for fuels reduction treatment would be identified. Mechanical treatments and/or prescribed fire would be used to reduce fuel loading in areas where the fire regime has been altered. The BLM would assist local government in developing new markets for by-products from fuels reduction treatments.

Objective 2. Assess burned areas for appropriate biological and physical rehabilitation activities.

Alternative A

All burned areas would continue to be evaluated for rehabilitation actions. A combination of mechanized and nonmechanized equipment would continue to be used to rehabilitate areas altered by fire suppression activities. Burned areas would be evaluated for the necessity of seeding. Species considered for revegetation following wildland fire would include native and introduced varieties adapted to local systems.

Alternative B

All burned areas would be evaluated for rehabilitation actions. A combination of mechanized and nonmechanized equipment would be used to rehabilitate areas altered by fire suppression activities. A mixture of native plant species would be used to rehabilitate burned areas where natural recovery is observed or expected to be limited.

Alternative C

All burned areas would be evaluated for rehabilitation actions. A combination of mechanized and nonmechanized equipment would be used to rehabilitate areas altered by fire suppression activities. A mixture of native plant species would be used to rehabilitate burned areas where natural recovery is observed or expected to be limited.

Alternative D

All burned areas would be evaluated for rehabilitation actions. A combination of mechanized and nonmechanized equipment would be used to rehabilitate areas altered by fire suppression activities. A mixture of native and introduced plant species would be used to enhance economic and natural resource values.

Alternative E

All burned areas would be evaluated for rehabilitation actions. A combination of mechanized and nonmechanized equipment would be used to rehabilitate areas altered by fire suppression activities. A mixture of native and introduced plant species would be used to provide maximum economic production.

2.16.3 Goal 3 - Identify areas that qualify for suitable fuels reduction treatments to protect urban interface areas, resource developments, and other resource values.

2.16.3.1 Management Framework

Although the desirability of increasing fire frequencies in many areas is well established and is described above, current fuel loads are sufficiently high that wildfires or prescribed burns may result in intense fires that are harmful to soil conditions and other habitat values. In such areas, mechanical reduction in fuel quantity or alteration of the fuels' character may be needed to reduce prescribed or wildfire risks.

2.16.3.2 Management Direction by Alternative

Objective 1. Develop a management strategy that specifically identifies the WUIs, resource values, and resource developments that need to be considered for fuels reduction planning throughout the Planning Area.

Alternative A

There is currently no management direction concerning WUI areas or areas within the Burns Interagency Fire Zone possessing significant resource values.

Alternatives B through E

WUIs would be identified in the FMP according to the current WUI definition. Areas within the Burns Interagency Fire Zone that possess significant resource values would be identified.

2.16.4 Monitoring

Monitoring carried out after fires are suppressed would determine whether management strategies and suppression activities met safety standards and resource management objectives.

Monitoring studies are encouraged on all emergency fire rehabilitation projects to determine whether rehabilitation objectives are being met. Monitoring would be carried out on all projects that employ new techniques, seed mixes, or other rehabilitation methods. Emergency fire rehabilitation funds may be used to fund monitoring studies for up to three growing seasons following fire control.

Monitoring of fuel loads, vegetation conditions, and other ecological parameters would be used to determine the appropriate course of action for prescribed fires, fuels reduction treatments, and fire management in case of natural ignitions. Monitoring would also be applied to determine whether the strategy or specific treatment that was implemented is meeting resource objectives.

2.17 Lands and Realty

2.17.1 Goal 1 - Provide lands, interests in land, and authorizations for public and private uses while maintaining and improving resource values and public land administration.

2.17.1.1 Management Framework

Section 102 of the FLPMA requires that public land be retained in federal ownership unless disposal of a particular parcel would serve the national interest. Acquisition and disposal of land are necessary to consolidate ownership patterns to provide for more efficient land management and administration for both public and private landowners. Retention and

acquisition of land containing important resource values would provide for long-term protection and management of those values.

ROWs and other land uses including wind, solar, biomass, and other forms of renewable energy development are recognized as major uses of the public lands and are authorized pursuant to sections 302 and 501 of the FLPMA.

The BLM has new policy guidance on military activities and both renewable and nonrenewable sources of energy. Many of these types of public land uses are typically authorized by ROWs or other realty use authorizations. The policies provide consistent guidance on timely processing of applications for these uses and recognize that military and energy uses are legitimate uses of public lands, are authorized by law, and encouraged in acceptable areas on public lands.

Section 503 of the FLPMA provides for the designation of ROW corridors and encourages utilization of ROWs in common to minimize environmental impacts and the proliferation of separate ROWs. BLM policy, as described in BLM Manual 2801.13B1, is to encourage prospective applicants to locate their proposals within corridors. Designation of avoidance and exclusion areas would provide early notice to potential applicants when they are planning ROW, realty use, and renewable energy projects. Only facilities and uses that are consistent with the specially designated avoidance areas would be permitted. Designation of exclusion zones would provide protection of lands and resources that have values incompatible with ROW, realty, and renewable energy uses.

The primary form of authorization for wind and solar projects would be a ROW or other realty use authorization. Although off-lease infrastructure such as roads, pipelines, and powerlines would be permitted by realty authorizations, the primary authority for geothermal development is the Geothermal Steam Act of 1970. Management actions and the effects of geothermal leasing may be found in the Energy and Minerals sections of this document.

Both hazardous and nonhazardous waste disposal are prohibited on public lands to limit the United States' potential liability associated with the disposal of wastes. Private lands are generally available for private waste disposal. If a bonafide public need for new waste disposal sites arises, land could be made available by sale or exchange. Currently, no authorized waste disposal sites are located on public lands in the Planning Area.

Unauthorized uses of public lands result in financial loss to the United States and damage to the public land and its resources. Section 102(a)(9) of the FLPMA makes it the policy of the United States to collect fair market value for use of the public lands. Unless uses are authorized, no compensation is received. Further, Section 303(g) of the Steens Act states that "Abuse, occupancy, or development of the public lands is contrary to any regulation of the Secretary...is unlawful and prohibited."

Due to the generally intermingled nature of public and private lands in some parts of the resource area, the need to acquire legal public and administrative access is required to continue effective administration and public use of these lands. This need becomes more acute as public use of these lands increases and as landowners become more aware of the value of public and private land for recreation and other purposes. Land tenure adjustment actions (exchanges or fee purchases) can be a valuable tool for access acquisitions. However, without careful review, lands actions, particularly exchanges, can result in lost access. Other tools can also be utilized, such as constructing new roads around lands where access is restricted and acquisition cost is excessive, or where such acquisition is not feasible.

Section 204 of the FLPMA gives the Secretary of the Interior the authority to make, modify, extend, or revoke withdrawals, and mandates review of withdrawals.

Interior Departmental Policy (DM 603) further requires that:

1) All withdrawals shall be kept to a minimum, consistent with the demonstrated needs of the agency requesting the withdrawals.

2) Lands shall be available for other public uses to the fullest extent possible, consistent with the purposes of the withdrawal.

3) A current and continuing review of existing withdrawals shall be instituted.

2.17.1.2 Management Direction by Alternative

Objective 1. Retain, consolidate, and/or acquire land or interest in land with high public resource values for effective administration and improvement of resource management. Make available for disposal public land meeting the disposal criteria contained in Section 203(a) of the FLPMA.

Management Common to All Alternatives

Land tenure would be based on three general zones (see Table 2.7): (1) Zone 1 land is identified for retention in public ownership and includes high resource value lands such as wilderness, WSAs, WSRs and ACECs. Nonpublic lands in Zone 1 would be given a higher priority for acquisition than those in other zones; (2) Zone 2 includes BLM administered lands outside of Zone 1 areas and has been identified generally for retention and consolidation of ownership, but may be considered for limited disposal by exchange or other methods. Nonpublic lands in Zone 2 generally would not receive high priority for acquisition, depending upon the Alternative; and (3) Zone 3 land generally has low or unknown resource values and meets the disposal criteria of section 203 of the FLPMA. It is potentially suitable for disposal by a variety of means (see Appendix J for a complete explanation of land tenure). Nonpublic lands in Zone 3 would receive the lowest or no priority for acquisition. Newly acquired lands would be managed for the highest potential purpose for which they are acquired. Acquired lands within wilderness, WSAs, ACECs, WSRs or those that have unique or fragile resources would be managed the same as the surrounding designation. Lands acquired without special values or management goals would be managed in the same manner as comparable surrounding public lands. All forms of acquisition would be with willing landowners except as provided for in Section 205(a) of the FLPMA. This exception provides for use of eminent domain only to secure access to public lands and only to the minimum corridor necessary to achieve this purpose. With this exception, the BLM does not have condemnation authority in the Planning Area.

Table 2.7: Land Tenure

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Zone 1 Acres	1,533,505	1,649,470	1,202,317	845,282	705,072
Zone 1A Acres	0	0	171,019	171,019	171,019
Zone 1B Acres	0	0	257,136	257,136	257,136
Zone 2 Acres	108,219	0	15,158	364,771	503,947
Zone 2A Acres	0	0	0	1,319	0
Zone 3 Acres	7,744	0	3,837	9,940	12,296

All lands identified for any form of disposal in this land use plan, including leases and conveyances under the Recreation and Public Purposes Act, Desert Land Act, State Indemnity Selections, or other applicable authority are hereby classified for such disposal under Sec. 7 of the Taylor Grazing Act (42 U.S.C. 315f) and 43 CFR 2400.

All past and future public lands sold or exchanged under 43 U.S.C. 869 (Recreation and Public Purposes Act [R&PP]), 43 U.S.C. 1713 (Sales), or 43 U.S.C. 1716 (Exchanges), where minerals are reserved to the United States, shall be opened to operation under the mining laws upon the publication of opening orders in the Federal Register informing the public of such action unless otherwise closed to the land and mineral laws in accordance with the Steens Act or other applicable law.

Alternative A

Land tenure adjustments would be consistent with existing land use planning with emphasis on acquiring land with high public resource values such as lands within ACECs or WSAs, T&E species habitat, or riparian/wetland areas, etc.

Under this alternative, Zone 1 lands include WSAs; ACECs; important wildlife, range, and recreational values; and well blocked areas of public land. Zone 2 lands have generally fragmented ownership patterns or are suspected of having relatively lower resource values. Zone 3 lands are those that have been found to be difficult and uneconomical to manage, are not suitable for management by another federal department or agency, and have relatively low resource values.

Specifically, public lands in Zone 1 as shown on Map 2.4 would be retained. Public lands in Zone 2 may be exchanged for higher resource value lands in Zone 1 or 2. Zone 2 lands would not be sold. Zone 3 lands may be exchanged to acquire higher resource value lands in Zones 1or 2 or may be sold if exchange is unlikely. Lands may be acquired in any zone on a case-by-case basis by exchange, donation, or purchase, consistent with existing land use planning, regulation, and law.

Alternative B

All public lands in the Planning Area would be identified for retention (Zone 1) to protect resources from commodity producing activities that could occur if the lands were conveyed into nonpublic ownership. No lands would be identified for disposal by any means; thus, no Zone 2 or 3 would be designated. Since no disposal is authorized, all acquisition of land would be by donation or purchase with emphasis on acquiring lands with natural values and eliminating commodity production. Land may be acquired by exchange only where the public lands involved in the exchange are located outside the Andrews RA.

Alternative C

Under this alternative, Zone 1 lands are those lands outside the CMPA that contain WSAs, ACECs, HMAs, special status species habitat, significant cultural/historical sites, Class I and Class II VRM areas, important wildlife, range, and recreational values, and well blocked areas of public land. Zone 1A consists solely of lands within the Steens Mountain Wilderness. Zone 1B lands are all lands within the CMPA that are not designated wilderness. Zone 2 lands have generally fragmented ownership patterns and are suspected of having relatively low resource values. Zone 3 lands are those that have been found to be difficult and uneconomical to manage, are not suitable for management by another federal department or agency, and have relatively low resource values.

Public land holdings in Zone 1, 1A and 1B as shown on Map 2.5 are retention/acquisition zones and would be retained and increased, with emphasis on acquiring land with natural or cultural values. Zone 1 and 1A lands may not be disposed of under any circumstances. Zone 1B lands may be disposed of only by exchange that furthers the purpose and objectives of the Steens Act. Disposal of lands by exchange in Zones 2 and 3 may be utilized in some cases to resolve agricultural or occupancy trespass and to acquire lands with natural or cultural values. Only Zone 3 lands may be made available for disposal by state indemnity selection, R&PP Act lease or sale, public sale, or other authorized method.

Nonpublic lands in Zones 1, 1A, and 1B containing important natural or cultural values may be acquired by exchange, purchase, or donation with the goal of ultimately achieving full fee interest in these zones. Nonpublic lands containing important natural or cultural values in Zones 2 and 3 may be acquired only by purchase or donation.

In Zones 1, 1A, and 1B where fee acquisition is not possible, special emphasis would be placed upon entering into conservation management agreements, acquiring conservation easements, and providing incentive payments for nondevelopment /conservation purposes to protect natural or cultural values.

Alternative D

Under this alternative, Zone 1 lands are those lands outside the CMPA that contain WSAs, ACECs, HMAs, important cultural/historical sites, and important wildlife, range, and recreational values. Zone 1A consists solely of lands within the Steens Mountain Wilderness. Zone 1B lands are all lands within the CMPA that are not designated wilderness. Zone 2 lands have generally fragmented ownership patterns or are well-blocked public lands that are suspected of having relatively low resource values. Zone 2A lands are potentially suitable for community expansion and are adjacent to the rural communities of Frenchglen, Fields, and Denio. Zone 3 lands are those that have been found to be difficult and uneconomical to manage, are not suitable for management by another federal department or agency, and have relatively low resource values.

Public land holdings in Zone 1, 1A and 1B as shown on Map 2.6 would be retained and increased, with emphasis on acquiring land with high public resource values. Zone 1A lands may not be disposed of under any circumstances. Zone 1B lands may be disposed of only by exchange that furthers the purpose and objectives of the Steens Act. Zone 1 lands may be disposed of only by exchange for nonpublic lands meeting one of the following criteria: a) The nonpublic lands must be within an ACEC, the CMPA, WSA, or proposed or designated WSR; or b) The nonpublic lands must contain a critical access need as identified in an approved BLM land use plan, riparian or wetland values, habitat for listed T&E species, or cultural/historical resources listed on the National Register of Historic Places.

Public lands in Zone 2 may be disposed of by exchange for nonpublic lands containing important public resource values in Zone 1, 1A or 1B or by R&PP Sale. Lands in Zone 2A may be disposed of for community expansion purposes only by exchange for nonpublic lands in Zone 1A. Such exchange may be considered only after the Zone 2A lands are designated by Harney County as a Rural Community Zone or otherwise approved by the county for community expansion.

Public land in Zone 3 would be made available for disposal by state indemnity selection, private or state exchange, R&PP Act lease or sale, public sale, or other authorized method, as applicable.

Nonpublic lands in Zones 1, 1A, and 1B may be acquired by exchange, purchase, donation, or other authorized method. Only in Zone 1A would there be a goal of ultimately achieving full fee title in the zone. Acquisition of nonpublic lands in Zone 2 would be limited to those lands containing the following resource values or necessarily included in a larger acquisition of Zone 1, 1A, and 1B lands: a) The nonpublic lands must be within an ACEC, the CMPA, WSA, or proposed or designated WSR; or b) The nonpublic lands must contain a critical access need as identified in an approved BLM land use plan, riparian or wetland values, habitat for listed T&E species, or cultural/historical resources listed on the National Register of Historic Places. Lands in Zone 2 may only be acquired by exchange or donation.

Nonpublic lands in Zone 3 may not be acquired unless necessarily included in a larger acquisition of Zone 1, 1A, and 1B lands.

Where fee acquisition is not possible in Zone 1A and 1B, special emphasis would be placed upon entering into conservation management agreements, acquiring conservation easements, and providing incentive payments for nondevelopment/conservation purposes to protect and manage lands with important public values.

Alternative E

Under this alternative, Zone 1 lands are those lands outside the CMPA that contain WSAs, ACECs, and lands that by law or policy must be retained. Zone 1A consists solely of lands within the Steens Mountain Wilderness. Zone 1B lands are all lands within the CMPA that are not designated wilderness. Zone 2 lands have generally fragmented ownership patterns or are well-blocked public lands that are suspected of having relatively low resource values. Zone 3 lands are those that have been found to be difficult and uneconomical to manage, are not suitable for management by another federal department or agency, and have relatively low resource values.

Public land holdings in Zone 1, 1A and 1B as shown on Map 2.7 would be maintained in their approximate current acreage. Zone 1 and 2 lands may be disposed of by exchange that facilitates commodity production or by R&PP sale. Zone 1A lands may not be disposed of under any circumstances. Zone 1B lands may be disposed of only by exchange that furthers the purpose and objectives of the Steens Act and facilitates commodity production.

Public land in Zone 3 would be made available for disposal by state indemnity selection, private or state exchange, R&PP Act lease or sale, public sale, or other authorized method, as applicable.

Acquisition efforts would place emphasis on securing land that contains commodity producing values or that facilitates commodity production. Acquisition of land would only be authorized in Zone 1, 1A and 1B and only by exchange. No lands would be acquired in Zones 2 or 3. There would be no acquisition by purchase or donation in any Zone under this alternative.

Objective 2. Meet public, private and federal agency needs for realty related land use authorizations and land withdrawals including those authorizations necessary for wind, solar, biomass, and other forms of renewable energy development.

Management Common to All Alternatives

Generally, there is no regulatory width that dictates ROW corridors. Variation in designated width may occur within the range of alternatives.

Applications for ROWs, realty, and renewable energy authorizations such as ROWs, leases, and permits would be processed in a timely manner, on a case-by-case basis, in compliance with the NEPA process. In accordance with current

policy, land-use authorizations may not be issued for any use that would involve disposal or long-term storage of materials that could contaminate the land (e.g., landfills, hazardous waste disposal sites, etc.).

Valid existing rights that are not currently noted on the BLM's land status records will be adjudicated, acknowledged, and noted in accordance with applicable law.

Withdrawal review continuations, modifications, and revocations would continue in the future, as the need arises.

Alternative A

Existing corridor designations would continue (see Table 2.8). Nominal corridor width would be 2000 feet wide. New ROW facilities would be located within corridors on a case-by-case basis and designed to minimize impairment to special designated areas. There would be no ROW, realty, and renewable energy exclusion or avoidance areas, except the Stonehouse WSA, which was designated an exclusion zone, and the Kiger HMA, which was designated an avoidance area by the Three Rivers RMP. Special designations, planning decisions, and other factors may constrain or exclude ROWs or other realty land use authorizations in the remainder of the Planning Area. Subject to these constraints, the entire Planning Area would be available on a case-by-case basis to ROWs and other land uses including energy development, communications sites, and military uses. No attempt would be made to consolidate existing parallel utility ROW facilities through crucial wildlife habitat.

Table 2.8: ROW, Realty, and Renewable Energy Use Authorizations

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
ROW Corridor Miles	339	0	246	246	354
Avoidance Area Acres	17,834	0	222,784	699,611	678,389
Exclusion Area Acres	14,812	1,649,470	995,037	171,301	171,301
Total Exclusion/Avoidance Acres	**32,646**	**1,649,470**	**1,217,821**	**870,912**	**849,690**

Withdrawal and land classification actions would also be managed on a case-by-case basis. No attempt would be made to clarify management responsibilities or adjust boundary alignments with the Malheur NWR.

Alternative B

The entire Planning Area would be considered a ROW, realty use, and renewable energy exclusion zone except for those authorizations necessary to provide reasonable access to nonpublic lands and interest in land. Existing corridors would be eliminated and no new corridors would be designated. No authorizations or withdrawals necessary for energy development, communications uses, or for military activities would be considered. Although valid existing rights would be honored, where possible and when opportunities arise, existing authorizations would be terminated and facilities removed from public land, including the existing communications site at Buckskin Mountain. Until such time as facilities can be removed, existing parallel utility ROW facilities through crucial wildlife habitat would be consolidated.

The entire Planning Area would be recommended for withdrawal to protect the lands from mining, energy and mineral development, military activities, and other commodity production. Favorable consideration would be given to the BLM and other agency requests for renewals, continuations, or new withdrawals for protection of resource values. Conversely, both the BLM and other agency withdrawals, which support commodity producing activities, would be relinquished and terminated.

MOUs would be developed with the USFWS or withdrawals and restorations would be considered to clarify management responsibilities along the boundary of the Malheur NWR, with special emphasis on excluding commodity production.

Alternative C

The designated corridors would include all existing trans-district electrical transmission lines identified by the Western Regional Corridor Study, federal and state highways, and the Fields-Denio and Catlow Valley County Roads. Nominal corridor width would be 1,000 feet on each side of centerline of existing facilities, except where the alignment forms the boundary of a special designated area, where the width would be 2,000 feet on the side opposite that boundary.

Where the specified corridor width is constrained on both sides by special designated areas, the corridor width would be the area between the boundaries of the special designated areas. All ROWs for electrical transmission lines greater than 69 kV, all mainline communications facilities, and all pipelines greater than ten inches would be required to locate in the designated corridors.

All ACECs, WSAs, WSRs, the Steens Mountain Wilderness, and the CMPA would be designated as ROW, realty use, and renewable energy exclusion areas, except those authorizations necessary to provide reasonable access to nonpublic lands and interests in land. All lands within 0.6 miles of sage grouse leks, deer and elk winter range, and bighorn sheep habitat would be designated as ROW, realty use, and renewable energy avoidance areas. No new communications sites would be authorized in the Planning Area. The existing communications uses at Buckskin Mountain would continue until they are obsolete, at which time they may be terminated, the facilities removed, and the lands restored. Except as noted above, applications for ROW, realty use, and renewable energy in the remainder of the Planning Area, including those for energy development and military uses, would be processed in a timely manner, on a case-by-case basis, in accordance with the NEPA and other applicable law.

The feasibility of consolidating existing parallel utility ROW facilities through crucial wildlife habitat would be evaluated. Where deemed feasible, consolidation of facilities would be implemented for critical areas.

Approximately 255,137 acres as identified in Table 2.4 would be recommended for withdrawal from the public land and mining laws. In addition, the existing withdrawal at the BLMs Fields Administrative Site would be recommended for renewal and expansion to 40 acres (NENE, Section 23, Township 38 South, Range 34East [NE1/4NE1/4, Sec. 23, T.38S., R.34E.]) to include all existing facilities and adjacent undeveloped lands within the fenced confines of the site. Other federal agency requests for new withdrawals would be recommended for approval only if they would limit commodity production and protect natural values. Withdrawal and classification continuations, modifications, revocations and terminations would be recommended, as necessary. Other agencies would be encouraged to relinquish withdrawals that provide for commodity uses, while favorable consideration would be given to continuations of other agency protective withdrawals. Those withdrawal and classification reviews not scheduled or known would be considered on a case-by-case basis with emphasis on protecting natural values.

MOUs would be developed with the USFWS or withdrawals and restorations would be considered to clarify management responsibilities along the boundary of the Malheur NWR, with special emphasis on providing protection of natural values.

Alternative D

Corridor designations would be the same as Alternative C. All large-scale facilities, as specified in Alternative C, would be encouraged to locate in the designated corridors.

All WSRs and The Steens Mountain Wilderness would be designated as ROW, realty use, and renewable energy exclusion areas, except those authorizations necessary to provide reasonable access to nonpublic lands and interests in land. All WSAs and ACECs would be designated as ROW, realty use, and renewable energy avoidance areas. Buckskin Mountain would be designated as a Communication Site and additional communications uses could be allowed at the site. Upon designation of the site, a site management plan would be developed to facilitate efficient, timely development of compatible communications uses. Communications lease applications for new locations would be considered on a case-by-case basis, and site management plans would be developed concurrent with processing applications. Except as noted above, applications for ROW, realty use, and renewable energy authorizations in the remainder of the Planning Area, including those for energy development and military uses, would be processed in a timely manner, on a case-by-case basis, in accordance with the NEPA and other applicable laws.

The feasibility of consolidating existing parallel utility ROW facilities through crucial wildlife habitat would be evaluated. Where deemed feasible, consolidation of facilities would be implemented for critical areas.

As identified in Table 2.4, 20,367 acres would be recommended for withdrawal from the public land and mining laws. In addition, the existing withdrawal of five acres at the BLMs Fields Administrative Site would be recommended for renewal and expansion to ten acres in the NENE, Sec. 23, T.38S., R.34E. to include all existing facilities. In the interim, a ROW reservation would be approved to protect the additional acreage. Other federal agency requests for new withdrawals or existing withdrawal relinquishments and modifications would be considered on a case-by-case basis. Withdrawal and classification continuations, modifications, revocations, and terminations would be recommended, as

necessary, with special emphasis given to reviewing, revoking and terminating all overlapping and duplicative withdrawals and classifications within the CMPA and Steens Act mineral withdrawal area. Those withdrawal and classification reviews not scheduled or known would be considered on a case-by-case basis.

MOUs would be developed with the USFWS, or withdrawals and restorations would be considered to clarify management responsibilities along the boundary of the Malheur NWR.

Alternative E

The designated corridors would include all corridors identified by the Western Regional Corridor Study, all county roads, and all federal and state highways. Additional routes would be considered where proposals arise. Nominal corridor width would be 2,500 feet on each side of centerline of existing facilities, except where the alignment forms the boundary of a special designated area, where the width would be 5,000 feet on the side opposite that boundary. Site management plans would be developed at Buckskin Mountain and any new communications sites only when a need or conflict between users arise. Otherwise, corridor management, exclusion and avoidance designations, and general ROW, realty use, and renewable energy administration would be the same as Alternative D.

The feasibility of consolidating existing parallel utility ROW facilities through crucial wildlife habitat would be evaluated, but no action would be taken to consolidate the facilities.

Leases, permits and other authorizations would be considered and encouraged for agricultural, occupancy, filming, and other commodity producing land uses.

No new protective withdrawals would be considered for public land. Although the existing five acre withdrawal at the BLM's Fields Administrative Site in the NENE, Sec. 23, T.38S., R.34E. would be recommended for renewal, no expansion of the withdrawal would be recommended. To provide a minimal level of protection for facilities outside the existing withdrawal, a ROW reservation would be approved. New withdrawal requests by other federal agencies would be recommended for approval only if they emphasize commodity production. Agencies would be encouraged to relinquish protective withdrawals, with favorable consideration given to continuations of other agency withdrawals that facilitate commodity uses. Withdrawal and classification continuations, modifications, revocations, and terminations would be recommended, as necessary, with special emphasis given to reviewing, revoking, and terminating all protective withdrawals and classifications. Those withdrawal and classification reviews not scheduled or known would be considered on a case-by-case basis with consideration given to reviewing, revoking, and terminating all protective withdrawals and classifications to facilitate commodity production.

MOUs would be developed with the USFWS or withdrawals and restorations would be considered to clarify management responsibilities along the boundary of the Malheur NWR, with emphasis on facilitating commodity production.

Objective 3. Acquire legal public or administrative access to public land.

Alternative A

Legal public or administrative access, including conservation and scenic easements, would be acquired on a case-by-case basis as the need arises. Emphasis would be placed on providing access for BLM administrative facilities and program-related activities. All land tenure actions would be reviewed for their effect on access.

Construction of new roads around private lands may be considered where easement acquisition is not feasible or desirable, subject to the limitations expressed in the Steens Act.

Alternative B

Legal public or administrative access, including conservation and scenic easements, would be acquired with emphasis on controlling public access for protection of sensitive resource values. Land tenure actions would be designed such that they do not facilitate public access to these areas.

Construction of new roads around private lands would not be considered as an alternative for access easement acquisition. Roads that provide public access to lands containing sensitive resource values would be closed.

Alternative C

Access and easement acquisition management would be the same as Alternative B, except that closed roads would be actively reclaimed.

Alternative D

Legal public or administrative access, including conservation and scenic easements, would be acquired where public demand or an administrative need exists, including any rights necessary to control and minimize access to areas containing sensitive resource values. Emphasis would be placed on providing access to areas containing high public values and the protection of natural values. Land tenure transactions would be designed to maintain and improve public access.

Where easement acquisition for access is not feasible or desirable, but a critical access need has been identified, new roads would be constructed around nonpublic lands, subject to the limitations expressed in the Steens Act.

Alternative E

Legal public or administrative access would be acquired, with emphasis on providing access to facilitate commodity production. No conservation or scenic easements would be considered.

New roads would be constructed around private lands where easement acquisition is not feasible or desirable, subject to the limitations expressed in the Steens Act. Land tenure transactions would be designed to maintain and improve public access.

Objective 4. Eliminate unauthorized use of public lands.

Management Common to All Alternatives

Realty-related unauthorized uses on public land would be detected, confirmed, and abated on all lands.

Alternative A

Unauthorized use of public land would be detected, confirmed and abated, either by formal authorization or termination, on a case-by-case basis. Active restoration of lands damaged by unauthorized use would be implemented. Agricultural or occupancy trespass would be terminated or may be authorized, consistent with the land tenure zones, by long-term lease, sale, or exchange.

Alternative B

All unauthorized use of public lands, including agricultural and occupancy uses, would be detected, confirmed and terminated. All facilities and structures would be removed and natural restoration of lands damaged by unauthorized use would be allowed. No authorizations would be considered to allow the use to continue.

Alternative C

All unauthorized use of public lands would be detected, confirmed and terminated except occupancy and agricultural uses that may be authorized by land exchange for nonpublic lands containing important natural values, consistent with the land tenure zones. Short-term permits may be utilized to authorize occupancy or agricultural trespass until an exchange can be affected. Active restoration of lands damaged by unauthorized use would be implemented.

Alternative D

Unauthorized use of public land would be dealt with on a case-by-case basis. All such use would be terminated or authorized. Agricultural or occupancy trespass may be authorized by long-term lease, sale or exchange, consistent with the land tenure zones where the lease, sale, or exchange would serve other important public objectives in addition to resolving the trespass. Regardless of the zone, long-term, inadvertent agricultural or occupancy trespass may be

authorized or survey hiatus corrected by sale of the minimum feasible acreage necessary to abate the unauthorized use provided the disposal criteria of the FLPMA, other applicable laws, and the approved land use plan are met. Short-term permits may be utilized to authorize occupancy or agricultural trespass until a lease, sale, or exchange could be affected. Active restoration of lands damaged by unauthorized use would be implemented.

Alternative E

All unauthorized use of public lands would be detected, confirmed and authorized. All agricultural or occupancy trespass would be authorized by long-term lease, sale, or exchange, regardless of the land tenure zone.

2.17.2 Monitoring

Monitoring of land tenure or land use proposals would occur as proposals are evaluated through the NEPA process. Individual projects would be monitored to ensure compliance with the terms and conditions of the authorizing document and through the normal BLM accomplishment and RMP implementation tracking process. Development in sensitive areas, or activities with a high potential for greater than usual impacts, would be inspected more frequently than those in less sensitive areas or those having less impact potential. Newly acquired lands would be incorporated into existing resource monitoring procedures ongoing on adjacent or comparable lands.

2.18 Transportation and Roads

2.18.1 Goal 1- Provide travel routes to and through BLM managed lands as appropriate to meet resource objectives while providing for private and public access needs.

2.18.1.1 Management Framework

Numerous federal laws and internal regulations give the BLM the authority and/or guidance to develop and manage a transportation system. Section 112 of the Steens Act calls for the development of a comprehensive Transportation Plan for the CMPA (Transportation Plan). This section of the RMP is intended to meet this legislative requirement. The remainder of the Planning Area would continue under present transportation direction and if needed, an additional transportation plan will be developed in the future. Other laws, executive orders and policy statements that give the BLM authority and/or guidance can be found in Appendix D.

The following Route Management Categories and Maintenance Levels for the CMPA are common to all alternatives:

Route Management Categories

Common Use Routes: Routes that are open to the public but may be closed, or have seasonal use restrictions, during certain sensitive periods to protect resource values such as road conditions. These include routes on BLM managed lands and private lands where public access easements have been acquired.

Cooperative Managed Routes: Routes across private, state, BLM administered, or other agency lands that are cooperatively administered and maintained. Routes may have specified levels of public use, season of use, and type of use. Administration and maintenance may be facilitated through a cooperative agreement.

Service/Permit Use Routes: Routes used only for administration, facility service, property maintenance, or those associated with an authorized permit. Motorized public use is not allowed.

Private Property Access Routes: Routes across public land used to access private property. Motorized use allowed only for private property interests and BLM administration.

Private Routes: Routes across private lands that are not open for use by the public.

Note: access descriptions within the above Route Management Categories may be subordinate to other rights, agreements, or privileges as provided by law, policy, or other legal instrument.

Maintenance Levels

Level 1: This level is assigned to roads where maintenance is limited to protecting adjacent lands and resource values. These roads are no longer needed and are closed to traffic. The objective is to remove these roads from the transportation system. At a minimum, drainage and runoff patterns will be maintained as needed to protect adjacent lands. Grading, brushing, or slide removal will not be performed unless roadbed drainage is being adversely affected or is causing erosion. Closure and traffic restrictive devises will be maintained.

Level 2: This level is assigned to roads open seasonally or year round and uses may include commercial, recreation, private property access, and administration purposes. Typically, these roads are passable by high clearance vehicles and are maintained, as needed, depending on funding levels. Seasonal closures or other restrictions may be needed to meet resource objectives or due to snow levels or other weather conditions. At a minimum, drainage structures will be inspected within a three year period and maintained as needed. Grading will be conducted as necessary to correct drainage problems. Brushing will be conducted as needed and slides may be left in place provided they do not adversely affect drainage.

Level 3: This level is assigned to roads open seasonally or year round and uses may include commercial, recreation, private property access and administrative purposes. Typically, these roads are natural or aggregate surfaced, but may include bituminous surface roads. These roads have a defined cross section with drainage structures such as rolling dips, culverts or ditches; They may normally be negotiated by passenger cars driving cautiously. User comfort and convenience are not considered a high priority. At a minimum, drainage structures will be inspected annually and maintained as needed. Grading will be conducted to provide a reasonable level of riding comfort at prudent speeds for the road conditions. Brushing will be conducted as needed to improve site distance. Slides adversely affecting drainage will receive high priority for removal and other slides will be removed on a scheduled basis.

Level 4: This level is assigned to roads open seasonally or yearlong. Uses include commercial, recreation, private property access, and administrative purposes. Typically, these roads are single or double lane and have an aggregate or bituminous surface. This maintenance level provides access for passenger cars traveling at prudent speeds. At a minimum, the entire roadway will be maintained at least annually, although a preventive maintenance program may be established. Major problems will be repaired as discovered.

Level 5: This level is assigned to roads open seasonally or yearlong that carry the highest traffic volume of the transportation system. Uses include commercial, recreation, private property access, and administrative purposes. Typically, these roads are single or double lane and have an aggregate or bituminous surface. This maintenance level provides access for passenger cars traveling at prudent speeds. The entire roadway will be maintained at least annually and a preventive maintenance program will be established. Problems will be repaired as discovered.

2.18.1.2 Management Direction by Alternative

Objective 1. Manage roads and ways within the CMPA consistent with the Route Management Categories and Maintenance Levels identified for each alternative.

Management Common to All Alternatives

The roads and ways currently shown on Map 2.8 represent the current BLM route coverage within the CMPA. Management actions within this Transportation Plan pertain only to the currently mapped routes. Other routes are known to exist; however, the exact location and uses of most of these routes are not currently known. Once these unmapped routes are inventoried, an EA would be conducted to determine if they would be added to the transportation system, converted to hiking trails, or closed and rehabilitated. Currently mapped routes may also be reevaluated through an EA process and closed or upgraded if needed to meet resource objectives. Public input to the EA(s) would be sought.

The Steens Act closed about 104 miles of motorized routes upon designation of the Steens Mountain Wilderness. These routes would remain closed across all RMP alternatives.

Route Management Categories describe the primary purpose for each route. Maintenance levels outline the degree of maintenance to be performed, dependent on funding levels. Route maintenance is generally prioritized, based on safety

concerns and degree of use. Route Management Categories and Maintenance Levels are monitored and may be modified if needs and conditions change.

Ways within WSAs are not maintained other than by the passage of vehicles, with certain exceptions. Exceptions are limited to the minimum mechanical maintenance necessary to provide access as follows: 1) for emergencies such as suppression activities associated with wildfire or search and rescue; 2) to grandfathered grazing uses and facilities as defined by the WSA IMP; 3) to sites where reclamation or stabilization is needed to protect or enhance the land's wilderness values; and 4) to private inholdings. In these exceptions, maintenance would occur using the "minimum tool concept" described in the WSA IMP. An EA is required to analyze maintenance alternatives except in the case of emergencies.

BMPs for the construction, maintenance, and general management of the transportation system are listed in Appendix F. These BMPs are consistent across all alternatives.

Easements across nonfederal lands, both public and administrative, will be sought as needed to meet resource objectives.

Alternative A

Retain the current road use maintenance levels and seasonal restrictions for the existing road system (Map 2.8) within the CMPA, subject to implementation of the Steens Act.

Existing management directions currently identified for the CMPA include the following:

- Keep the entire Steens Loop Road open at a Maintenance Level 5. This includes the use of bentonite clay as needed.
- Use the existing gate system to close the Steens Loop Road to public motorized use from approximately November 15 to May 15 each year except to access the snowline on the North Steens Loop Road for winter recreation by permit.
- Decommission prelegislative closed routes leading from the Steens Loop Road as needed.
- Continue to seek voluntary public access easements across private lands to benefit recreation opportunities.

Alternative B

Under this alternative, the transportation system would be managed to meet resource goals and objectives consistent with maximizing natural processes. Route closures outside of wilderness or WSAs would also prohibit mechanized use.

Management directions under Alternative B include the following:

- Close the upper portion of the Steens Loop Road from the Kiger Overlook access road to the wilderness boundary approximately one mile west of Blitzen Crossing. Approximately 18 miles of the Steens Loop Road would be closed to motorized and mechanized use. Maintain the open portion of the Steens Loop Road at a Level 3.
- In addition to the Steens Loop Road, close all roads currently bounded on both sides by wilderness. Closed roads include Fish Creek, Cold Springs, Indian Creek, Bone Creek, Big Alvord Creek and Three Springs. Approximately 31 miles of roads would be closed to motorized and mechanized use.
- Close all cherrystem roads and ways associated with WSAs. Approximately 107 miles of WSA routes would be closed to motorized and mechanized use.
- Assign a Maintenance Level 2 to all remaining open roads within the CMPA. Consider seasonal closures as needed to reduce damage to road surfaces, protect resources, or provide for public safety.
- Use the existing gate system to close the Steens Loop Road to public motorized use from approximately November 15 to May 15 each year. Open gates as snow and road conditions allow. Seasonally close all other routes within the CMPA from February 1 to May 15.
- Install a gate on the Moon Hill Road near the Diamond Grain Camp Road to protect road surfaces and enhance natural values.
- Develop Cooperative Road Management Agreements or acquire voluntary easements from private landowners and other entities that enhance natural values.

Alternative C

Under this alternative, the transportation system would be managed to meet resource goals and objectives consistent with emphasizing the protection of natural values. Route closures outside of wilderness or WSAs would be for motorized vehicles only; therefore, mechanized use (e.g., mountain bikes) would be allowed.

Management directions under Alternative C include the following:

- Close the Rooster Comb portion of the Steens Loop Road to motorized use. Approximately three miles of the road would be affected. Continue to allow mechanized and other nonmotorized forms of access. Maintain the open portion of the Steens Loop Road at a Level 4.
- Close the Cold Springs Road west of Nye Cabin.
- Close the Fish Creek Road where it is currently bounded on both sides by wilderness.
- Close specific routes as shown on Map 2.11. Approximately seven miles of routes would be closed. Assign a Maintenance Level 2 to all remaining open roads within the CMPA. Consider seasonal closures as needed to reduce damage to road surfaces, protect resources, or provide for public safety.
- Use the existing gate system to close the Steens Loop Road to public motorized use from approximately November 15 to May 15 each year except to access the snowline on the North Steens Loop Road for nonmotorized forms of winter recreation by permit.
- Install a gate to seasonally close the Moon Hill Road from February 1 to May 15 each year to protect road surfaces and enhance natural values.
- Develop Cooperative Road Management Agreements or acquire voluntary easements from private landowners and other entities that enhance natural values.
- Close the Indian Creek Road north of Indian Creek along the WSA/wilderness boundary.

Alternative D

Under this alternative, the transportation management system would be managed to meet resource goals and objectives that strike a balance between cultural, economic, ecological, and social values in a manner that encourages cooperative management practices.

Management directions under Alternative D include the following:

- Keep the entire Steens Loop Road open to motorized use at a Maintenance Level 5 except the Rooster Comb section, which would be upgraded to a Maintenance Level 3.
- Retain Maintenance Level 3 as currently prescribed for the Moon Hill road system.
- Use the existing gate system to close the Steens Loop Road to public motorized use from approximately November 15 to May 15 each year except to access the snowline on the North Steens Loop Road for motorized and nonmotorized forms of winter recreation.
- Close specific routes as shown on Map 2.12. Approximately seven miles of routes would be closed.
- Assign a Maintenance Level 2 to all remaining open roads within the CMPA unless otherwise prescribed under a Cooperative Management Agreement. Consider seasonal closures and road upgrades as needed to reduce damage to road surfaces, protect resources, or provide for public safety.
- Install a gate to seasonally close the Moon Hill Road from February 1 to May 15 each year to protect road surfaces and enhance natural values.
- Develop Cooperative Road Management Agreements or acquire voluntary easements with private landowners and other entities that provide recreation opportunities, enhance natural values, or otherwise improve access for private and/or public purposes.
- Allow motorized access to dispersed campsites along routes shown on Map 2.8.
- Allow the parking of motorized vehicles within 100 feet of many of the open routes shown on Map 2.8 unless precluded by special designation or other resource concerns. Vehicles would be allowed to travel perpendicular to the identified roads in order to park. Parking along the Steens Loop Road from Jackman Park Campground to the Rooster Comb Gate would be restricted to the existing disturbance of the Steens Loop Road.

Alternative E

Under this alternative, the transportation management system would be managed to meet resource goals and objectives that emphasize commodity production and public uses.

Management directions under Alternative E include:

- Keep the entire Steens Loop Road open to motorized use at a Maintenance Level 5 except the Rooster Comb section, which would be upgraded to a Maintenance Level 3.
- Expand seasonal access on the Steens Loop Road by allowing winter-long motorized public access to the snowline on the North Steens Loop Road and by allowing winter-long motorized access to the South Steens Campground on the South Steens Loop Road. Expanded access on the South Steens Loop Road would be dependent on upgrading the road as necessary to prevent road damage during wet periods. Plowing of snow would be limited so access would also be dependent on snow and road conditions.
- Retain Maintenance Level 3 as currently prescribed for the Moon Hill Road system.
- All motorized routes within the CMPA would remain open. Consider seasonal closures and road upgrades as need to reduce damage to road surfaces.
- Assign a Maintenance Level 2 to all remaining open roads within the CMPA unless otherwise prescribed under a Cooperative Management Agreement.
- Develop Cooperative Road Management Agreements or acquire voluntary easements with private landowners and other entities that provide recreation opportunities, or otherwise improve access and commodity potential for private and/or public purposes.
- Allow motorized access to dispersed campsites along routes shown on Map 2.8.
- Allow the parking of motorized vehicles within 100 feet of the open routes shown on Map 2.8. Vehicles would be allowed to travel perpendicular to the identified roads in order to park vehicles. Off road use remains prohibited within the wilderness and WSAs.

2.18.2 Monitoring

Roads are typically monitored in conjunction with other federal, state and local programs. They are monitored on approximately an annual basis to determine maintenance needs. This information is factored into the budget request for the upcoming fiscal year. The amount of road maintenance done each year is based on the budget and the criteria outlined in the Transportation Management Plan.

2.19 Off-Highway Vehicles

2.19.1 Goal - Manage motorized (OHV) and mechanized (nonmotorized) vehicle use to protect resource values, promote public safety, provide OHV and mechanized vehicle use opportunities where appropriate and allowable, and minimize conflicts among various users.

2.19.1.1 Management Framework

Federal regulations (43 CFR Part 8340) and BLM planning guidance require the BLM to designate all BLM-administered land as either open, limited, or closed, in regard to off-road (now termed "off-highway") vehicle use. These designations are to help meet public demand for OHV and mechanized vehicle activities, protect natural resources, promote public safety, and minimize conflicts among users.

2.19.1.2 Management Direction by Alternative

Objective 1. Manage OHV and mechanized vehicle use in conformance with OHV designations.

2.19.1.3 Management Common to All Alternatives

The Steens Mountain Wilderness would be designated as closed to OHV and mechanized vehicle use. If not otherwise restricted, the remainder of the CMPA, outside the Steens Mountain Wilderness and including the WSAs, would be designated as limited to designated roads, ways, and trails. Only those roads identified in the CMPA Transportation Plan would be available for OHV and mechanized vehicle use.

All management actions for those portions of ACECs within WSAs would be governed by the WSA IMP until such time as Congress makes a determination regarding wilderness designation. The OHV designations for WSAs would remain in effect until Congressional release of the WSAs, or until such time that actual or unforeseeable use levels may cause the nonimpairment criteria to be violated, in which case more restrictive designations may be made. Every effort will be made to maintain or create OHV designations that will prevent impairment of wilderness characteristics. Areas

released from WSA status and not designated as wilderness would be managed according to the designations of the surrounding or adjacent area, unless local conditions indicate a different designation would be appropriate.

The limitations to OHV and mechanized vehicle use proposed under these alternatives do not apply to official use; any fire, military, emergency, or law enforcement vehicle when used for emergency purposes; any combat or combat support vehicle when used for national defense purposes; and any vehicle whose use is expressly authorized under a permit, lease, license, or contract.

Within the CMPA, all alternatives must abide by the Steens Act, specifically Section 112(b):

> (1) PROHIBITION. – The use of motorized or mechanized vehicles on Federal lands included in the Cooperative Management and Protection Area –
>
> > (A) is prohibited off road; and
> >
> > (B) is limited to such roads and trails as may be designated for their use as part of the management plan.
>
> (2) EXCEPTIONS. – Paragraph (1) does not prohibit the use of motorized or mechanized vehicles on Federal lands included in the Cooperative Management and Protection Area if the Secretary determines that such use-
>
> > (A) is needed for administrative purposes or to respond to an emergency; or
> >
> > (B) is appropriate for the construction or maintenance of agricultural facilities, fish and wildlife management, or ecological restoration projects, except in areas designated as wilderness or managed under the provisions of section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782).

An OHV is any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding the following: 1) any nonamphibious registered motorboat; 2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly permitted by the authorized officer, or otherwise officially approved; 4) vehicles in official use; and 5) any combat or combat support vehicle when used in times of national defense emergencies.

Mechanized vehicle means any vehicle, device, or contrivance for moving people or material in or over land, water, snow or air that has moving parts. This includes, but is not limited to, sailboats, sailboards, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. It does not include wheelchairs, horses or other pack stock, skis, snowshoes, nonmotorized river craft, sleds, travois, or similar devices without moving parts.

Alternative A

Planning Area
OHV and mechanized vehicle use would be managed in accordance with the existing open, limited, and closed OHV designations in Table 2.9. OHV and mechanized vehicle organized events would be allowed when consistent with the protection of resource values and OHV designations. In addition, existing OHV designations for ACECs/RNAs would continue (Table 2.11). All OHV and mechanized vehicle use in WSAs is limited to existing, designated ways and trails. All WSA cherrystem roads and ways would be available for use.

CMPA
The Fish Creek Road, Cold Springs Road, Newton Cabin Road, Bone Creek Road, Indian Creek Road, the road north from Indian Creek Road, and Big Alvord Creek Road would remain open. The seasonal closure in the Steens would continue. See Map 2.9.

AMU
The Alvord Desert playa would remain open to OHV and mechanized vehicle use. Snow would be allowed to block access to the Trout Creek Mountains and Arizona Creek/Stergen Meadows areas.

Alternative B

Planning Area
Areas designated as closed to OHV and mechanized vehicle use would be maximized. All other areas would be designated as limited to designated roads and trails with a minimum number of roads and trails identified (Table 2.9 and Map 2.10). All WSAs, including cherrystem roads and ways, would be designated as closed to OHV and mechanized vehicle use. Organized OHV or mechanized vehicle events would not be allowed. Table 2.11 specifies the OHV designations for the ACECs/RNAs.

CMPA
The following roads bounded by the Steens Mountain Wilderness would be designated as closed to all motorized and mechanized vehicle use: Fish Creek, Cold Springs, Steens Loop Road from the Kiger Overlook Road to west of Blitzen Crossing, Newton Cabin, Bone Creek, Indian Creek, the road north from Indian Creek Road, and Big Alvord Creek. The entire CMPA would be closed seasonally. A gate would be installed on the Moon Hill Road at the Diamond Grain Camp Road.

Table 2.9: OHV Designation Acreages by Alternative in the Planning Area (Public Land Acres Only)

Designation	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)	Alternative D (acres)	Alternative E (acres)
Open	675,918	0	0	25,286	681,874
Limited to Existing	123,460	0	0	656,590	510,504
Limited to Designated	680,016	796,626	1,476,034	794,496	283,994
Closed	170,076	852,844	173,436	173,098	173,098
TOTAL	**1,649,470**	**1,649,470**	**1,649,470**	**1,649,470**	**1,649,470**
Seasonal Closure	93,444	161,154	266,975	236,447	119,591

AMU
The Catlow Valley parcels and the Alvord Desert playa would be designated as closed to all OHV and mechanized vehicle use, while the remainder of the AMU would be designated as limited to designated routes. In addition, the Trout Creek Mountains and Arizona Creek/Stergen Meadows areas would be closed seasonally to OHV and mechanized vehicle use. Two gates would be installed on the Trout Creek Mountains Road. Gates would also be installed on the Ten Cent Meadows and Starr Ridge Roads.

Alternative C

Planning Area
OHV and mechanized vehicle use would be minimized in accordance with the limited and closed OHV designations (Table 2.9 and Map 2.11). Emphasis would be on the protection of natural values. Organized OHV or mechanized vehicle events would be allowed only on designated roads and trails within areas designated as limited. Table 2.11 specifies the OHV designations for the ACECs/RNAs. All WSA cherrystem roads and ways would be available for use. Four parcels found to contain wilderness values would be designated as limited to designated roads and trails for OHV and mechanized vehicle use.

CMPA
The following roads bounded by the Steens Mountain Wilderness would be designated as closed to all motorized use: the Rooster Comb section of the Steens Loop Road, Fish Creek, Cold Springs from west of Nye Cabin to Riddle Bothers Ranch, and the road north from the Indian Creek Road toward Dry Creek. The core of the CMPA would be closed seasonally with an additional gate installed on Moon Hill Road at the Diamond Grain Camp Road. The existing seasonal closure would be expanded to include all public lands affected by gate closures.

AMU
The Catlow Valley parcels and the Alvord Desert playa would be designated as closed to all OHV and mechanized vehicle use. The remainder of the AMU, including the WSAs, would be designated as limited to designated roads, ways,

and trails for all OHV and mechanized vehicle use. In addition, the Trout Creek Mountains and Arizona Creek/Stergen Meadows areas would be closed seasonally to OHV and mechanized vehicle use. Two gates would be installed on the Trout Creek Mountains Road; gates would also be installed on the Ten Cent Meadows and Starr Ridge Roads.

Alternative D

Planning Area
OHV and mechanized vehicle use would be cooperatively managed in accordance with OHV designations in Table 2.9 and Map 2.12. The BLM would seek cooperative agreements with OHV and mechanized vehicle clubs and other users. OHV and mechanized vehicle organized events would be allowed, when consistent with the protection of resource values and OHV designations. The OHV designations for ACECs/RNAs would be as specified in Table 2.11. All WSA cherrystem roads and ways would be available for use.

CMPA
The Fish Creek Road, Cold Springs Road, Newton Cabin Road, Bone Creek Road, Indian Creek Road, the road north from the Indian Creek Road, and Big Alvord Creek Road would remain open. The Bone Creek road from the Carlson Creek intersection to the top of Whiskey Hill would be closed to public use. The core of the CMPA would be closed seasonally with an additional gate installed on Moon Hill Road approximately ten miles south of the Diamond Grain Camp Road. The existing seasonal closure would be expanded to include all public lands affected by gate closures.

AMU
All WSAs would be designated as limited to designated ways and trails for OHV and mechanized vehicle use. The Catlow Valley parcels would be designated as closed to all OHV and mechanized vehicle use. The Alvord Desert playa would be designated as open to all OHV and mechanized vehicle use. The remainder of the AMU would be designated as limited to existing routes for all OHV and mechanized vehicle use. In addition, the Trout Creek Mountains and Arizona Creek/Stergen Meadows areas would be closed seasonally. Two gates would be installed on the Trout Creek Mountains Road; gates would also be installed on the Ten Cent Meadows and Starr Ridge Roads.

Alternative E

Planning Area
OHV and mechanized vehicle opportunities would be maximized, except in areas designated closed or limited, in compliance with existing laws, regulations, and policies (Table 2.9 and Map 2.13). Opportunities for organized OHV and mechanized vehicle events would be increased. OHV designations for the ACECs/RNAs would be as specified in Table 2.11. All WSA cherrystem roads and ways would be available for use.

CMPA
The Fish Creek Road, Cold Springs Road, Newton Cabin Road, Bone Creek Road, Indian Creek Road, the road north from the Indian Creek Road, and Big Alvord Creek Road would remain open. The upper Steens Mountain area would be closed seasonally. Motor vehicles would be allowed to the 5,600-foot elevation level on the North Steens Loop Road and to South Steens Campground on the South Steens Loop Road without winter recreation permits, when road conditions are suitable. A gate would be installed on the North Steens Loop Road at about the 5,600-foot elevation level.

AMU
All WSAs would be designated as limited to existing ways and trails for OHV and mechanized vehicle use. The Catlow Valley parcels would be designated as closed to all OHV and mechanized vehicle use. The Alvord Desert playa and the remainder of the AMU would be designated as open to all OHV and mechanized vehicle use. Snow would be allowed to block access to the Trout Creek Mountains and Arizona Creek/Stergen Meadows areas.

2.19.2 Monitoring

Monitoring would include periodic patrols to check boundaries, signing, and visitor use. Closures and designations would be monitored to promote public safety and to protect affected roads or areas.

2.20 Recreation

2.20.1 Goal - Provide developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.

2.20.1.1 Management Framework

The FLPMA provides for recreation use of public land as an integral part of multiple use management. Dispersed, unstructured activities typify the recreational uses occurring throughout the majority of the Planning Area. Policy guidelines in BLM Manual 8300 direct the BLM to designate special units known as Special Recreation Management Areas (SRMAs). Management within these SRMAs focuses on providing recreation opportunities that would not otherwise be available to the public, reducing conflicts among users, minimizing damage to resources, and reducing visitor health and safety problems. Major investments in recreation facilities and visitor assistance are appropriate in SRMAs when required to meet management objectives.

Public lands in a Resource Area not designated as SRMAs become an Extensive Recreation Management Areas (ERMA). Management direction within an ERMA focuses on actions to facilitate recreation opportunities by providing basic information and access. Visitors to an ERMA are expected to rely heavily on their own equipment, knowledge, and skills while participating in recreation activities.

In accordance with the FLPMA, the "BLM's Recreation 2000 Plan and Update" sets recreation policy on the national level. The policy emphasizes resource-dependent recreation opportunities that typify the vast western landscape; striving to meet the social and economic needs of present and future generations; providing for the health and safety of the visitor; and accomplishing these goals within the constraints of achieving and maintaining healthy ecosystems.

2.20.1.2 Management Direction by Alternative

Objective 1. Establish and manage recreation areas where the presence of high quality natural resources and the current or potential demand warrants intensive management practices to protect areas for their scientific, educational, and/or recreational values while accommodating anticipated increases in use for recreation activities in specific areas.

Management Common to All Alternatives

Throughout the Planning Area, occupancy and use for recreational camping is limited to 14 days in one location. All lands not designated as SRMA(s) would become an ERMA.

Alternative A

The CMPA would be managed as an undesignated SRMA (see Map 2.17). The Steens Mountain Recreation Lands designation would be maintained.

Alternative B

Recreation management would be kept to a minimal level. SRMAs would not be designated and all public land would become an ERMA. Congressionally and administratively designated areas (CMPA, WSRs, Steens Mountain Wilderness, WSAs, ACECs, etc.) would be subject to a minimum level of management. The Steens Mountain Recreation Lands designation would be removed.

Alternative C

The CMPA would be designated as SRMA (see Map 2.15). The 94,897 acres in the Pueblo Mountains and 92,927 acres in the Trout Creek Mountains would be designated as SRMAs. The Trout Creek Mountains and Pueblo Mountain SRMAs would be managed with an emphasis on undeveloped, dispersed recreation opportunities and protection of natural values, while providing an associated level of support facilities. The Steens Mountain Recreation Lands designation would be removed.

Alternative D

The CMPA, 94,897 acres in the Pueblo Mountains, and 92,927 acres in the Trout Creek Mountains would be designated as SRMAs (see Map 2.16. The Pueblo Mountains and the Trout Creek Mountains SRMAs would be managed to provide quality recreation opportunities while protecting resource values. The Steens Mountain Recreation Lands designation would be removed.

Alternative E

The CMPA, 94,897 acres in the pueblo Mountains, and 92,927 acres in the Trout Creek Mountains would be designated as SRMAs (see Map 2.14). The Pueblo Mountains and the Trout Creek Mountains SRMAs would be managed to enhance tourism and recreation opportunities. The Steens Mountain Recreation Lands designation would be removed.

Objective 2. Manage recreation facilities to protect natural resources and to meet user needs.

Management Common to All Alternatives

Management and maintenance of existing developed recreation sites would continue.

Alternative A

Planning Area
Expansion of existing developed recreation sites would be considered and tourism opportunities would be provided.

CMPA
The Mann Lake Recreation Site would be maintained in its present condition. Existing horse trailhead facilities at South Steens Campground would be maintained. Toilet(s) would not be installed along the Steens Loop Road. A group camping area would not be developed nor would facilities for winter recreation. Lily Lake would be managed as a dispersed recreation site. Trail access would not be provided to the Fir Grove.

AMU
New campgrounds would not be developed nor would toilets be installed at Pike Creek or Frog Spring. Trailhead parking would be provided near the mouth of Wildhorse Canyon.

Alternative B

Planning Area
Undeveloped recreation sites would be minimally managed. If natural processes were being jeopardized, undeveloped sites would be rehabilitated or closed.

CMPA
The Mann Lake Recreation Site would be maintained in its present condition. Existing horse trailhead facilities at South Steens Campground would be maintained. Toilet(s) would not be installed along the Steens Loop Road. A group camping area would not be developed, nor would facilities for winter recreation. Lily Lake would be designated as a day use area. Trail access would not be provided to the Fir Grove.

AMU
New campgrounds would not be developed nor would toilets be installed at Pike Creek or Frog Spring. A staging area would not be provided near the mouth of Wildhorse Canyon.

Alternative C

Planning Area
Recreation management would focus on dispersed activities, while assuring protection of natural and cultural values. Recreation developments would be allowed only for the protection and interpretation of cultural and natural values and for public health and safety. If resource values were affected beyond acceptable levels, undeveloped site(s) would be rehabilitated or closed.

CMPA
The Mann Lake Recreation Site would be maintained in its present condition. Existing horse trailhead facilities at South Steens Campground would be maintained. One toilet would be installed and maintained along the North Steens Loop Road in the Fish Lake area. A group camping area would be developed within the confines of an existing campground. A nonmotorized winter recreation staging area would be developed along the North Steens Loop Road. Lily Lake would be designated as a day use area and interpretive signs would be installed. The route to the Fir Grove would be minimally maintained to protect natural values and provide for public safety.

AMU
New campgrounds would not be developed nor would toilets be installed at Pike Creek or Frog Spring. A staging area would be provided near the mouth of Wildhorse Canyon.

Alternative D

Planning Area
Management of existing recreation sites, areas, and their associated improvements would continue and site expansion would be allowed. If demand warrants, new recreation sites and areas would be developed to protect cultural and natural values and provide for public health and safety. Tourism opportunities would be allowed if consistent with other resource objectives.

CMPA
The Mann Lake Recreation Site would be improved with minimal development to reduce resource damage. A site plan would be developed and resources monitored. A trailhead facility (parking, hitching rail, loading ramp, information) for horse users would be developed in or near the South Steens Campground to improve public safety and limit resource damage. Trails connecting the new trailhead to existing trails would be designed and constructed. One toilet would be installed and maintained along the North Steens Loop Road in the Fish Lake area. In cooperation with private landowners, a group camping area would be developed east of Fish Lake. A winter use staging area would be developed along the North Steens Loop Road. A system of cross-country ski trails and nonmotorized winter play area would be developed at the west end of the WJMA. Lily Lake would be managed as a dispersed recreation site. Trail access would not be provided to the Fir Grove.

AMU
A toilet and fire rings would be installed in the Frog Spring area. A toilet would also be installed and maintained at Pike Creek, in cooperation with the private landowner. A staging area with information and a toilet would be provided near the mouth of Wildhorse Canyon.

Alternative E

Planning Area
Tourism opportunities would be increased through the expansion of existing developed and undeveloped recreation sites. New developed recreation sites and areas would be established to meet increased recreation demand.

CMPA
The Mann Lake Recreation Site would be upgraded to a full-service campground. A trailhead facility (parking, hitching rail, loading ramp, information) for horse users would be developed near the South Steens Campground. Trails connecting the new trailhead to existing trails would be designed and constructed. Toilets would be installed and maintained at the three overlooks at the top of the Steens Loop Road. In cooperation with private landowners, a group camping area would be developed east of Fish Lake. A winter use staging area would be developed along the North Steens Loop Road. A system of cross-country ski trails and a nonmotorized winter play area would be developed at the west end of the WJMA. Lily Lake would be managed as a dispersed recreation site and a toilet would be installed. A small trailhead would be developed adjacent to the North Steens Loop Road and the route to the Fir Grove would be marked and minimally maintained.

AMU
A developed campground would be constructed in the Frog Spring area. A toilet would be installed and maintained at Pike Creek, in cooperation with the private landowner. A staging area with information, a toilet, and horse support facilities would be provided near the mouth of Wildhorse Canyon.

Objective 3. Outside of the intensive-use areas and developed recreation sites, manage the remainder of the Planning Area for dispersed recreation.

Alternative A

Planning Area
Management of existing undeveloped recreation sites would continue. Public safety and resource protection would be provided. Dispersed tourism opportunities would be developed.

CMPA
Trails would not be developed outside of the Steens Mountain Wilderness.

Alternative B

Planning Area
Minimal management of existing undeveloped recreation sites would continue, while protecting natural processes. If natural processes were being jeopardized, site(s) would be rehabilitated or closed.

CMPA
Trails would not be developed outside of the Steens Mountain Wilderness.

Alternative C

Planning Area
Management of existing undeveloped recreation sites would continue. Recreation management would focus on dispersed activities while protecting natural and cultural values and providing for public health and safety. If resource values are affected beyond acceptable levels, site(s) or would be rehabilitated or closed.

CMPA
Outside of the Steens Mountain Wilderness, trails would be developed where necessary to protect natural values.

Alternative D

Planning Area
Natural and cultural values would be protected while providing for public safety. Dispersed recreation opportunities, that are consistent with other resource objectives, would be developed.

CMPA
Outside of the Steens Mountain Wilderness, trails would be developed where necessary to protect natural values and to provide for public health and safety.

Alternative E

Planning Area
Tourism opportunities would be increased through management of undeveloped recreation sites and by providing additional opportunities for dispersed recreation.

CMPA
Outside of the Steens Mountain Wilderness, trails would be developed to provide additional hiking and nonmotorized recreation opportunities.

Objective 4. Manage visitor use in the Planning Area to protect natural resources and to provide a variety of recreation opportunities.

Alternative A

Planning Area
Visitor use would be managed for unlimited recreation opportunities. Group size would not be limited for any recreation activity.

CMPA
Camping locations would not be restricted. Parking on the Rooster Comb section of the South Steens Loop Road would not be restricted. Snowmobile use would be limited as follows: Snowmobiles are allowed on the North Steens Loop Road from the 5,600-foot level to the Kiger Overlook. An authorized guide must accompany snowmobilers to the Nye Place and along the Dingle Creek road. Recreational river use would only be allowed when the lowest gate on the South Steens Loop Road is open. Visitor use at the overlooks would not be restricted. Permits would not be required to visit the CMPA.

AMU
Camping would be allowed anywhere, including all AMU ACECs/RNAs and Mickey Hot Springs. Dispersed users would be allowed to use whatever method of solid human waste disposal they prefer. Routes for mechanized vehicles (i.e., mountain bikes) would not be developed.

Alternative B

Planning Area
Visitor use would be managed for minimum recreation opportunities through closures, regulations, or other means, to maximize natural processes. Group size would be limited for all activities in order to allow natural processes to be unimpaired.

CMPA
The following areas would be closed to camping: all RNAs, the Steens Loop Road above Jackman Park and South Steens Campgrounds, the Wildhorse Road, all overlooks, Wildhorse Lake basin, and all areas above timberline within view of the Steens Loop Road. Camping would be allowed only in developed campgrounds (outside the Steens Mountain Wilderness). All snowmobile use in the CMPA would be eliminated. The existing permit system for nonmotorized winter recreation would be continued. Recreational river use would not be allowed. Visitor use at the overlooks would be limited to designated trails and the interpretive signs would be moved to the parking lots. Permits would be required for all CMPA users.

AMU
Mickey Hot Springs would be closed to camping. Dispersed users would be required to pack out all solid human waste. Routes for mechanized vehicles (i.e., mountain bikes) would not be developed.

Alternative C

Planning Area
Visitor use would be managed to protect natural values. Group size would be limited.

CMPA
The following areas would be closed to camping: all RNAs, the Steens Loop Road above Jackman Park and South Steens Campgrounds, the Wildhorse Road, all overlooks, and Wildhorse Lake basin. Camping would be allowed only in developed campgrounds and designated sites (outside the Steens Mountain Wilderness). All snowmobile use associated with the North Steens Loop Road would be eliminated. The existing permit system for nonmotorized winter recreation would be continued. Recreational river use would be allowed only when the lowest gate on the South Steens Loop Road is open and only if it does not affect ORVs. Visitor use at overlooks would be limited to designated trails and the interpretive signs would be moved to the parking lots. Permits would be required for all Steens Loop Road users.

AMU
All AMU RNAs and Mickey Hot Springs would be closed to camping. Toilets would be installed and maintained at Cottonwood Creek and Frog Spring. Dispersed users would be encouraged to pack out all solid human waste. Routes for mechanized vehicles (i.e., mountain bikes) would not be developed.

Alternative D

Planning Area
Visitor use would be managed in a manner that encourages economic growth and cooperative management practices for recreation opportunities that are consistent with other resource objectives. Group size limits would be evaluated on a case-by-case basis.

CMPA
Close Little Wildhorse RNA to camping. Allow camping in historically used campsites in the Little Blitzen and Rooster Comb RNAs when consistent with the Wilderness Management Plan and the purposes of the RNAs. Allow camping at Wildhorse Lake only in designated sites, however, overnight use of pack stock use would not be allowed. The Rooster Comb would be closed to parking or stopping, except at designated locations and a small pullout that would be developed at the east end of the Rooster Comb. Snowmobile and other over-the-snow mechanized equipment would be as follows: Public snowmobile use would be allowed on the North Steens Loop Road from the 5,600-foot level to the Kiger Overlook, on the Dingle Creek road, and on the Cold Springs Road to 0.75 mile west of the Nye Place. Snowmobile access to the Wildhorse parking area would be with an authorized SRP holder only. A cooperative agreement would be developed with private landowners for a winter play area. The existing permit system for all winter recreation would be continued. Dispersed camping would be allowed in areas more than one half mile from a developed campground (outside the Steens Mountain Wilderness). Recreational river use would be allowed only when the lowest gate on the South Steens Loop Road is open and only if it does not affect ORVs. Visitors would be encouraged to stay on designated trails at the overlooks and the interpretive signs would be moved to the parking lots. Permits would not be required to visit the CMPA.

AMU
All AMU RNAs and Mickey Hot Springs would be closed to camping. Toilets would be installed and maintained at Cottonwood Creek, Frog Spring, and other dispersed campsites. Other dispersed users would be encouraged to pack out all solid human waste. Routes for mechanized vehicles (i.e., mountain bikes) would be developed as demand warrants.

Alternative E

Planning Area
Visitor use would be managed to maximize recreation opportunities that are consistent with other resource objectives. Group sizes would not be limited for any recreation activity.

CMPA
Camping would be allowed anywhere, unless otherwise restricted. The Rooster Comb would be closed to parking or stopping, except at designated overlooks and the small pullout that would be developed at the east end of the Rooster Comb. Snowmobile use would be allowed on all designated roads. The existing permit system for winter recreation would be continued. Camping would be allowed anywhere unless otherwise restricted. A river access system similar to the existing winter use permit system would be implemented, with the number of users not limited. Visitor use at the overlooks would not be restricted. The interpretive signs would be moved to the parking lots. Permits would not be required to visit the CMPA.

AMU
All AMU RNAs and Mickey Hot Springs would be closed to camping. Toilets would be installed and maintained at Cottonwood Creek, Frog Spring, and other dispersed campsites throughout the AMU. Other dispersed users would be encouraged to pack out all solid human waste. Routes for mechanized vehicles (i.e., mountain bikes) would be developed as demand warrants.

Objective 5. Provide information and educational opportunities to public land visitors.

Alternative A

Visitor experiences would be enhanced by continuing to provide information (i.e., maps and brochures) and education opportunities. The current informational and directional sign installation and maintenance program would continue.

Alternative B

Visitor experiences would be enhanced by continuing to provide information (i.e., maps and brochures) and education opportunities. New sign placement would be minimized. Existing signs would be maintained and replaced only as needed for public health and safety.

Alternative C

Visitor experiences would be enhanced by continuing to provide information (i.e., maps and brochures) and education opportunities. New sign placement would be minimized. Existing signs would be maintained and replaced and new signs installed only as needed for public health and safety.

Alternative D

Visitor experiences would be enhanced by continuing to provide information (i.e., maps and brochures) and education opportunities. In the CMPA, existing signs would be maintained and replaced and new signs installed only as needed for public health and safety. In the AMU, signs would be installed, maintained, and replaced as needed.

Alternative E

Extensive information and education opportunities would be provided to increase tourism activities. Signs would be installed, maintained and replaced to maximize public safety and confidence.

Objective 6. Manage commercial, competitive, educational, and organized group recreation activities.

Alternative A

CMPA
SRPs for commercial, competitive, and non-commercial activities would be issued on a case-by-case basis.

AMU
SRPs for commercial, competitive, and noncommercial activities would be issued on a case-by-case basis. SRPs for organized group and commercial use of the Alvord Desert playa could be issued if the wilderness values of the Alvord Desert WSA would not be impaired.

Alternative B

CMPA
Existing, long-term SRPs would be managed and renewed, in conformance with existing laws and regulations. No new long- or short-term SRPs would be issued.

AMU
Existing SRPs would be cancelled and new SRPs would not be issued. SRPs would not be issued for the Alvord Desert playa.

Alternative C

CMPA
SRPs would be issued, as needed, to meet the demand for permits, while protecting cultural and natural resource values and providing for public safety. Allocations, such as limits on party size, number of trips and/or number or permittees, would be implemented.

AMU
SRPs would be issued, as needed, to meet the demand for permits, while protecting cultural and natural resource values and providing for public safety. If needed, allocations, such as limits on party size, number of trips and/or number or permittees, would be implemented. SRPs would not be issued for the Alvord Desert playa.

Alternative D

CMPA
SRPs would be issued, as needed, to meet the demand for permits, while protecting cultural and natural resource values and providing for public safety. If needed, allocations, such as limits on party size, number of trips and/or number or permittees, would be implemented.

AMU
SRPs would be issued, as needed, to meet the demand for permits, while protecting cultural and natural resource values and providing for public safety. If needed, allocations, such as limits on party size, number of trips and/or number or permittees, would be implemented. SRPs for organized group and commercial use of the Alvord Desert playa could be issued if the wilderness values of the Alvord Desert WSA would not be impaired.

Alternative E

CMPA
Commercial, competitive, and organized group opportunities and activities would be emphasized through the issuance of SRPs.

AMU
Commercial, competitive, and organized group opportunities and activities would be emphasized through the issuance of SRPs. SRPs for organized group, commercial, and competitive use of the Alvord Desert playa could be issued if the wilderness values of the Alvord Desert WSA would not be impaired.

Objective 7. Manage BCBs to protect the recognized values.

Alternative A

Planning Area
Existing BCBs would be managed in conformance with existing laws and regulations.

CMPA
Vehicle pullouts would not be constructed along the Steens Loop Road.

Alternative B

Planning Area
Current BCBs would be eliminated and new BCBs would not be designated. The Steens Mountain BCB designation would be removed because the Loop Road would be closed from the Kiger Overlook turnoff to west of the Blitzen River.

CMPA
Vehicle pullouts would not be constructed along the Steens Loop Road.

Alternative C

Planning Area
Same as Alternative A.

CMPA
Same as Alternative A.

Alternative D

Planning Area
Existing BCBs would be managed in conformance with existing laws and regulations. Interpretive management plans for existing BCBs would be developed and implemented. Additional byways or scenic tour routes that support cooperative management would be designated.

CMPA
Vehicle pullouts would be constructed along the Steens Loop Road to accommodate and manage visitor use.

Alternative E

Planning Area
Existing BCBs would be managed in conformance with existing laws and regulations. Interpretive management plans for existing BCBs would be developed and implemented. Additional byways or scenic tour routes that support cooperative management would be designated. New BCBs would be designated to increase tourism potential and accommodate anticipated growth in driving for pleasure.

CMPA
Vehicle pullouts would be constructed at regular intervals along the Steens Loop Road.

Objective 8. Manage the Oregon High Desert National Recreation Trail to protect the recognized values and setting.

Alternative A

Management would continue under the current MOU with the Desert Trail Association. Trailhead facilities would not be developed for the High Desert Trail.

Alternative B

The Desert Trail Association MOU would be cancelled and the trail corridor would be removed from maps. Trailhead facilities would not be developed for the High Desert Trail.

Alternative C

Management would continue under the current MOU with the Desert Trail Association. Minimal trailhead facilities would be installed at Domingo Pass and Frog Spring.

Alternative D

Management would continue under the current MOU with the Desert Trail Association. Minimal trailhead facilities would be installed at Domingo Pass, Frog Spring, and near Denio. In cooperation with the Fields Store, facilities at Fields would be upgraded.

Alternative E

Management would continue under the current MOU with the Desert Trail Association. Complete trailhead facilities would be installed at Domingo Pass, near Denio, and at Frog Spring. In cooperation with the Fields Store, facilities at Fields would be upgraded.

2.20.2 Monitoring

Recreation use would be monitored through observations, road and trail counters, and reports from other resource personnel. SRPs would be monitored for compliance with permit stipulations and resource conditions at sites used. Winter recreation use would be monitored for compliance with winter use guidelines and regulations.

2.21 Areas of Critical Environmental Concern

2.21.1 Goal - Retain existing and designate new ACECs where relevance and importance criteria are met and special management is required to protect the identified values.

2.21.1.1 Management Framework

Section 202(c)(3) of the FLPMA mandates that priority be given to the designation and protection of ACECs. These areas are defined in section 103(a) as areas where special management attention is required to protect and prevent irreparable damage to important values, resources, systems or processes, or to protect life and safety from natural hazards.

Appendix K contains a description of each existing and proposed ACEC including the relevant and important values of each area. The appendix also contains a map of each area showing proposed boundaries by alternative. The ACEC designations and acreages for each Alternative are listed in Table 2.10. Alternatives B and E are shown on Map 2.14; Alternative C is shown on Map 2.15; and Alternative D is shown on Map 2.16.

Specific management actions that differ for alternatives within each existing or proposed ACEC are discussed under the heading for that ACEC. Actions are not separated by management objective as with other sections in this chapter. The common management actions are those that would be conducted in the same manner where they are identified as part of an ACEC alternative. All of the management actions are outlined in Table 2.11, Management Prescriptions for Each ACEC by Alternative. The following are the management actions that would apply to more than one ACEC and to more than one Alternative.

Summary of ACEC Designation: Under Alternative A, no new ACECs would be designated and those existing, totaling 132,162 acres, would be retained. Under Alternatives B and E, all existing ACEC designations would be revoked and one new ACEC, Mickey Hot Springs, would be designated for a total of 42 acres. Management under Alternative B for the areas where ACEC designations were revoked would be the same as applied across the Planning Area. Under Alternative C, all existing ACECs would be retained and seven proposed ACECs would be designated for a total of 143,426 acres. Under Alternative D, 12 of the existing ACECs would be retained, while the designation of three of the existing ACECs (Alvord Peak, Pickett Rim and Steens Mountain) would be revoked. Five new ACECs would be designated for a total of 66,870 acres. The various ACEC designations and acreages for each of the Alternatives are listed in Table 2.10.

Research Natural Areas: RNAs are managed to preserve natural features and ecosystems in as natural a condition as possible, for research and educational purposes that relate to the ACEC values. The ACEC management plan provides the guidance under which the BLM manages the RNAs.
Special Status Plant and Animal Species: Disturbances to all special status plant and animal populations would be avoided in all ACECs where they occur. General inventories, monitoring, and research would continue for special status plants. Conservation agreements would be written for all BLM sensitive plant species.

Fire Management in ACEC: Under Alternatives A, C, D, and E in all ACECs and RNAs, wildland fires would be managed according to appropriate management response; however, some ACECs would be analyzed for possible wildland fire use. Use of heavy equipment in ACECs, WSAs, and RNAs would be avoided and would require line officer approval. Use of retardant would be allowed within these areas for initial attack. Retardant use during an extended attack would be considered as a part of the wildland fire situation analysis, considering the resource values at risk. If used, heavy equipment would be restricted to existing roads and trails. Prescribed fires would be used in ACECs where they would preserve the desired characteristics of the ACEC and meet management objectives.

Weed management in ACEC: Noxious weeds would be aggressively controlled using integrated weed management methods such as biological control, site-specific spraying, and grubbing by hand that are consistent with protection and enhancement of relevant and important values. Any weed control measures proposed in WSAs within ACECs would be consistent with WSA IMP direction. Weed control measures proposed within wilderness or WSRs would be consistent with legislation covering those areas.

*WSA management in ACEC*s: All management actions for those portions of the ACEC within a WSA would be governed by the WSA IMP until such time as Congress makes a determination regarding wilderness designation for that WSA. Any WSAs, or portions thereof, designated as an ACEC and later released from WSA status would be managed according to the applicable management direction for that ACEC. Under some alternatives, the proposed ACEC management within WSAs may be more restrictive than the WSA IMP, such as closing an area to livestock grazing or

limiting vehicle use to designated roads and trails rather than existing roads and trails. Nine proposed or existing ACECs overlap with existing WSAs.

Wilderness and WSRs in ACECs: All management actions for ACECs located within wilderness or WSRs would be governed by the Wilderness Act or the WSR Act as amended.

Nondestructive research: Nondestructive research is encouraged in all of the proposed and existing ACECs and is not limited only to those areas that have RNAs. Any research would need to be authorized by the BLM in writing and where necessary, subject to the permit process. It is assumed that the resultant data and information gathered would be shared with the BLM to help guide management of these areas.

Recreation: Recreational activities are not encouraged within ACECs unless the ACEC was designated with recreational use in mind. Commercial use, or use requiring a special permit, that occurs or is proposed within an ACEC would be evaluated on a case-by-case basis and would be permitted, modified, or prohibited as needed to protect the ACEC values. Camping would be prohibited in RNA/ACECs, except at specified RNAs under specific alternatives, and camping would be allowed in ACECs.

Minerals (Leasable, Locatable, Saleable): According to 43 CFR 3809.11, an approved plan of operations is required prior to commencing any operation, other than casual use, involving locatable minerals in a designated ACEC, regardless of the size of the disturbed area.

2.21.1.2 Management Direction by Alternative

Objective 1. Retain and manage existing ACECs if they meet relevance and importance criteria and require special management or protection.

Alvord Desert ACEC

Alternative A

The existing ACEC designation and boundaries would be retained. The size would remain at 17,933 acres. Since the ACEC is entirely within the Alvord Desert WSA, the visual resources would be managed as VRM Class I. The roads that run through the ACEC are maintained regularly due to important access considerations. Road maintenance would be limited to the existing roadway. OHV use is limited to the existing roads and trails. New ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated.

Due to the implementation of the Steens Act, the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The ACEC is located within the Alvord Grazing Allotment and is open to grazing from December to April. Since the ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative B

The ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed under the WSA IMP until Congress makes a decision regarding wilderness designation for the area.

Alternative C

The ACEC would be retained and an additional 3,682 acres added, making the total designation 21,615 acres. The road through the ACEC would be maintained as needed for access considerations. OHV use would be limited to designated routes. The ACEC would be an exclusion area for new ROWs or other realty use authorizations except for access needs to nonpublic property.

The area within the ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

Table 2.10: Areas Of Critical Environmental Concern Acres by Alternative

	Located in Withdrawal Area	Located in CMPA	Located in AMU	Alternative A Acres	Alternative B Acres	Alternative C Acres	Alternative D Acres	Alternative E Acres
EXISTING ACEC								
Alvord Desert ACEC	Yes	No	Yes	17,933	0	21,615	21,615	0
Alvord Peak ACEC	Yes	Yes	No	14,040	0	14,040	0	0
Borax Lake ACEC	Yes	No	Yes	520	0	600	600	0
East Kiger Plateau RNA/ACEC	Yes	Yes	No	1,216	0	1,216	1,216	0
Kiger Mustang ACEC	Yes[2]	Yes[2]	No	31,725	0	31,725	31,725	0
Little Wildhorse Lake RNA/ACEC	Yes	Yes	No	241	0	241	241	0
Little Blitzen RNA/ACEC	Yes	Yes	No	2,530	0	2,255	2,255	0
Long Draw RNA/ACEC	No	No	Yes	441	0	441	441	0
Mickey Basin RNA/ACEC	Yes	No	Yes	560	0	560	560	0
Pickett Rim ACEC	No	No	Yes	3,941	0	3,941	0	0
Pueblo Foothills RNA/ACEC	No	No	Yes	2,503	0	2,424	2,424	0
Rooster Comb RNA/ACEC	Yes	Yes	No	716	0	683	683	0
South Fork Willow Creek RNA/ACEC	Yes	Yes	No	231	0	186	186	0
Steens Mountain ACEC	Yes	Yes	No	57,501	0	57,501	0	0
Tum Tum Lake RNA/ACEC	No	No	Yes	2,064	0	1,689	1,689	0
TOTAL EXISTING ACEC ACRES[1]				**136,162**	**0**	**139,117**	**63,635**	**0**
PROPOSED ACEC								
Big Alvord Creek RNA/ACEC	Yes	Yes	No	0	0	1,676	1,676	0
Catlow Redband Trout ACEC	Yes	Yes	No	0	0	6,800	0	0
East Fork Trout Creek RNA/ACEC	No	No	Yes	0	0	361	361	0
Fir Groves ACEC	Yes	Yes	No	0	0	477	477	0
Mickey Hot Springs ACEC	Yes	No	Yes	0	42	42	42	42
Serrano Point RNA/ACEC	Yes	No	Yes	0	0	679	679	0
TOTAL EXISTING & PROPOSED[1]				**136,162**	**42**	**149,152**	**66,870**	**42**
ACEC OVERLAP ACRES[3]				**4,050**	**0**	**5,726**	**0**	**0**
TOTAL ACEC ACRES				**132,112**	**42**	**143,426**	**66,870**	**42**

[1]The total ACEC acres include areas of overlap with each ACEC total accounted for.
[2]Part of the Kiger Mustang ACEC is in the Withdrawal Area and the CMPA (31,859 acres), and the rest is in the Three Rivers RA.
[3]To eliminate double counting acres, the ACEC overlap areas are accounted for and deducted.

Table 2.11: Management Prescriptions for Each ACEC by Alternative

							Wood/ Plant Collect		Minerals		
ACEC/RNA	**Alternative**	**Acres**	**ROWs**	**OHV**	**VRM**	**Grazing**		**Roads**	**Leasable**	**Locatable**	**Saleable**
Alvord Desert	A	17,933	AV	Le	I	O	L	L	NL	W	C
	B	-									
	C	21,615	E	Ld	I	O	L	L	NL	W	C
	D	21,615	AV	Ld	I	O	L	L	NL	W	C
	E	-									
Alvord Peak	A	14,040	E	C	I	O	L	NA	NL	W	C
	B	-									
	C	14,040	E	C	I	O	L	NA	NL	W	C
	D	-									
	E	-									
Borax Lake	A	520	O	Le	III	O/C	O	L	NL	W	C
	B	-									
	C	600	E	C	II	O/C	L	NA	NL	W	C
	D	600	AV	C	II	O/C	L	NA	NL	W	C
	E										
Pickett Rim	A	3,941	O	Le	II	O	O	L	O	O	O
	B	-									
	C	3,941	E	Ld	II	O	L	L	NL	W	C
	D	-									
	E	-									
Steens Mountain	A	57,501	E/AV/O	C/Le	I/II	O/C	L	L	NL	W	C
	B	-									
	C	57,501	E	C/Ld	I	O/C	L	L	NL	W	C
	D	-									
	E	-									
Kiger Mustang	A	31,725	AV/E	O/Le	I/IV	O	O	L	NL	W	C
	B	-									
	C	31,725	E	Ld	I/II	O	L	L	NL	W	C
	D	31,725	AV	Ld	I/IV	O	O	L	NL	W	C
	E	-									
East Kiger Plateau RNA	A	1,216	AV/E	C	I	C	L	NA	NL	W	C

ACEC/RNA	Alternative	Acres	ROWs	OHV	VRM	Grazing	Wood/ Plant Collect	Roads	Minerals		
									Leasable	Locatable	Saleable
	B	-									
	C	1,216	E	C	I	C	L	NA	NL	W	C
	D	1,216	AV/E	C	I	C	L	NA	NL	W	C
	E	-									
Little Blitzen RNA	A	2,530	E	C	I	C	L	NA	NL	W	C
	B	-									
	C	2,255	E	C	I	C	L	NA	NL	W	C
	D	2,255	E	C	I	C	L	NA	NL	W	C
	E	-									
Little Wildhorse Lake	A	241	E	C	I	C	L	NA	NL	W	C
	B	-									
	C	241	E	C	I	C	L	NA	NL	W	C
	D	241	E	C	I	C	L	NA	NL	W	C
	E	-									
Long Draw RNA	A	441	AV	Le	I	O	L	L	NL	O	C
	B	-									
	C	441	E	Ld	I	O	L	L	NL	W	C
	D	441	AV	Ld	I	O	L	L	NSO	O	C
	E	-									
Mickey Basin RNA	A	560	AV	Le	I	O/C	L	L	NL	W	C
	B	-									
	C	560	E	Ld	I	O/C	L	L	NL	W	C
	D	560	AV	Ld	I	O/C	L	L	NL	W	C
	E	-									
Pueblo Foothills RNA	A	2,503	AV	Le	I	O	L	L	NL	O	C
	B	-									
	C	2,424	E	Ld	I	O	L	L	NL	W	C
	D	2,424	AV	Ld	I	O	L	L	NSO	O	C
	E	-									
Rooster Comb RNA	A	716	E	C	I	C	L	NA	NL	W	C
	B	-									
	C	683	E	C	I	C	L	NA	NL	W	C
	D	683	E	C	I	C	L	NA	NL	W	C

ACEC/RNA	Alternative	Acres	ROWs	OHV	VRM	Grazing	Wood/ Plant Collect	Roads	Minerals		
									Leasable	Locatable	Saleable
	E	-									
South Fork Willow Cr RNA	A	231	E	C	I	C	L	NA	NL	W	C
	B	-									
	C	186	E	C	I	C	L	NA	NL	W	C
	D	186	E	C	I	C	L	NA	NL	W	C
	E	-									
Tum Tum Lake RNA	A	2,064	O	Le	III	O	L	L	O	O	O
	B	-									
	C	1,689	E	Ld	II	C	L	L	NL	W	C
	D	1,689	AV	Ld	II	C	L	L	O	O	C
	E										
East Fork Trout Cr RNA	A	-									
	B	-									
	C	361	E	Ld	I	C	L	L	NL	W	C
	D	361	AV	Ld	I	O	L	L	NSO	O	C
	E	-									
Mickey Hot Springs	A	-									
	B	42	E	C	I/II	C	O	NA	NL	W	C
	C	42	E	C	I/II	C	O	NA	NL	W	C
	D	42	AV	C	I/II	C	O	NA	NL	W	C
	E	42	AV	C	I/II	C	O	NA	NL	W	C
Serrano Point RNA	A	-									
	B	-									
	C	679	E	Ld	II	C	L	L	NL	W	C
	D	679	AV	Ld	II	O	L	L	NL	W	C
	E	-									
Big Alvord Cr RNA	A	-									
	B	-									
	C	1,676	E	C	I	C	L	NA	NL	W	C
	D	1,676	E	C	I	C	L	NA	NL	W	C
	E	-									
Fir Groves	A	-									

							Wood/ Plant Collect		Minerals		
ACEC/RNA	**Alternative**	**Acres**	**ROWs**	**OHV**	**VRM**	**Grazing**		**Roads**	**Leasable**	**Locatable**	**Saleable**
	B	-									
	C	477	E	Ld	II	C	L	L	NL	W	C
	D	477	AV	Ld	II	O	L	L	NL	W	C
	E	-									
Catlow Redband Trout	A	-									
	B	-									
	C	6,800	E	C/Ld	I	O	L	NA	NL	W	C
	D	-									
	E	-									

AV-Avoidance area form ROWs
C -Closed to mineral material removal, OHV use, and grazing
E - Exclusion area for ROWs
Le - Limited to OHV use on existing roads and trails
Ld - Limited to OHV use on designated routes
L - Limited; with limitations applicable to plant collection and road maintenance
NL - No Lease; Not available for mineral leasing
NA - Not applicable; no roads occur here so road maintenance does not apply
NSO - No surface occupancy; open to mineral leasing subject to stipulations
O - Open; the activity is allowed in the area
W - Withdrawn from mineral exploration and development

Alt A - Present Management; No Action
Alt B - Exclude commodity production
Alt C - Emphasize natural values
Alt D - Balances commodity and natural values
Alt E - Emphasize commodity production

Alternative D

The existing ACEC would be retained and an additional 3,682 acres added, making the total designation 21,615 acres. The road through the ACEC would be maintained as needed. Road maintenance would be limited to the existing roadway. OHV use would be limited to designated routes. New ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated. The ACEC would be managed as VRM Class I.

The area within the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed under the WSA IMP until Congress makes a decision regarding wilderness designation for the area.

Alvord Peak ACEC

Alternatives A and C

The existing ACEC designation and boundaries would be retained. The size of the ACEC would remain at 14,040 acres. Since the ACEC is entirely within the Steens Mountain Wilderness, the area would be managed as VRM Class I.

The roads through the ACEC have been closed to OHV use due to wilderness designation. Road maintenance is not an issue. The Alvord Peak ACEC would be an exclusion area for new ROWs and other realty use authorizations unless access is needed to nonpublic property.

Due to the implementation of the Steens Act, the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The ACEC is located within the Alvord Peak Grazing Allotment and would be open to grazing from April to November. Grazing would be under the control of existing permit stipulations and the approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection or removal of plant materials would be allowed by permit only.

Alternative B

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize natural processes. The area would continue to be managed under the provisions of the Wilderness Act.

Alternative D

The ACEC designation would be revoked. The area would continue to be managed under the provisions of the Wilderness Act.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed under the provisions of the Wilderness Act.

Borax Lake ACEC

Alternative A

The existing ACEC designation and boundaries would be retained. The size would remain at 520 acres. The visual resources would continue to be managed as VRM Class III within the ACEC. OHV use in the ACEC would be limited to the existing roads and trails. The roads within the ACEC would be maintained as needed for access. The area would continue to be open to new ROWs or other realty use authorizations.

Due to the implementation of the Steens Act, the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Most of the ACEC is fenced, and that portion of the ACEC inside the fence is closed to livestock grazing. A total of 120 acres of the ACEC is outside the fence in the Tule Springs Grazing Allotment. This area is grazed in the winter by cattle and wild horses, but grazing animals rarely reach that part of the allotment containing the ACEC. The ACEC is open to collection of plant materials.

Alternative B

The ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. Management of the Borax Lake area would be the same as prescribed for the adjacent area.

Alternative C

The existing ACEC designation would be retained and 80 acres added, making the total designation 600 acres. The roads through the ACEC would be closed to OHV use and not maintained. No new ROWs or other realty use authorizations would be allowed. The ACEC would be managed as VRM Class II.

The ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area within the fenced exclosure would be closed to livestock grazing. Livestock grazing and wild horse use would continue on 120 acres of the ACEC outside the fenced exclosure. Livestock use would be managed under the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The use of plant materials would be limited to collection by permit only.

Alternative D

The existing ACEC designation would be retained and 80 acres added, making the total designation 600 acres. The roads through the ACEC would be closed and not maintained. The entire area would be closed to OHV use. ROWs and other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated. Actions would be pursued to acquire private inholdings from willing private landowners. The ACEC would be managed as VRM Class II.

The ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area within the fenced exclosure would be closed to livestock grazing. Livestock grazing and wild horse use would continue on 120 acres outside the fenced exclosure. Livestock use would be managed under the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The use of plant materials would be limited to collection by permit only.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. Management of the Borax Lake area would be the same as prescribed for the adjacent area.

East Kiger Plateau RNA/ACEC

Alternatives A and D

The existing RNA/ACEC designation and boundaries would be retained. The size would remain at 1,216 acres. Since the RNA/ACEC is entirely within the Steens Mountain Wilderness and High Steens WSA, visual resources would be managed as VRM Class I.

Since no roads are located in or around this RNA/ACEC, road maintenance is not an issue. The area would be closed to OHV use. The RNA/ACEC would be an exclusion area for new ROW or realty use authorizations in the Wilderness Area. In the WSA, new ROW or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated.

Due to the implementation of the Steens Act, the RNA/ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal.

The RNA/ACEC is located within the No Livestock Grazing Area on Steens Mountain and is closed to grazing. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative B

The RNA/ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed under the provisions of the Wilderness Act and the WSA IMP.

Alternative C

The RNA/ACEC would be the same as Alternative A except the entire area would be an exclusion area for ROWs or other realty use authorizations.

Alternative E

The RNA/ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed under the provisions of the Wilderness Act and the WSA IMP.

Kiger Mustang ACEC

Alternative A

The existing ACEC designation and boundaries would be retained. The size would remain at 31,725 acres. That part of the ACEC located within the Stonehouse WSA is managed as VRM Class I. The portion of the ACEC outside of the WSA is managed as VRM Class IV.

The roads that run through the ACEC are maintained regularly due to important access considerations. Road maintenance is limited to the existing roadway. OHV use is open outside the WSA and limited to the existing roads and trails inside the WSA. New ROWs or other realty use authorizations would be avoided on non-WSA parcels unless the activity is compatible with the purpose for which the area was designated. New ROWs or other realty use authorizations would be excluded from the portions of the ACEC located within the WSA unless access is needed to nonpublic property.

Due to the implementation of the Steens Act, the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal.

The Kiger Mustang ACEC is located within portions of the Burnt Flat, Smyth/Kiger, and Riddle Mountain Grazing Allotments and is open to livestock grazing from April until October. The area is open to the collection of plant materials.

Alternative B

The ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. That portion of the ACEC located within the WSA would continue to be managed under the WSA IMP until Congress makes a decision regarding wilderness designation for the area. The rest of the area would be managed as prescribed for similar adjacent areas.

Alternative C

The ACEC would be retained at 31,725 acres. Visual resources would be managed as VRM Class I in the WSA and VRM Class II outside the WSA. The roads through the ACEC would be maintained as needed for access considerations. Road maintenance would be limited to the existing roadway. OHV use would be limited to designated routes. The ACEC would be an exclusion area for new ROWs or other realty use authorizations except for access needs to nonpublic property.

The area within the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be limited to permit only.

Alternative D

The existing ACEC would be retained at 31,725 acres. Roads through the ACEC would be maintained as needed using only the existing roadway. OHV use would be limited to designated routes. New ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated. Visual resources in the ACEC would be managed as VRM Class I in the WSA, and VRM Class IV outside the WSA.

The area within the ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The area would be open to collection of plant materials.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. That portion of the ACEC located within the WSA would continue to be managed under the WSA IMP until Congress makes a decision regarding wilderness designation for the area. The rest of the area would be managed as prescribed for similar adjacent areas.

Little Blitzen RNA/ACEC

Alternative A

The existing RNA/ACEC designation and boundaries would be retained. The size would remain at 2,530 acres. Since the RNA/ACEC is entirely within the Steens Mountain Wilderness, visual resources would be managed as VRM Class I.

Since no roads are located in this RNA/ACEC, road maintenance is not an issue. The area would be closed to OHV use. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations.

Due to the implementation of the Steens Act, the Little Blitzen RNA/ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The RNA/ACEC is located within the No Livestock Grazing Area on Steens Mountain and is closed to grazing. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative B

The RNA/ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed under the provisions of the Wilderness Act.

Alternatives C

The RNA/ACEC would be the same as Alternative A except that 275 acres would be dropped on the east and south sides of the Steens Loop Road. The size of the RNA/ACEC would become 2,255 acres.

Alternatives D

The RNA/ACEC would be the same as Alternative A except that 275 acres would be dropped on the east and south sides of the Steens Loop Road. The size of the RNA/ACEC would become 2,255 acres. Overnight camping would be allowed in historically used areas that are consistent with the purpose of the RNA and the Wilderness Plan objectives.

Alternative E

The RNA/ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed under the provisions of the Wilderness Act.

Little Wildhorse Lake RNA/ACEC

Alternatives A, C, and D

The existing RNA/ACEC designation and boundaries would be retained. The size would remain at 241 acres. Since the RNA/ACEC is entirely within the Steens Mountain Wilderness, visual resources would be managed as VRM Class I.

Since no roads are located in this RNA/ACEC, road maintenance is not an issue. The area would be closed to OHV use. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations.

Due to the implementation of the Steens Act, the Little Wildhorse Lake RNA/ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The RNA/ACEC is located within the No Livestock Grazing Area on Steens Mountain and is closed to grazing. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative B

The RNA/ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed under the provisions of the Wilderness Act.

Alternative E

The RNA/ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed under the provisions of the Wilderness Act.

Long Draw RNA/ACEC

Alternative A

The existing RNA/ACEC designation and boundaries would be retained. The size would remain at 441 acres. Since the RNA/ACEC is entirely within the Hawk Mountain and Rincon WSAs, the visual resources would be managed as VRM Class I.

The road that runs through the RNA/ACEC would be maintained regularly due to important access considerations. Road maintenance would be limited to the existing roadway. OHV use would be limited to the existing roads and trails. New ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated.

The Long Draw RNA/ACEC would be open to locatable mineral entry but closed to mineral leasing and saleable mineral removal. The RNA/ACEC is located within the Pueblo-Lone Mountain Grazing Allotment and is open to grazing from December to April. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative B

The RNA/ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed as a WSA under the WSA IMP until Congress makes a decision regarding wilderness designation for the area.

Alternative C

The RNA/ACEC designation and boundaries would be retained. The size would remain at 441 acres. The road through the RNA/ACEC would be maintained as needed in the existing roadway for access considerations. OHV use would be limited to designated routes. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations except for access needs to nonpublic property. Visual resources would be managed as VRM Class I.

The area within the RNA/ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

Alternative D

The RNA/ACEC designation and boundaries would be retained. The size would remain at 441 acres. The road through the RNA/ACEC would be maintained as needed in the existing roadway for access considerations. OHV use would be limited to designated routes. In the RNA/ACEC, new ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated. Visual resources would be managed as VRM Class I.

The area within the RNA/ACEC would be managed as NSO for leasable minerals and closed to saleable mineral removal. The area would be open to locatable mineral entry. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

Alternative E

The RNA/ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed as a WSA under the WSA IMP for wilderness until Congress makes a decision regarding wilderness designation for the area.

Mickey Basin RNA/ACEC

Alternative A

The existing RNA/ACEC designation and boundaries would be retained. The size would remain at 560 acres. Since the RNA/ACEC is entirely within the East Alvord WSA, the visual resources would be managed as VRM Class I.

The road that runs through the RNA/ACEC would be maintained regularly due to important access considerations. Road maintenance would be limited to the existing roadway. OHV use would be limited to the existing roads and trails. New ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated.

Due to the implementation of the Steens Act, the Mickey Basin RNA/ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal.

A fenced exclosure protects most of the relevant and important values from grazing by wild horses and livestock. The exclosure, however, does not encompass the entire RNA/ACEC. That portion of the RNA/ACEC outside the exclosure is within the Alvord Grazing Allotment and is open to grazing from December to April. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative B

The ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed as a WSA under the WSA IMP until Congress makes a decision regarding wilderness designation for the area.

Alternative C

The RNA/ACEC designation and boundaries would be retained. The size would remain at 560 acres. The road through the RNA/ACEC would be maintained as needed in the existing roadway for access considerations. OHV use would be limited to designated routes. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations except for access needs to nonpublic property. Visual resources would be managed as VRM Class I.

The area within the RNA/ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would be closed within the fenced exclosure. Grazing would continue outside the exclosure fence under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

Alternative D

The RNA/ACEC would be the same as Alternative C except that new ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed as a WSA under the WSA IMP until Congress makes a decision regarding wilderness designation for the area.

Pickett Rim ACEC

Alternative A

The existing ACEC designation and boundaries would be retained. The size would remain at 3,941 acres. The area would continue to be managed as VRM Class II. The roads within the ACEC would be maintained as needed for access. OHV use would be limited to existing roads and trails. The area would continue to be open to new ROWs or other realty use authorizations.

The area within the Pickett Rim ACEC is open to leasable and locatable mineral entry and saleable mineral removal. The ACEC is located within the LaVoy Tables Grazing Allotment and would be open to grazing from April until November.

Grazing would be under the control of existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The ACEC is open for collection or removal of plant materials.

Alternative B

The ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. Management of the Pickett Rim area would be the same as prescribed for the adjacent area.

Alternative C

The existing ACEC designation and boundaries would be retained. The size of the ACEC would be 3,941 acres and it would be managed as VRM Class II. The roads in the ACEC would be maintained as needed for access and OHV use would be limited to designated routes. The area would be an exclusion area for new ROWs or other realty use authorizations except for access needs to nonpublic property.

The area within the ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

Alternative D

The ACEC designation would be revoked. Management of the Pickett Rim area would be the same as prescribed for the adjacent area.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. Management of the Pickett Rim area would be the same as prescribed for the adjacent area.

Pueblo Foothills RNA/ACEC

Alternative A

The existing RNA/ACEC designation and boundaries would be retained. The size would remain at 2,503 acres. Since the RNA/ACEC is entirely within the Pueblo Mountain WSA, the visual resources would be managed as VRM Class I.

The road that runs through a small corner of the RNA/ACEC would be maintained regularly due to important access considerations. Road maintenance would be limited to the existing roadway. OHV use would be limited to the existing roads and trails. New ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated.

The Pueblo Foothills RNA/ACEC would be open to locatable mineral entry but closed to mineral leasing and saleable mineral removal. The RNA/ACEC is located within the Pueblo-Lone Mountain Grazing Allotment and is open to grazing from April until July. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative B

The ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to

be managed as a WSA under the WSA IMP until Congress makes a decision regarding wilderness designation for the area.

Alternative C

The existing RNA/ACEC designation would be retained except for 79 acres that would be deleted from the southeast corner. The area to be deleted is in early seral ecological status and does not contain the relevant and important values. The size of the RNA/ACEC would be changed to 2,424 acres. The road through the RNA/ACEC would be maintained as needed in the existing roadway for access considerations. OHV use would be limited to designated routes. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations except for access needs to nonpublic property. Visual resources would be managed as VRM Class I.

The area within the RNA/ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

Alternative D

The existing RNA/ACEC designation would be retained except for 79 acres that would be deleted from the southeast corner. The area to be deleted is in early seral ecological status and does not contain the relevant and important values. The size of the RNA/ACEC would be changed to 2,424 acres. The road through the RNA/ACEC would be maintained as needed in the existing roadway for access considerations. OHV use would be limited to designated routes. In the RNA/ACEC, new ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated. Visual resources would be managed as VRM Class I.

The area within the RNA/ACEC would be managed as NSO for leasable minerals and closed to saleable mineral removal. The area would be open to locatable mineral entry. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed as a WSA under the WSA IMP until Congress makes a decision regarding wilderness designation for the area.

Rooster Comb RNA/ACEC

Alternative A

The existing RNA/ACEC designation and boundaries would be retained. The size would remain at 716 acres. Since the RNA/ACEC is entirely within the Steens Mountain Wilderness, visual resources would be managed as VRM Class I.

Since no roads are located in this RNA/ACEC, road maintenance is not an issue. The area would be closed to OHV use. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations.

Due to the implementation of the Steens Act, the Rooster Comb RNA/ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The RNA/ACEC is located within the No Livestock Grazing Area on Steens Mountain and is closed to grazing. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative B

The ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed under the provisions of the Wilderness Act.

Alternative C

The existing RNA/ACEC designation would be retained. Thirty-three acres would be dropped on the south side of the Steens Loop Road. The size of the RNA/ACEC would be 683 acres. Since the RNA/ACEC is entirely within the Steens Mountain Wilderness, visual resources would be managed as VRM Class I. Since no roads are located in this RNA/ACEC, road maintenance is not an issue. The area would be closed to OHV use. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations.

Due to the implementation of the Steens Act, the Rooster Comb RNA/ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The RNA/ACEC is located within the No Livestock Grazing Area on Steens Mountain and is closed to grazing. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative D

The existing RNA/ACEC designation would be retained. Thirty-three acres would be dropped on the south side of the Steens Loop Road. The size of the RNA/ACEC would be 683 acres. Since the RNA/ACEC is entirely within the Steens Mountain Wilderness, visual resources would be managed as VRM Class I. Since no roads are located in this RNA/ACEC, road maintenance is not an issue. The area would be closed to OHV use. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations.

Due to the implementation of the Steens Act, the Rooster Comb RNA/ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The RNA/ACEC is located within the No Livestock Grazing Area on Steens Mountain and is closed to grazing. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only. Overnight camping would be allowed in historically used areas that are consistent with the purpose of the RNA and the Wilderness Plan objectives.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed under the provisions of the Wilderness Act.

South Fork Willow Creek RNA/ACEC

Alternative A

The existing RNA/ACEC designation and boundaries would be retained. The size would remain at 231 acres. Since the RNA/ACEC is entirely within the Steens Mountain Wilderness, visual resources would be managed as VRM Class I.

Since no roads are located in this RNA/ACEC, road maintenance is not an issue. The area would be closed to OHV use. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations.

Due to the implementation of the Steens Act, the South Fork Willow Creek RNA/ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The RNA/ACEC is located within the No Livestock Grazing Area on Steens Mountain and is closed to grazing. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative B

The ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed under the provisions of the Wilderness Act.

Alternatives C and D

The existing RNA/ACEC designation would be retained; however, 45 acres would be dropped where the East Rim Viewpoint is located. The size of the RNA/ACEC would be 186 acres. Since the RNA/ACEC is entirely within the Steens Mountain Wilderness, visual resources would be managed as VRM Class I.

Since no roads are located in this RNA/ACEC, road maintenance is not an issue. The area would be closed to OHV use. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations.

Due to the implementation of the Steens Act, the South Fork Willow Creek RNA/ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The RNA/ACEC is located within the No Livestock Grazing Area on Steens Mountain and is closed to grazing. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed under the provisions of the Wilderness Act.

Steens Mountain ACEC

Alternative A

The existing ACEC designation and boundaries would be retained. The size would remain at 57,501 acres. The ACEC is contained within a large part of the Steens Mountain Wilderness as well as some areas of WSA and non-WSA. Visual resources would be managed as VRM Class I in the Wilderness Area and WSAs and as VRM Class II in the rest of the ACEC.

The trails and roads through the ACEC have been closed to OHV use in the Steens Mountain Wilderness. Outside the wilderness, OHV use is limited to existing roads and trails. Road maintenance is not an issue in the Steens Mountain Wilderness, but is limited to the existing roadbed in the other areas. New ROWs and other realty use authorizations would be excluded in the Steens Mountain Wilderness except for access needs to nonpublic property. In the WSAs, realty actions would be avoided unless the activity is compatible with the purpose for which the area was designated. Realty actions would be allowed in the remainder of the ACEC.

Due to the implementation of the Steens Act, the Steens Mountain ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Some of the ACEC is located within portions of the Alvord, Mann Lake, East Ridge, Chimney and Serrano Point Grazing Allotments and is open to grazing in those areas from April until November. Most of the ACEC is located within a large area legislated as a No Livestock Grazing Area. Livestock grazing is prohibited in that area. The collection or removal of plant materials would be allowed by permit only.

Alternatives B

The ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed as wilderness, WSA, or as prescribed for the particular areas.

Alternative C

The existing ACEC designation and boundaries would be retained. The size would remain at 57,501 acres. The ACEC is contained within a large part of the Steens Mountain Wilderness as well as some areas of WSA and non-WSA. Visual resources would be managed as VRM Class I in the entire ACEC.

The trails and roads through the ACEC have been closed to OHV use in the Steens Mountain Wilderness. Outside the wilderness, OHV use is limited to designated roads and trails. Road maintenance is not an issue in the Steens Mountain Wilderness, but is limited to the existing roadbed in the other areas. New ROWs and other realty use authorizations would be excluded from the entire ACEC except for access needs to nonpublic property.

Due to the implementation of the Steens Act, the Steens Mountain ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue in the areas open to grazing under management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Proposed range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. Most of the ACEC is located within a large area legislated as the No Livestock Grazing area. Livestock grazing is prohibited in that area. The collection or removal of plant materials would be allowed by permit only.

Alternative D

The ACEC designation would be revoked. The area would continue to be managed as wilderness, WSA, or as prescribed for the particular areas.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed as wilderness, WSA, or as prescribed for the particular areas.

Tum Tum Lake RNA/ACEC

Alternative A

The existing RNA/ACEC designation and boundaries would be retained. The size would remain at 2,064 acres. The RNA/ACEC is not located within any WSA; therefore, visual resources would be managed as VRM Class III as determined in the original inventory.

The roads through the RNA/ACEC are not important for access to other areas. If maintenance is needed, any disturbance would be limited to the existing roadbed. OHV use would be limited to the existing roads and trails. The area would be open to new ROWs or other realty use authorizations

The Tum Tum Lake RNA/ACEC would be open to locatable and leasable mineral entry and open to saleable mineral removal. The area is located within the Pueblo-Lone Mountain Grazing Allotment and is open to grazing from April through July. Since the RNA/ACEC was originally designated for protection of unique plant communities, collection of plant materials would be allowed by permit only.

Alternative B

The ACEC designation would be revoked. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would be managed as prescribed for the adjacent area.

Alternative C

The RNA/ACEC designation would be retained and 375 acres dropped due to unmanageability and surface disturbance. The size of the RNA/ACEC would be 1,689 acres. The roads in the RNA/ACEC would be maintained as needed for

access considerations. OHV use would be limited to designated routes. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations except for access needs to nonpublic property. Visual resources would be managed as VRM Class II.

The area within the RNA/ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area would be closed to livestock grazing. Collection of plant materials would be allowed by permit only.

Alternative D

The RNA/ACEC designation would be retained and 375 acres dropped due to unmanageability and surface disturbance. The size of the RNA/ACEC would be 1,689 acres. The roads through the RNA/ACEC would be maintained as needed in the existing roadway for access considerations. OHV use would be limited to designated routes. New ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated. Visual resources would be managed as VRM Class II.

The area within the RNA/ACEC would be open to leasable and locatable mineral entry and closed to saleable mineral removal. The area would be closed to livestock grazing. Collection of plant materials would be allowed by permit only.

Alternative E

The ACEC designation would be revoked. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would be managed as prescribed for the adjacent area.

Objective 2. Designate and manage new ACECs that meet relevance and importance criteria and need special management or protection.

Proposed Big Alvord Creek RNA/ACEC

Alternative A

Since no RNA/ACEC would be designated, existing prescriptions would apply. The site is in the Steens Mountain Wilderness, so the visual resources would be managed as VRM Class I. There are no roads in this RNA/ACEC, and the entire area would be closed to OHV use. The area would be an exclusion area for new ROWs or other realty use authorizations.

The area is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area is located within the legislated Steens Mountain No Livestock Grazing Area and therefore closed to grazing. The area would be open to collection of plant materials.

Alternative B

No RNA/ACEC would be designated. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed as wilderness under the provisions of the Wilderness Act.

Alternatives C and D

The proposed RNA/ACEC would be designated as the Big Alvord Creek RNA/ACEC covering 1,676 acres. The area would be closed to OHV use. The area would be an exclusion area for ROWs or other realty use authorizations. Visual resources would be managed as VRM Class I.

The area within the RNA/ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area would be closed to livestock grazing and the collection of plant materials would be allowed by permit only.

Alternative E

No RNA/ACEC would be designated. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed as wilderness under the provisions of the Wilderness Act.

Proposed Catlow Redband Trout ACEC

Alternative A

Since no ACEC would be designated, existing prescriptions would apply. The site would be managed as VRM Class I. The roads in the area would be maintained as needed for access. The area would be closed to OHV use in the Steens Mountain Wilderness and limited to existing roads and trails in other areas. The area would be an exclusion area for new ROWs or other realty use authorizations within the Steens Mountain Wilderness unless access is needed to nonpublic property. Outside the Steens Mountain Wilderness, the area would be open to new ROWs or other realty use authorizations.

The area is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area is located within the South Steens and Roaring Springs Fenced Federal Range Grazing Allotments and is grazed from April through November. The area would be open to collection of plant materials.

Alternative B

No ACEC would be designated. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. Most of the area would continue to be managed as under the provisions of the Wilderness Act. A small part of the area is outside the wilderness and would be managed the same as prescribed for other adjacent areas.

Alternative C

The proposed ACEC would be designated as the Catlow Redband Trout ACEC covering 6,800 acres. Roads that are present in the ACEC would be maintained as needed for access. OHV use in the ACEC would be limited to designated routes. ROWs or other realty use authorizations would be excluded unless access is needed to nonpublic property. Visual resources would be managed as VRM Class I in the Steens Mountain Wilderness and VRM Class II in the rest of the ACEC.

The area within the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

Alternative D

No ACEC would be designated. Most of the area would continue to be managed as under the provisions of the Wilderness Act. A small part of the area is outside the wilderness and would be managed the same as prescribed for other adjacent areas.

Alternative E

No ACEC would be designated. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. Most of the area would continue to be managed as under the provisions of the Wilderness Act. A small part of the area is outside the wilderness and would be managed the same as prescribed for other adjacent areas.

Proposed East Fork Trout Creek RNA/ACEC

Alternative A

Since no RNA/ACEC would be designated, existing prescriptions would apply. The site is in the Mahogany Ridge WSA, so the visual resources would be managed as VRM Class I. The dead end road that runs into the area would be maintained due to important access considerations. Road maintenance would be limited to the existing roadway. OHV use would be limited to the existing roads and trails. The area would be open to new ROWs or other realty use authorizations.

The area would be open to locatable and leasable mineral entry and saleable mineral removal. The area is located within the Trout Creek Mountain Grazing Allotment and is open to grazing for five days in September. The area would be open to collection of plant materials.

Alternative B

No RNA/ACEC would be designated. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would be managed as a WSA under the WSA IMP until Congress makes a decision regarding wilderness designation for the area.

Alternative C

The proposed RNA/ACEC would be designated as the East Fork Trout Creek RNA/ACEC covering 361 acres. The road through the RNA/ACEC would be maintained as needed in the existing roadway for access considerations. OHV use would be limited to designated routes. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations except for access needs to nonpublic property. Visual resources would be managed as VRM Class I.

The area within the RNA/ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area would be closed to livestock grazing. Collection of plant materials would be allowed by permit only.

Alternative D

The proposed RNA/ACEC would be designated as the East Fork Trout Creek RNA/ACEC covering 361 acres. The road through the RNA/ACEC would be maintained as needed in the existing roadway for access considerations. OHV use would be limited to designated routes. New ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated. Visual resources would be managed as VRM Class I.

The area within the RNA/ACEC would be managed as NSO for leasable minerals and closed to saleable mineral removal. The area would be open to locatable mineral entry. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

Alternative E

No RNA/ACEC would be designated. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would be managed as a WSA under the WSA IMP until Congress makes a decision regarding wilderness designation for the area.

Proposed Fir Groves ACEC

Alternative A

Since no ACEC would be designated, existing prescriptions would apply. The site would be managed as VRM Class I. The roads in the area would be maintained in the existing roadway as needed for access. The area is closed to OHV use. The area would be open for new ROWs or other realty use authorizations within the provisions of the Steens Act.

The area is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area is located within the Bridge Creek Grazing Allotment and is grazed periodically during the spring and summer. The area would be open to collection of plant materials.

Alternative B

No ACEC would be designated. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would continue to be managed the same as prescribed for adjacent areas.

Alternative C

The proposed ACEC would be designated as the Fir Groves ACEC covering 477 acres. OHV use in the ACEC would be limited to designated routes. ROWs or other realty use authorizations would be excluded unless access is needed to nonpublic property. Visual resources would be managed as VRM Class II.

The area within the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area would be closed to livestock grazing. Collection of plant materials would be allowed by permit only.

The dense stand of trees along Little Fir Creek would be mechanically thinned to protect the site from catastrophic fire incidents and to allow for development of understory vegetation.

Alternative D

The proposed ACEC would be designated as the Fir Groves ACEC covering 477 acres. OHV use in the ACEC would be limited to designated routes. New ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated. Visual resources would be managed as VRM Class II.

The area within the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

The dense stand of trees along Little Fir Creek would be mechanically thinned to protect the site from catastrophic fire incidents and to allow for development of understory vegetation.

Alternative E

No ACEC would be designated. Under this alternative, eliminating the designation would provide for the opportunity to maximize commodity production. The area would continue to be managed the same as prescribed for adjacent areas.

Proposed Mickey Hot Springs RNA/ACEC

Alternative A

Since no ACEC would be designated, existing prescriptions would apply. A portion of the site is in the East Alvord WSA, so visual resources would be managed as VRM Class I in that area. The non-WSA portion of the proposal would be managed as VRM Class II. OHV use would be limited to existing roads and trails. The area would be open to new ROWs or other realty use authorizations.

Due to the implementation of the Steens Act, the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area is located within the Alvord Grazing Allotment but is fenced to keep livestock out of the hot springs. The area would be open to collection of plant materials.

Alternatives B and C

The proposed Mickey Hot Springs ACEC would be designated. The size of the ACEC would be 42 acres, or all of the land within the fenced exclosure. The road and parking area within the ACEC would be closed. The area would also be closed to OHV use. The ACEC would be an exclusion area for new ROWs or other realty use authorizations. Visual resources would be managed as VRM Class I in the WSA and VRM Class II outside the WSA.

Due to the implementation of the Steens Act, the ACEC is withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The fenced ACEC would be closed to livestock grazing and open to collection of plant materials.

Alternatives D and E

The ACEC would be the same as Alternatives B and C except that new ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated.

Proposed Serrano Point RNA/ACEC

Alternative A

Since no RNA/ACEC would be designated, the existing prescriptions would apply. The site would be managed as VRM Class II. The road that runs through the area would be maintained due to important access considerations. Road maintenance would be limited to the existing roadway. The area would be open to OHV use and new ROWs or other realty use authorizations.

The area would be open to locatable and leasable mineral entry and saleable mineral removal. The area is located within the Tule Springs Grazing Allotment and is open to grazing from December until March. The area would be open to collection of plant materials.

Alternative B

No RNA/ACEC would be designated. Under this alternative, the entire Planning Area would be managed to maximize natural processes; therefore, the additional designation would not be necessary. The area would be managed the same as prescribed for adjacent areas.

Alternative C

The proposed RNA/ACEC would be designated as the Serrano Point RNA/ACEC covering 679 acres. The road through the RNA/ACEC would be maintained as needed in the existing roadway for access considerations. OHV use would be limited to designated routes. The RNA/ACEC would be an exclusion area for new ROWs or other realty use authorizations except for access needs to nonpublic property. Visual resources would be managed as VRM Class II.

The area within the RNA/ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. The area would be closed to livestock grazing. Collection of plant materials would be allowed by permit only.

Alternative D

The proposed RNA/ACEC would be designated as the Serrano Point RNA/ACEC covering 679 acres. The road through the RNA/ACEC would be maintained as needed in the existing roadway for access considerations. OHV use would be limited to designated routes. New ROWs or other realty use authorizations would be avoided unless the activity is compatible with the purpose for which the area was designated. Visual resources would be managed as VRM Class II.

The area within the RNA/ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Livestock grazing would continue under the management of the existing permit stipulations and approved grazing systems. Any proposed changes in grazing use or new range improvement projects would be evaluated for impacts, and permitted if relevant and important values would be maintained or enhanced. Where adverse impacts

are identified, livestock use or range improvement projects would be adjusted. The collection of plant materials would be allowed by permit only.

2.21.2 Monitoring

ACECs would be assessed on a periodic schedule in order to evaluate maintenance and enhancement of relevant and important values and to evaluate effectiveness of management in maintaining those values. Monitoring may include collection of both qualitative and quantitative data.

2.22 Wilderness

2.22.1 Management Framework

The Steens Act established the Steens Mountain Wilderness consisting of 170,084 acres of public land (Maps 2.17 and 2.19). Within the Steens Mountain Wilderness is a No Livestock Grazing Area consisting of 97,229 acres of public land, creating the first cattle-free wilderness of its kind. Wilderness within the Planning Area is managed according to the provisions of the Wilderness Act of 1964, as amended; the FLPMA; BLM Manuals 8560/H-8560-1 (Management of Designated Wilderness Areas), and 8561 (Wilderness Management Plans); the BLM's Wilderness Management Regulations (43 CFR 6300); and the specific directives contained within the Steens Act. The specific provisions are specified in Section 202 of the Act and include the following:

> (a) GENERAL RULE. - The Secretary shall administer the Steens Mountain Wilderness in accordance with this title and the Wilderness Act (16 U.S.C. 1131 et seq.). Any reference in the Wilderness Act to the effective date of that Act (or any similar reference) shall be deemed to be a reference to the date of the enactment of this Act.
>
> (b) WILDERNESS BOUNDARIES ALONG ROADS. – Where a wilderness boundary exists along a road, the wilderness boundary shall be set back from the centerline of the road, consistent with the BLM's guidelines as established in its Wilderness Management Policy.
>
> (c) ACCESS TO NON-FEDERAL LANDS. – The Secretary shall provide reasonable access to private lands within the boundaries of the Wilderness Area, as provided in section 112(d).

Section 112(e)(1) of the Steens Act states, "The Secretary shall provide reasonable access to non-federally owned lands or interests in land within the boundaries of the Cooperative Management and Protection Area and the Wilderness Area to provide the owner of the land or interest the reasonable use thereof."

The road setbacks for wilderness boundaries are described in Section 3.18 of this document.

Except for the designated No Livestock Grazing Area (97,229 acres of public land), grazing of livestock will continue and be administered in accordance with the provision of section 4(d)(4) of the Wilderness Act, in accordance with the provisions of the Steens Act, and in accordance with the guidelines set forth in Appendix A of House Report 101-405 of the 101st Congress.

The Wilderness Act (Section 4(d)(6)) states, "Commercial services may be performed within the wilderness areas designated by this Act to the extent necessary for activities that are proper for realizing the recreational or other wilderness purposes of the areas."

Section 115(b) of the Steens Act states, "The Secretary may renew a special recreation use permit applicable to lands included in the Wilderness Area to the extent that the Secretary determines that the permit is consistent with the Wilderness Act (16USC 1131 et seq.). If renewal is not consistent with the Wilderness Act, the Secretary shall seek other opportunities for the permit holder through modification of the permit to realize historic permit use to the extent that the use is consistent with the Wilderness Act and this Act, as determined by the Secretary."

Except as specifically stated in the Wilderness Act, the following activities are prohibited in wilderness (CFR 6302.20):

- Operate a commercial enterprise;
- Build temporary or permanent roads;
- Build aircraft landing strips, heliports, or helispots;
- Use motorized equipment or motor vehicles, motorboats, or other forms of mechanical transport;
- Land aircraft, or drop or pick up any material, supplies or person by means of aircraft, including a helicopter, hang-glider, hot air balloon, parasail, or parachute;
- Build, install, or erect structures or installations, including transmission lines, motels, vacation homes, sheds, stores, resorts, organization camps, hunting and fishing lodges, electronic installations, and similar structures, other than tents, tarpaulins, temporary corrals, and similar devices for overnight camping;
- Cut trees;
- Enter or use wilderness areas without authorization, where the BLM requires authorization;
- Engage or participate in competitive use, including those activities involving physical endurance of a person or animal, foot races, watercraft races, survival exercises, war games, or other similar exercises; or
- Violate any BLM regulation, authorization, or order.

2.22.2 Wilderness Management

Wilderness can mean many different things to a variety of people. There are two main concepts: one is the sociological idea that wilderness is a place where one can experience a recreational or social activity in a natural environment free from development. For a person from an urban environment with little experience in the natural environment, wilderness could be virtually any forested area that is relatively undeveloped. Secondly, legal wilderness is defined by the Wilderness Act of 1964; "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain".

As part of the management of the Steens Mountain Wilderness, the BLM will implement the provision of the Leave No Trace principles. The are seven principles: Plan Ahead and Prepare; Travel and Camp on Durable Surfaces; Dispose of Waste Properly; Leave What You Find; Minimize Campfire Impacts; Respect Wildlife; and Be Considerate to Other Visitors. The management of the wilderness will also integrate the appropriate provisions of the BLM's Fire Management Plan.

The management of the Steens Mountain Wilderness would consider the level of use, or carrying capacity of the area under management. However, this would be done through the use of indicators to assess the health or condition of the wilderness, rather than the establishment of a specific levels of use. As outlined below, certain indicators would be monitored on a regular basis and the results of the monitoring would be used to adjust the type or level of management.

Two Monitoring Areas are defined in the Wilderness Area: the Gorges Area, and the Uplands Area. The boundaries of these two Monitoring Areas are generally defined by the patterns and types of historic use and the physiography of the wilderness area. Within the Gorges Management Area are five separate canyons: Little Blitzen, Big Indian, Little Indian, Wildhorse, and Kiger.

2.22.2.1 Gorges Monitoring Area

This portion of the Wilderness Area is adjacent to primary access points and/or popular destination points. Overnight and day use are the primary types of usage. Encounters with other users will be moderate to frequent, due to spacial and temporal consideration of recreational use. Areas are monitored to protect natural conditions while providing for use and enjoyment of the recreational and natural features.

2.22.2.1.1 Desired Conditions - Natural Environment

Natural succession occurs on all existing vegetative communities, and is influenced by natural processes and disturbance. The structure, composition and function, and spacial distribution of vegetation types are influenced and sustained by natural processes. Human influence on vegetation is minimal. Plant species are predominately native and indigenous to the immediate area. There are no increases in non-indigenous-species composition from the present baseline. Fire is reestablished as a natural ecological force. Fire management activities will be designed to retain the natural

characteristics of the ecosystem. Evidence of the effects of fire, insects, or disease may be present. Appropriate air quality standards are met; however, periodic smoke could occur from natural fire. Visibility is generally unimpaired.

Human influence on the composition, structure and function of aquatic ecosystems is minimal in most areas. Fish and wildlife management activities will emphasize the protection of natural processes and be implemented only to the minimum extent necessary to manage the area as wilderness. Fish stocking will not occur. A range of habitats is sustained for all naturally occurring species. Sensitive species do not move toward T&E listing. No additional non-indigenous wildlife species have been introduced. Human influence on physical features such as soils and geologic materials are minimal.

2.22.2.1.2 Desired Conditions - Human Environment

The opportunity exists for a moderate level of risk and challenge. Contact with other users, livestock, or agency personnel is frequent. Encounters with large and small groups are more likely. Day-use opportunities are more common within this Monitoring Area. Campsites are dispersed and may be visible or audible from adjacent sites. Signage to indicate trail routes is not currently planned, but may occur in the future at trail intersections and other areas as needed. Boundary signs, trailhead signs, and other information are appropriate to educate and inform wilderness users. Signs are on unstained wood with routed letters and mounted on unstained posts.

Base camps are infrequent, especially in day-use areas. Permits for day-use activities are not currently planned. Effects from camping activity meet Natural Environment desired condition (see above). Permitted outfitters provide services to visitors for activities that meet identified public needs and cannot be provided in non-wilderness settings. Grazing actions meet requirements of current Allotment Management Plans. Structures and facilities may be allowed for resource protection and administration of the area. Evidence of historic and cultural sites may exist, but is not interpreted or signed.

2.22.2.2 Uplands Monitoring Area

This area of the wilderness features natural environmental conditions and offers a moderate degree of solitude. Natural processes and conditions have not been and will not be affected by human activity (use). Areas are monitored to protect ecological conditions with effects of human activities minimized.

2.22.2.2.1 Desired Conditions - Natural Environment

Natural succession occurs on all existing vegetative communities and is influenced by natural processes and disturbance. The structure, composition and function and spacial distribution of vegetative types are the result of natural successional processes. Human influence on vegetation is minimal. Plant species are predominately native and indigenous to the immediate area. There are no increases in non-indigenous species composition from an established baseline. Fire is reestablished as a natural ecological force. Fire management activities will be designed to retain the natural characteristics of the ecosystem. Evidence of the effects of fire, insects, or disease may be present. Appropriate air quality standards are met; however, periodic smoke could occur from natural fire. Visibility is generally unimpaired.

Human influence on the composition, structure, and function of aquatic ecosystems is unnoticeable in most areas. Fish and wildlife management activities will emphasize the protection of natural processes and be implemented only to the minimum extent necessary to manage the area as wilderness. Fish stocking will not occur. A range of habitats is sustained for all naturally occurring species. Sensitive species do not move toward T&E listing. No additional non-indigenous wildlife species have been introduced. Human influence on physical features such as soils and geologic materials is unnoticeable in most areas.

2.22.2.2.2 Desired Conditions - Human Environment

The opportunity exists for a moderate to high level of risk and challenge. Contact with individuals or groups will occur more frequently on trails than while traveling cross-country. Encounters with large groups will occur less often than with small groups or individuals. Domestic livestock may also be encountered. Campsites are dispersed; visitors at adjacent campsites will usually no be seen or heard. Existing campsites are evident, as are maintained and user-established trails.

Established base camps may exist. Effects from camping will be minimally noticeable. Permitted outfitters provide services to visitors for activities that meet identified public needs and cannot be provided in non-wilderness settings.

Signage to indicate trail routes is not currently planned, but may occur at trail intersections and elsewhere as needed. Management information and administrative signage occur at trailheads as appropriate for resource protection. Signage blends in with the natural setting. Grazing actions adhere to appropriate guidelines for structures and campsites, and meet requirements of current Allotment Management Plans. Evidence of historic and cultural sites may exist, but is not interpreted on the ground or signed.

2.22.2.3 Baseline Condition Assessment and Wilderness Condition Monitoring

Specific monitoring will be conducted on an annual basis commencing in 2003 and continuing for two years (through 2004) to assess the baseline condition within the wilderness area. After the baseline condition is determined, the annual monitoring will be used to assess the condition of the wilderness to determine the need for implementation of management options. The following are the six categories of monitoring that would be conducted to assess the baseline condition and the ongoing wilderness condition.

- Perception of Solitude - trailhead registration information, including length of stay, location of use, party size and makeup, and Wilderness Ranger interviews including location of use encounters; and;
- Campsite Density - number of campsites in a given area;
- Campsite Conditions - campsite changes;
- Length-of-Stay - trailhead registration and Wilderness Ranger interviews on the length of stay;
- Trail Condition - changes in trails, including width, depth, and number of social trails; and
- Recreational Stock-Use - root exposure, manure in campsites, and tree girdling.

2.22.2.4 Management Options

This section describes the management options that are planned, to be used to help maintain or achieve the desired conditions in each Monitoring Area. Management options are techniques, regulations, or responses that can be implemented to affect wilderness conditions on the ground. Management options are categorized into three levels as follows: Level I management options are generally information and educational measures that can be implemented initially. Level II management options are generally indirect methods intended to return a given condition to compliance with a standard or guideline. Level III management options are more direct or restrictive and are not undertaken until guidelines are exceeded to a certain extent that is sustained for a certain period of time (described as thresholds).

Six specific standards have been developed for use in the evaluation of the Monitoring Area and include the following:

- Campsite Condition;
- Campsite Density;
- Perception of Solitude;
- Trail Density;
- Length-of-Stay; and
- Recreational Stock-Use.

The above monitoring data are applied to the threshold for each standard to determine whether each Monitoring Area, or individual canyon within the Gorges Area meets the standard. The following is a discussion of each standard and the management options that would be implemented, based on the degree to which a Monitoring Area or individual canyon in the Gorges Area exceeds a threshold for one or more standards.

Campsite Condition Standard - Campsite conditions reflect the visual imprint of human uses, as well as impacts to soil and vegetation and often, hydrologic and water quality. A modified Cole Campsite Monitoring System is used to classify camp-area conditions. The Cole Campsite Monitoring System was developed through the USFS to provide a method for the systematic monitoring of campsites to assess their use and conditions. Conditions are grouped into four categories based on a score that is determined by surveying a variety of factors that affect campsite impacts. The scale ranges from Condition Class 1, having the least impact, to Condition Class 4, having the highest impact.

Campsite Condition - Management Options			
Indicator	Level I Options	Level II Options	Level III Options
Number of sites within a Monitoring Area or individual canyon that is within a Modified Cole Campsite Condition Rating	- Voluntary dispersal of use through education efforts by agency personnel, volunteers, and publications. - Inform visitors of opportunities outside wilderness. - Emphasize Leave No Trace education efforts. - Increase wilderness information specialist (WIS) program and ghost rider program efforts.	- Discourage the inclusion of information in publications or guidebooks that directs visitors to high-use areas. - Inform users about alternative areas. - Implement area-wide non-quota permit system to increase visitor education. - Limit improvements of trailhead access to areas where crowding is a concern. - Limit improvement of trail access in areas where crowding is a concern. - Restrict campfire use to previously used areas. - Limit camping to designated campsites in high-use zones to minimize establishment of new sites. - Close and rehabilitate selected campsites where campsite density is high. - Limit group sizes to reduce impact on sites. - Implement regulations to restrict recreational stock from being tied to trees in campsites.	- Shorten length-of-stay period. - Implement permit quota system for specific areas that are exceeding guidelines. - Implement area-wide permit quota system at trailheads or at individual destinations. - Implement closure of specific areas to the use of campfires and remove fire rings.

Campsite Density Standard - The campsite density standard describes the maximum allowable number of established campsites, per section (one square mile) within the Uplands Monitoring Area, or per linear mile within the Gorge Monitoring Area or individual canyon. Established campsites are determined from evidence that continued or repetitive camping has occurred at the site in the past. Evidence could consist of fire ring(s), barren ground caused by compaction, long-term vegetation impacts, or other severe signs of human usage. Campsite density is also monitored at designated high-lake basins. The guideline for the maximum allowable established sites would be determined for each lake basin.

Campsite Density - Management Options			
Indicator	Level I Options	Level II Options	Level III Options
Number of existing campsites within a Monitoring Area or individual canyon, or Number of established campsites within a lake basin area.	- Voluntary dispersal of use through education efforts by agency personnel, volunteers, and publications. - Inform visitors of opportunities outside wilderness. - Emphasize Leave No Trace education efforts. - Agency personnel educate users to utilize existing campsites in high-use areas.	- Discourage the inclusion of information in publications or guidebooks that directs visitors to high-use areas. - Inform users about alternative areas. - Implement area-wide non-quota permit system to increase visitor education. - Limit improvements of trailhead access to areas where crowding is a concern. - Limit improvement of trail access in areas where crowding is a concern. - In site-specific areas, increase the distance from campsite to water resources. - Restrict campfire use to previously used areas. - Limit camping to designated campsites in high-use zones to minimize establishment of new sites. - Close and rehabilitate selected campsites where campsite density is high.	- Shorten length-of-stay period. - Implement permit quota system for specific areas that are exceeding guidelines. - Implement area-wide permit quota system at trailheads or at individual destinations.

Perception of Solitude Standard - Perception of Solitude is measured by campsite and trail encounters, the size of groups encountered, and by the degree of "perceived crowding", as determined from surveying wilderness users. The Campsite Encounter Guideline monitors the average number of occupied campsites within sight or sound of the monitor's campsite per Monitoring Area or individual canyon. The monitored number of encounters is averaged over the summer use season that varies by Monitoring Area or individual canyon.

The Trail Encounter Guideline monitors the average number of encounters with parties (groups) on a trail or cross-country route. Encounter rates depend on the length of time spent hiking or riding and are converted to an eight-hour period to obtain monitoring consistency. The location of a trail or route segment relative to the different Monitoring Areas determines the location of encounters. Trail or route encounters with large groups (defined as groups having more than ten people) are monitored by the same methodology. Crowding perception is monitored through surveys of wilderness users to obtain their viewpoints regarding crowding levels during their visit. The crowding scale ranges from Not Crowded to Extremely Crowded. The guideline refers to the percentage of respondents who reported being moderately to extremely crowded

Perception of Solitude - Management Options			
Indicator	Level I Options	Level II Options	Level III Options
Number of campsites occupied within sight or sound of your campsite per Monitoring Area or individual canyon (season average). or Number of party encounters on or off trail per eight-hour day (season average). or Percent of sampled visitors who report being moderately to extremely crowded within a Monitoring Area or individual canyon.	- Voluntary dispersal of use through education efforts by agency personnel, volunteers, and publications. - Inform visitors of opportunities outside wilderness. - Inform visitors of the type of experience (i.e. high encounter rate, numerous campsites, etc.) they are likely to have. - Inform visitors of areas or times best to visit that will reduce crowding.	- Discourage the inclusion of information in publications or guidebooks that directs visitors to high-use areas. - Inform users about alternative areas. - Implement area-wide non-quota permit system to increase visitor education. - Limit group size in areas of concentrated use. - Limit improvements of trailhead access to areas where crowding is a concern. - Limit improvement of trail access in areas where crowding is a concern. - In specific areas, increase the distance that campsites must be away from water.	- Institute parking fees at high-use trailheads. - Shorten length-of-stay period. - Implement backcountry use fees for high-use areas. - Implement permit quota system for specific areas that are exceeding guidelines. - Implement area-wide permit quota system at trailheads or at individual destinations.

Trail Condition Standard - The trail condition standard describes the maximum allowable number of social trails per Monitoring Area or individual canyon, as well as changes in the width and depth of the system trails. System and social trails refer to evidence that continued or repetitive use has occurred along a trail in the past. Evidence could consist of trampled vegetation, barren ground caused by compaction, long-term vegetation impacts, or other severe signs of human use. System trails are those that are managed for continual long-term use. Social trails are the result of random use patterns and are unplanned in their location.

Trail Condition - Management Options			
Indicator	Level I Options	Level II Options	Level III Options
Number of social trails within a Monitoring Area or individual canyon. or Width and depth of system trails.	- Voluntary dispersal of use through education efforts by agency personnel, volunteers, and publications. - Inform visitors of opportunities outside wilderness. - Emphasize Leave No Trace education efforts. - Agency personnel educate users to utilize existing campsites in high-use areas.	- Discourage the inclusion of information in publications or guidebooks that directs visitors to high-use areas. - Inform users about alternative areas. - Implement area-wide non-quota permit system to increase visitor education. - Limit improvements of trailhead access to areas where crowding is a concern. - Limit improvement of trail access in areas where crowding is a concern. - In site-specific areas, increase the distance campsites must be away from water. - Limit camping to designated campsites in high-use zones to minimize establishment of new sites. - Close and rehabilitate selected trails where trail density is high.	- Shorten length-of-stay period. - Implement permit quota system for specific areas that are exceeding guidelines. - Implement area-wide permit quota system at trailheads or at individual destinations.

Length-of-Stay Standard - The length-of-stay standard describes the maximum allowable number of days individuals or groups stay within a Monitoring Area or individual canyon. The length-of-stay will be based on information collected by voluntary reporting at trailheads and interviews by the Wilderness Rangers.

Length-of-Stay - Management Options			
Indicator	Level I Options	Level II Options	Level III Options
Length-of-stay within a Monitoring Area or individual canyon.	- Voluntary reduction in the length-of-stays through education efforts by agency personnel, volunteers, and publications. - Inform visitors of opportunities outside wilderness. - Emphasize Leave No Trace education efforts. - Increase WIS program and ghost rider program efforts.	- Discourage the inclusion of information in publications or guidebooks that directs visitors to high-use areas. - Inform users about alternative areas. - Implement area-wide non-quota permit system to increase visitor education. - Limit improvements of trailhead access to areas where length-of-stay is a concern. - Limit improvement of trail access in areas where length-of-stay is a concern. - Limit camping to designated campsites in high-use zones, to minimize establishment of new sites.	- Shorten length-of-stay period. - Implement permit quota system for specific areas that are exceeding guidelines. - Implement area-wide permit quota system at trailheads or at individual destinations. - Implement closure of specific areas to the use of campfires and remove fire rings.

Recreational Stock-Use Standard - The impact of recreational stock-use on vegetation, meadow and riparian areas is determined by monitoring the amount of manure in campsite areas, and the condition tree roots, and presence of tree girdling in campsite areas.

Recreational Stock-Use - Management Options			
Indicator	Level I Options	Level II Options	Level III Options
Amount of recreational stock-use within a Monitoring Area or individual canyon.	- Educate public on proper use of recreational-stock in the backcountry. - Voluntary dispersal of use through educational efforts. - Inform visitors of opportunities outside these areas. - Emphasize Leave No Trace education efforts for all backcountry users, with emphasis for stock users.	- Limit the number of stock-per-party in areas that are exceeding guidelines. - Require certified weed free feed/hay be used for recreational livestock in place of grazing. - Prohibit picketing in areas where guidelines are exceeded. - Enforce regulations to prohibit resource damage caused by tying stock to trees. - Restrict grazing within areas that are exceeding guidelines to no more than one-third of the grazing season. - Establish an "on" date for recreational stock-use or a season of use. - Develop a rotational system within a compartment or drainage that would allow recreational-stock grazing only within specified areas. - Limit length-of-stay by recreational stock within areas that are exceeding guidelines.	- Close specific areas that are exceeding guidelines to use by recreational stock. - Close drainages or compartments to grazing by recreational stock.

2.22.3 Management Direction by Alternative

The management direction for the wilderness, by alternative, will assess a range of thresholds that would trigger the implementation of the appropriate level of management based on the exceedence of the threshold. Thresholds are the upper limit in terms of time period or percentage of the standard or guideline that is exceeded, at which point the next level of management options would be undertaken.

2.22.3.1 Goal 1 - Maintain or improve the wilderness values and the special features of the Steens Mountain Wilderness under a principle of nondegradation and in a manner that would leave these values unimpaired for future use and enjoyment as wilderness, while providing opportunities for public use, enjoyment, and understanding

Objective 1. Manage the wilderness to allow for areas of differing levels of resource use.

Alternative A

All areas in the wilderness would be classified in a similar way (no separate Monitoring Areas). There would be no limits on party sizes, and no restrictions on dogs in the wilderness. The use of catholes and proper disposal of toilet paper would be encouraged. There would be no restrictions on camping or stock. Self regulation at selected trailheads would be encouraged. Minimal maintenance would be conducted on Little Blitzen, Big Indian, and Wildhorse Lake trails. No new trails would be constructed and inappropriate user created trails would be reclaimed. There would be no campsite restrictions. Length-of-stay in the wilderness would be limited to 14 days. The wilderness would be inventoried to establish baseline and monitoring data for resource and social impacts and to establish the limits of use. As outlined in the Wilderness Plan, two years of data collected in 2003 and 2004 would be utilized to establish the baseline condition.

The monitoring data would then be evaluated after three years and management actions would be modified, if necessary, to achieve the limits of use.

Alternative B

The wilderness would be classified in two Monitoring Areas. Within the Uplands Management Area, five individual canyons would be identified. No dogs would be allowed in the wilderness. Management of party sizes would limit groups to a maximum of six individuals and nine recreational stock. No provisions would be made for exceptions to the management of party size. All human waste and toilet paper would be required to be packed out of the wilderness. No camping would be allowed at Wildhorse Lake or in any RNA. Use of existing established campsites would be required. Tying recreational stock to trees would not be allowed. As outlined in the Wilderness Plan, two years of data collected in 2003 and 2004 would be used to establish the baseline condition. Monitoring data would then be evaluated after three years to determine whether the following thresholds have been exceeded, which would determine the implementation of appropriate management options as outlined in Section 2.21.2. Based on monitoring, management options would be implemented throughout a Management Area or individual canyon, as appropriate, unless otherwise identified.

Campsite Condition Guideline	
Monitoring Areas	Guideline
Gorges	- No greater than 20 percent of sites within a Management Area or individual canyon at Campsite Condition Class 3 in two of three consecutive monitoring years at Level I; in three of four consecutive monitoring years at Level II; and in four of five consecutive monitoring years at Level III. - No sites at Campsite Condition Class 4 in any monitoring year, unless designated.
Uplands	- No greater than 20 percent of sites within a Management Area or individual canyon at Campsite Condition Class 3 in two of three consecutive monitoring years at Level I; in three of four consecutive monitoring years at Level II; and in four of five consecutive monitoring years Level III. - No sites at Campsite Condition Class 4 in any monitoring year, unless designated.

A campsite at Campsite Condition 4 would allow the implementation of management options on a campsite-specific basis to address the individual campsite impact.

Campsite Density Guideline	
Monitoring Areas	Guideline
Gorges	- Two campsites per linear mile, in two of three consecutive monitoring years Level I; in three of four consecutive monitoring years Level II; and in four of five consecutive monitoring years Level III.
Uplands	- Four campsites per section, in two of three consecutive monitoring years Level I; in three of four consecutive monitoring years Level II; and in four of five consecutive monitoring years Level III.

Perception of Solitude Guideline				
Monitoring Areas	Guideline			
	Campsite Encounters	Trail/Route Encounters	Large Group Encounters	Crowding Perception
Gorges	Two per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Six per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	One per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Less than ten percent, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	One per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Three per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	0.5 per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Less than five percent, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Trail Condition Guideline	
Monitoring Areas	Guideline
Gorges	- 20 percent increase in the density of trails per acre, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 25 percent increase in the width or depth of trails in a Management Area or individual canyon, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	- Ten percent increase in the density of trails per acre, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 20 percent increase in the width or depth of trails in a Management Area or individual canyon, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Length-of-Stay Guideline	
Monitoring Areas	Guideline
Gorges	- 25 percent increase, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	- 20 percent increase, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Recreational Stock-Use Guideline	
Monitoring Areas	Guideline
Gorges	- 25 percent increase in root exposure at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 25 percent increase in tree girdling at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 25 percent increase in manure present at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	- 20 percent increase in root exposure at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 20 percent increase in tree girdling at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 20 percent increase in manure present at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Alternative C

The wilderness would be classified in two Monitoring Areas. Within the Gorges Management Area, five individual canyons would be identified. Dogs would be allowed in all areas but would be required to be under voice or physical control. Management of party sizes would limit groups to a maximum of nine individuals and 12 recreational stock. Provisions would be made for exceptions to the management of party size through the authorization of historic uses, on a case by case basis. Catholes for human waste would be required and at least 150 feet from all water sources, campsites, and trails. Toilet paper would be required to be packed out. No camping would be allowed in any RNA or Wildhorse Lake. High lines or picketing of recreational stock would be required. Tying stock to trees would not be allowed. Minimal maintenance would be conducted on Little Blitzen, Big Indian, and Wildhorse Lake trails. No new trails would be constructed and inappropriate user created trails would be reclaimed. Selected closed roads in the wilderness would also be reclaimed. As outlined in the Wilderness Plan, two years of data, collected in 2003 and 2004, would be used to establish the baseline condition. The monitoring would be used to determine whether the following thresholds have been exceeded, which would determine the implementation of appropriate management options as outlined in Section 2.21.2.

Campsite Condition Guideline	
Monitoring Areas	Guideline
Gorges	- No greater than 30 percent of sites within a Management Area or individual canyon at Campsite Condition Class 3, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - No sites at Campsite Condition Class 4 in any monitoring year, unless designated.
Uplands	- No greater than 30 percent of sites within a Management Area or individual canyon at Campsite Condition Class 3, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - No sites at Campsite Condition Class 4 in any monitoring year, unless designated.

A campsite at Campsite Condition 4 would allow the implementation of management options on a campsite-specific basis to address the individual campsite impact.

Campsite Density Guideline	
Monitoring Areas	Guideline
Gorges	- Five campsites per linear mile, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	- Six campsites per section, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Perception of Solitude Guideline				
Monitoring Areas	Guideline			
	Campsite Encounters	Trail/Route Encounters	Large Group Encounters	Crowding Perception
Gorges	Four per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Nine per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Two per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Less than 20 percent, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	Two per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Four per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	One per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Less than 10 percent, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Trail Condition Guideline	
Monitoring Areas	Guideline
Gorges	- 35 percent increase in the density of trails per acre, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 50 percent increase in the width or depth of trails in a Management Area or individual canyon, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	- 20 percent increase in the density of trails per acre, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 35 percent increase in the width or depth of trails in a Management Area or individual canyon, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Length-of-Stay Guideline	
Monitoring Areas	Guideline
Gorges	- 50 percent increase, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	- 35 percent increase, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Recreational Stock-Use Guideline	
Monitoring Areas	Guideline
Gorges	- 50 percent increase in root exposure at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 50 percent increase in tree girdling at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 50 percent increase in manure present at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	- 35 percent increase in root exposure at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 35 percent increase in tree girdling at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 35 percent increase in manure present at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Alternative D

The wilderness would be classified in two Monitoring Areas, and within the Gorges Monitoring Area five individual canyons would be identified. Dogs would be allowed in all areas but would be required to be under voice or physical control. Management of party sizes would limit groups to a maximum of 12 individuals and 15 recreational stock. Provisions would be made for exceptions to the management of party size through the authorization of historic uses, on a case-by-case basis, with NEPA analysis. Catholes for human waste would be required and at least 150 feet from all water sources, campsites, and trails. Toilet paper would be required to be packed out. Overnight camping would be allowed at Rooster Comb and Little Blitzen RNAs in historically used areas that are consistent with the purpose of the RNA and the Wilderness Plan objectives. Camping would be allowed at Wildhorse Lake in a defined area and at designated sites. No overnight recreational stock use at Wildhorse Lake would be allowed. No camping would be allowed in the Little Wildhorse RNA. Grazing of recreational stock would be required to be consistent with the S&Gs. Tying recreational stock to trees would be allowed for loading and unloading. The Little Blitzen, Big Indian, and Wildhorse Lake Trails would be maintained and new trails would be constructed as needed to preserve wilderness values and to protect resources from damage. Selected roads in the wilderness would be reclaimed to eliminate evidence of the road. Inappropriate user-created trails would be reclaimed. As outlined in the Wilderness Plan, two years of data, collected in 2003 and 2004, would be used to establish the baseline condition. The monitoring would be used to determine whether the following thresholds have been exceeded, which would determine the implementation of appropriate management options as outlined in Section 2.21.2.

Campsite Condition Guideline

Monitoring Areas	Guideline
Gorges	- No greater than 40 percent of sites within a Management Area or individual canyon at Campsite Condition Class 3, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - No sites at Campsite Condition Class 4 in any monitoring year, unless designated.
Uplands	- No greater than 40 percent of sites within a Management Area or individual canyon at Campsite Condition Class 3, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - No sites at Campsite Condition Class 4 in any monitoring year, unless designated.

A campsite at Campsite Condition 4 would allow the implementation of management options on a campsite specific basis to address the individual campsite impacts.

Campsite Density Guideline	
Monitoring Areas	Guideline
Gorges	- Six campsites per linear mile, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Plateau Uplands	- Eight campsites per section, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Crowding Guideline				
Monitoring Areas	Guideline			
	Campsite Encounters	Trail/Route Encounters	Large Group Encounters	Crowding Perception
Gorges	Six per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	12 per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Three per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Less than 30 percent, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	Three per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Five per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Two per eight-hour period, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.	Less than 15 percent, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Trail Condition Guideline	
Monitoring Areas	Guideline
Gorges	- 50 percent increase in the density of trails per acre, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 75 percent increase in the width or depth of trails in a Management Area or individual canyon, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	- 30 percent increase in the density of trails per acre, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 50 percent increase in the width or depth of trails in a Management Area or individual canyon, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Length-of-Stay Guideline	
Monitoring Areas	Guideline
Gorges	- 75 percent increase, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	- 50 percent increase, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Recreational Stock-Use Guideline	
Monitoring Areas	Guideline
Gorges	- 75 percent increase in root exposure at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 75 percent increase in tree girdling at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 75 percent increase in manure present at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.
Uplands	- 50 percent increase in root exposure at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 50 percent increase in tree girdling at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III. - 50 percent increase in manure present at campsites, in two of three consecutive monitoring years Level I, in three of four consecutive monitoring years Level II, and in four of five consecutive monitoring years Level III.

Alternative E

The entire wilderness would be classified in a similar manner with no Monitoring Areas. Dogs would be allowed in all areas. The use of catholes and proper disposal of toilet paper would be encouraged. There would be no restrictions on camping. There would be no management of party sizes. Recreational stock would be allowed in all areas. High lines or picketing of recreational stock would be allowed and would be required to occur at a distance greater than150 feet from water sources. Minimal maintenance would be conducted on Little Blitzen, Big Indian, and Wildhorse Lake trails. New trails would be constructed, where appropriate, with increased use and to aid visitor travel. Selected closed roads in the wilderness would be reclaimed, while allowing the use of others as informal stock and hiking routes. Length of stay in the wilderness would be limited to 14 days. The wilderness would be inventoried to establish baseline and monitoring data for resources and social impacts, and to establish carrying capacity. As outlined in the Wilderness Plan, two years of data, collected in 2003 and 2004, would be used to establish the baseline condition. The monitoring data would then be evaluated after three years and management actions would be modified, if necessary, to achieve the limits of use.

2.22.3.2 Goal 2 - Manage the wilderness in such a manner that the landscape is essentially unaffected by human manipulation and influences, while allowing natural processes to dominate.

Objective 1. Accomplish necessary projects and activities occurring in wilderness with the minimum tool or requirement needed to achieve a desired result. The chosen tool, equipment, or structure would be the one that least degrades wilderness values temporarily or permanently.

Alternative A

No new recreation facilities would be constructed in wilderness or at trailheads. Historic structures would be allowed to deteriorate through natural processes, including fire. Limited maintenance of Nye Cabin would take place only to correct hazards. All fire suppression would be accomplished using the Appropriate Management Response, based on life, safety, and resource values. Noxious weeds and other exotic plant species in wilderness would be controlled using a full range of equipment after a minimum tool analysis.

Alternative B

No new recreation facilities would be constructed in wilderness or at trailheads. Historic structures would be allowed to deteriorate through natural processes, including fire. Nye cabin would not be maintained. Fire would be allowed to play its natural role. This would exclude areas along the wilderness boundary where life and property are at risk. All lightning fires would be considered for wildland fire use. Wildfires would be confined or contained within natural barriers unless additional measures are necessary to protect life/property values. No prescribed fire would be allowed. Noxious weeds and other exotic plant species in wilderness would be controlled using nonmotorized equipment.

Alternative C

No new recreation facilities would be constructed in wilderness. New facilities would only be constructed at trailheads if resource damage/hazards exist. All facilities (excluding trails) and structures in wilderness would be removed except for historic ones and those needed for grazing/wildlife purposes. Historic structures would be allowed to deteriorate through natural processes, including fire. Limited maintenance of Nye Cabin would take place only to correct hazards. Removal of the Page Springs weir. Fire would be allowed to play its natural role. This would exclude areas along the wilderness boundary where life and property are at risk. All lightning fires would be considered for wildland fire use. Wildfires would be confined or contained within natural barriers unless additional measures are necessary to protect life/property values. Prescribed fire would be allowed if needed to maintain the natural condition of a fire dependent ecosystem or to re-introduce fire where past strict wildfire control measures have interfered with natural ecological processes. Noxious weeds and other exotic plant species in wilderness would be controlled using a full range of equipment after a minimum tool analysis.

Alternative D

Recreation facilities would be constructed at trailheads as needed to prevent resource damage. Historic structures would be maintained to preserve them. Nonconforming structures would be removed or allowed to deteriorate except those needed for grazing and wildlife purposes. Nye cabin would be managed to maintain a safe and hazard-free environment and for its historic characteristics. Removal of the Page Springs weir would be considered. Fire would be allowed to play its natural role, excluding areas along the wilderness boundary where life and property are at risk. All lightning fires would be considered for wildland fire use. Wildfires would be confined or contained within natural barriers unless additional measures are necessary to protect life/property values. Prescribed fire would be allowed if needed to maintain the natural condition of a fire dependent ecosystem or to re-introduce fire where past strict wildfire control measures have interfered with natural ecological processes. Noxious weeds and other exotic plant species in wilderness would be controlled using a full range of equipment after a minimum tool analysis.

Alternative E

Recreation facilities would be constructed at trailheads as needed to prevent resource damage. Historic structures would be maintained to preserve them. Nonconforming structures would be removed or allowed to deteriorate except for those needed for grazing and wildlife purposes. Nye cabin would be managed as a rental cabin. All fire suppression would be accomplished using the Appropriate Management Response, based on life, safety, and resource values. Noxious weeds and other exotic plant species in wilderness would be controlled using a full range of equipment after a minimum tool analysis.

2.22.3.3 Goal 3 - Manage nonconforming uses of the Steens Mountain Wilderness, allowed under the Wilderness Act and the Steens Act, to have the minimum impact on wilderness characteristics.

Objective 1. Manage livestock grazing in wilderness under the stipulations of the Congressional Grazing Guidelines (HR 101-405 Appendix A).

Alternatives A, C, and D

Management would adhere to the decision records of the Motorized Access for Grazing Operations in Wilderness EA/Decision Record (2003).

Alternative B

No mechanized transport or motorized equipment would be allowed for grazing operations in wilderness.

Alternative E

Mechanized/motorized use would be allowed at historic use levels (predesignation).

Objective 2. Provide for the level and type of commercial services necessary to enable the public to use, access, enjoy and understand the recreational and other values of wilderness, emphasizing opportunities for primitive and unconfined types of recreation, inspiration, and solitude.

Alternative A

New proposals would be considered.

Alternative B

No commercial services would be allowed.

Alternative C

Outfitters would be limited at the current level. No permanent caches would be allowed.

Alternatives D and E

New proposals for outfitters would be considered after preparing a needs assessment. No permanent caches would be allowed.

Objective 3. Allow for a level of reasonable access for the use and enjoyment of private inholdings while protecting the wilderness values.

Alternatives A, C, and D

Management would adhere to the decision record of the Access for Inholdings in the Steens Mountain Wilderness EA/Decision Record (2003).

Alternative B

No mechanized transport or motorized use would be allowed for inholding access.

Alternative E

Access would be allowed at historic (predesignation) levels.

2.23 Wilderness Study Areas

2.23.1 Goal - Manage WSAs and WSA additions so as not to impair their suitability for preservation as wilderness.

2.23.1.1 Management Framework

Under the FLPMA, wilderness preservation is part of the BLM's multiple use mandate, and wilderness is recognized as part of the spectrum of resource values considered in the land use planning process. According to the wilderness review program, the existing WSAs are managed in accordance with the BLM's WSA IMP (USDI 1995b). The general standard for interim management is that land under wilderness review must be managed so as not to impair suitability for preservation as wilderness. Wilderness characteristics and values, described in section 2 (c) of the Wilderness Act of 1964 (P.L. 88-577) must be protected and enhanced in all WSAs. The initial task of identifying areas suitable for wilderness preservation has been completed as mandated in the FLPMA section 603, and is documented in BLM 1989 Oregon Final Wilderness EIS and the Wilderness Study Report for Oregon (USDI 1991c).

Lands acquired since that time were not included in the initial inventory for wilderness values. Sections 201 and 202 of the FLPMA provide for ongoing inventories of public land resources and designation of additional WSAs through the RMP process. If parcels of land are recommended as suitable for wilderness designation, those areas would be managed under authority of the FLPMA Sections 202 and 302.

2.23.1.2 Management Direction by Alternative

Objective 1. Manage lands identified as additions to existing WSAs or any new areas found to be suitable for WSA designation, so as not to impair their suitability for preservation as wilderness.

Alternative A

No new WSAs or additions to WSAs would be designated.

Alternatives B, D, and E

The 40- and 80-acre parcels within the Mahogany Ridge WSA, acquired through a land exchange, would be incorporated into this WSA. A 40-acre parcel along the boundary between the Bridge Creek WSA and the WJMA would be incorporated into the Bridge Creek WSA.

Alternative C

The 40- and 80-acre parcels within the Mahogany Ridge WSA, acquired through a land exchange, would be incorporated into this WSA. A 40-acre parcel along the boundary between the Bridge Creek WSA and the WJMA would be incorporated into the Bridge Creek WSA.

The following parcels, found to contain wilderness values, would be protected: Bridge Creek (1,526 acres); High Steens (629 acres); Stonehouse (2,176 acres); and Alvord Desert (2,033 acres). Protection would include limited access to designated roads and trails, OHV designations, and VRM Class II designations (See Map 2.18).

Objective 2: Manage existing WSAs so as not to impair their suitability for preservation as wilderness.

Management Common to All Alternatives

All WSAs are managed under the WSA IMP until such time as Congress makes a determination regarding wilderness designation. The WSA IMP takes precedence over all other management direction unless other management direction is more restrictive and more protective of the wilderness resource. Management of any congressionally designated wilderness would be described in the legislation. Management direction for WSAs not designated by Congress and released from WSA status would be based on existing RMP management direction.

According to the WSA IMP, the use of "mechanical transport, including all motorized devices as well as trail and mountain bikes, may only be allowed on existing ways and within open areas that were designated prior to the passage of the FLPMA.....". Existing ways are those that were identified in the initial wilderness inventory.

The existing WSAs, which total 633,519 acres (Table 3.24) would continue to be managed under the WSA IMP until designated as wilderness by Congress or released from WSA status.

2.23.2 Monitoring

Monitoring and surveillance of existing WSAs and any additions or new WSAs would be conducted on a regular basis. WSA boundary and OHV designation signs would be maintained and WSA IMP violations would be documented in the case files.

2.24 Wild and Scenic Rivers

2.24.1 Goal 1 – Manage the existing and newly designated WSRs in conformance with the WSR Act and the Wilderness Act.

2.24.1.1 Management Framework

The WSR Act (Public Law 90-542 and amendments), section 1(b), states that "certain selected rivers of the nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations." Section 10(a) describes the basic management requirement of protecting and enhancing the values that caused the river to be included in the national WSR system. For the descriptions of the management actions by alternative for managing the designated WSRs, refer to Chapter 2 of the resource section for each of their ORVs. Those resource sections for each river's ORVs are the following:

Donner und Blitzen Wild and Scenic River consists of the following segments: Donner und Blitzen River, Fish Creek, Little Blitzen River, Big Indian Creek, Little Indian Creek, and South Fork of Donner und Blitzen River (Map 2.19). The ORVs for the Donner und Blitzen Wild and Scenic River are as follows:

- Scenic qualities - refer to Visual Resources
- Geologic features - no management actions identified
- Recreation opportunities - refer to Wilderness and Recreation
- Native fisheries habitat - refer to RTR
- Abundant Wildlife - refer to Fish and Wildlife
- Variety of Vegetation Communities - refer to Vegetation
- Special status plant species - refer to Special Status Plant Species
- Historic cultural resources - refer to Cultural Resources

Mud and Ankle Creek Wild and Scenic Rivers ORVs areas follows:

- Same as Donner und Blitzen WSRs ORVs

Kiger Wild and Scenic River ORVs are as follows:

- Scenic geologic features - refer to Visual Resources
- Diversity of Wildlife Habitat - refer to Fish and Wildlife
- Special status fish species - refer to RTR

Wildhorse and Little Wildhorse Creek Wild and Scenic River ORVs are as follows:

- Scenic quality - refer to Visual Resources
- Recreation - refer to Wilderness and Recreation
- Wildlife habitat diversity - refer to Fish and Wildlife
- Special status plant species - refer to Special Status Species

2.24.1.2 Management Directions by Alternative

Objective 1. Protect and enhance the ORVs of the designated WSRs.

Management Common to All Alternatives

An integrated WSR/Wilderness Management Plan would be developed for all WSRs in the CMPA and the Steens Mountain Wilderness (see Map 2.19).

Alternatives A, B, and C

The existing wild classification would be maintained throughout the river corridor.

Alternatives D and E

A recommendation to Congress would be made to reclassify the Riddle Brothers Ranch Historic District, and the Page Springs and Jackman Park campgrounds from wild to recreational, and change the classification of the Blitzen Crossing to scenic.

2.24.2 Goal 2 - Determine the suitability of eligible WSRs. Manage those rivers found suitable in conformance with BLM Manual 8351 (Wild and Scenic Rivers - Policy and Program Direction for Identification, Evaluation, and Management) for protective management of eligible and suitable WSRs.

2.24.2.1 Management Framework

Section 5(d) of the WSR Act requires federal agencies to consider potential wild, scenic, and recreational river areas in all planning for the use and development of water and related land resources. All rivers in the Andrews RA were evaluated for WSR eligibility in 1997 for the SEORMP. Eligible rivers that were not designated as WSRs by the Steens Act include the following: Big Alvord Creek, Home Creek, McCoy Creek, Mud Creek, Pike Creek, Threemile Creek, Willow Creeks, Little Cottonwood Creek, Van Horn Creek, and Big Trout Creek. In accordance with BLM Manual 8351 (Wild and Scenic Rivers - Policy and Program Direction for Identification, Evaluation, and Management), all eligible rivers will be evaluated for suitability for potential inclusion into the National WSR System by Congress. The planning determination of suitability provides the basis for any decision to recommend legislation. Factors to be considered (see section 4[a] of the WSR Act) in the suitability determination include the following: the current status of land ownership and use in the area; the reasonably foreseeable potential uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the national WSR system, and the values that would be foreclosed or diminished if the river is not protected as part of the national WSR system; other agencies, organizations, or public interested in designation or nondesignation; administrative costs; ability of the agency to manage and/or protect the river area; and historic or existing rights. Refer to Appendix N for the Wild and Scenic River Suitability Evaluation for all eligible rivers listed below.

2.24.2.2 Management Directions by Alternative

Objective 1. Protect and enhance the ORVs of rivers determined to be administratively suitable for potential inclusion into the National WSR System by Congress.

Alternative A

The following eligible rivers would continue to be managed in conformance with BLM Manual 8351 for protective management of eligible WSRs:

- Big Alvord Creek- 6.3 miles wild; ORVs are wildlife and botanic
- Willow Creek- 6.2 miles wild; ORV is botanic
- Threemile Creek- 4.3 miles scenic; ORVs are fish and cultural
- Pike Creek- 4.2 miles scenic; ORV is wildlife
- Mud Creek- 7.2 miles scenic; ORV is botanic
- McCoy Creek- 30.8 miles scenic; ORV is wildlife
- Home Creek- 5.5 miles scenic; ORVs are scenic, recreational, and fish

- Kiger Creek- 14.25 miles scenic; ORVs are scenic, fish, and wildlife
- Cottonwood Creek- 12.1 miles scenic; ORV is botanic
- Van Horn Creek- 9.9 miles scenic; ORV is recreational
- Big Trout Creek- 20.3 miles scenic; ORV is scenic

Alternatives B, D, and E

No eligible rivers would be recommended as administratively suitable for potential designation by Congress as WSRs. Unsuitable river segments would be managed in accordance with RMP management objectives.

Alternative C

The following rivers would be recommended as administratively suitable for potential designation by Congress as WSRs:

- Big Alvord - 6.3 miles wild; ORVs are wildlife and botanic
- Willow - 6.2 miles wild; ORV is botanic
- Threemile - 4.3 miles scenic; ORVs are fish and cultural
- Pike - 4.2 miles scenic; ORV is wildlife
- Mud - 7.2 miles scenic; ORV is botanic
- McCoy - 30.8 miles scenic; ORV is wildlife
- Home - 5.5 miles scenic; ORVs are scenic, recreational, and fish
- Kiger - 14.25 miles scenic; ORVs are scenic, fish, and wildlife
- Cottonwood - 12.1 miles scenic; ORV is botanic
- Van Horn - 9.9 miles scenic; ORV is recreational
- Big Trout - 20.3 miles scenic; ORV is scenic

All rivers found suitable for inclusion in the WSR system would be managed in conformance with BLM Manual 8351 as if they were designated wild and scenic rivers until Congress acts on whether to add these rivers into the National WSR system. All suitable rivers shall be administered in such a manner as to protect and enhance their ORVs.

3 AFFECTED ENVIRONMENT

3.1 Planning Area Profile

The Planning Area encompasses the entire Andrews RA and the portion of the Three Rivers RA within the CMPA. This chapter describes the current condition, amount, location, use, and demands of each of the resources in the Planning Area that could be affected by the actions described in Chapter 2. Physical characteristics such as geology and climate are incorporated into the description of the physical environment. Although they should not be affected by the management actions, they are a part of the physical environment in which management actions would be taking place.

Health and safety is a required management component that will not change by alternative or be affected by the various management actions. Protection of the public will be provided under all of the alternatives and will include such measures as aiding law enforcement agencies with search and rescue efforts and posting signs to alert the public to hazardous elements and locations within the Planning Area.

3.1.1 Physical Characteristics

The Planning Area lies in the northwest portion of the Great Basin in the Basin and Range Physiographic Province. Drainage is generally internal with no outlet to the sea, with one exception: the Crooked-Rattlesnake drainage extends into the northeastern part of the Planning Area and is a tributary to the Owyhee River.

The oldest rocks in the Planning Area are limited to the Pueblo Mountains. They consist of metamorphosed volcanic rocks that are approximately 150 to 200 million years old. They were intruded by quartz-rich rock approximately 180 million years ago.

The next oldest rocks in the Planning Area are approximately 18 to 23 million years old and are exposed only at the base of the east side of Steens Mountain. They consist primarily of rhyolitic and andesitic lava flows and tuffaceous sediments.

The Basin and Range Province began to evolve approximately 18 million years ago as a result of regional east-west extension. The regional extension includes all of the Planning Area and was accompanied by extrusion of Steens Basalt lava flows approximately 16 million years ago over an area 100 by 180 miles.

Approximately 15 million years ago, volcanic ash erupted from calderas located northeast of Pueblo Peak, south of present day Whitehorse Ranch, and in the vicinity of what is now McDermitt, Nevada. These eruptions resulted in thick deposits of welded tuffs in the eastern part of the Planning Area. Additional volcanic ash erupted from calderas located near present day Burns approximately 9.5 and 6.5 million years ago, resulting in welded tuffs in the northern half of the Planning Area.

About ten million years ago, regional uplift and movement on faults in the Basin and Range Province formed fault-block mountains and intervening broad valleys. Fault movement continues today. Steens Mountain is a fault-block mountain that dips gently westward and is characterized by its precipitous east-facing 5,500-foot high escarpment overlooking Alvord Valley.

The elevation of 9,500 feet on top of Steens Mountain allowed the formation of alpine glaciers less than one million years ago. The glaciers took the form of an ice cap on top of Steens Mountain during an earlier glacial advance (the Fish Lake advance) and were confined to river valleys during a later glacial advance (the Blitzen advance). The valley glaciers carved gorges 2,000 feet deep that expose layers of the Steens Basalt. The Steens Basalt has a total thickness of approximately 3,000 feet.

Between 24,000 and 12,000 years ago, pluvial lakes occupied Alvord/Pueblo, Blitzen, and Catlow Valleys. The lakes formed due to increased precipitation and slightly warmer temperatures from a climate change that occurred several thousand years after the glaciers were at their peak. During this time, landslides formed along the east side of Steens Mountain and Ancient Lake Alvord spilled eastward into the Crooked-Rattlesnake drainage through Big Sand Gap. The Alvord Valley contains more than 1,000 feet of sediment eroded from the surrounding mountains and hills.

Weather in the semiarid Planning Area is the result of maritime air moving eastward from the Pacific Ocean over the Coast and Cascade Mountain ranges. As air masses rise to cross these mountains, much of the moisture in the air condenses and falls to the ground, making the air relatively dry by the time it reaches southeastern Oregon. There is an abundance of sunshine and a wide range between maximum and minium daily temperatures.

Average annual precipitation in the region is between eight and 14 inches, with some isolated areas receiving up to 30 inches or more. Most of the precipitation occurs from November through February, with about one-third falling as snow. The amount of precipitation in a particular location depends on topography; the higher the elevation, the greater the precipitation.

Thunderstorms, occasionally accompanied by hail, typically occur each year over virtually every part of the Planning Area. High-intensity thunderstorms occur between April and September; storms during June or July are typically drier than those in August or September. At elevations below 6,000 feet the snowpack usually melts by April; at higher elevations it remains until mid-June. Localized flooding often follows spring snowmelt.

Generally, the last spring frost occurs by May 30 and the first frost of autumn by September 2. The frost-free period (temperatures above 32° F) varies from 139 days at the lower elevations to 74 days at higher elevations; however, frost may occur during any month of the year.

The prevailing winds are west-southwest, with the most intense winds during March and April. December and January are the calmest months.

3.1.2 History of the Planning Area

Archaeological evidence indicates that the Planning Area has been inhabited by humans for the last 10,000 years. Prehistoric occupation has been continuous, although population density and patterns of use have varied according to changing climatic cycles. Small, highly mobile family groups of hunters and gatherers were the norm during most of the yearly subsistence round even though larger groups gathered at winter camps in the valley bottoms.

Archaeological sites, the material remains of this prehistoric presence, are a commonplace yet fragile reminder of prehistoric activity in the Planning Area. Prehistoric sites include stone flake scatters, larger more complex campsites, toolstone quarries, rock shelters and caves, rock art and rock structures such as rock rings (wickiup supports), rock cairns, and hunting blinds.

The Burns Paiute Tribe and other Northern Paiute people are descendants of these prehistoric people. Many of the elders and younger tribal members have continued traditional practices such as marmot hunting, root gathering, and fruit harvesting.

Fur trappers were the first Euro-Americans to visit the Steens Mountain area in a brief foray in 1826. The next visitors came in the 1840s and 1850s. The area was settled in the 1870s and the most arable land with water was claimed shortly thereafter. Just after the beginning of the 20th century, a brief dry-land farming boom occurred to the west in Catlow Valley. By 1920, however, most settlers were driven away from the Steens area by cold winters, summer frost, and drought. The Riddle brothers, who ranched on the Little Blitzen River, were an exception. They settled the 1,220 acre ranch in the late 1800s and it was operated continuously until 1986 when the BLM acquired the property and designated it a National Register Historic District.

In the early 20th century, Basque sheep herders moved onto Steens Mountain and the surrounding rangeland. Many eventually became ranch owners, leaving their marks in the form of place names, cabins, carved aspen, sheep camps and numerous rock cairns.

Historic sites in the Steens Mountain area include wagon roads, homesteads, the town sites of Andrews and Diamond, Basque sheep camps with carved aspen, Rose Valley Borax Works at Borax Lake, and historic trash dumps. The Riddle Brothers Ranch National Historic District is a complex of well-preserved historic buildings, several willow fences, corrals, and rock walls. The BLM has restored four of the buildings and stabilized the others. In addition to the historic component, the district contains at least 48 prehistoric sites.

3.2 Air Quality

Under criteria established through the CAA as amended in 1990, the Planning Area has been designated as Class II. This means that air quality is good to excellent; however, the potential to impact Class I airsheds (i.e. Strawberry Mountain Wilderness) does exist and additional measures will be required to avoid those impacts. Strawberry Mountain Wilderness, which is 65 miles northeast of the Planning Area, is the closest Class I airshed. The nearest Nonattainment

Area is Lakeview, Oregon. The air pollutant of most concern on BLM administered land is particulate matter, which may originate from fire, road or windblown dust, and vehicle use. Most of this particulate matter is produced from fire and is less than ten microns in diameter (called PM_{10}).

3.3 Water Resources

The Planning Area contains portions of six subbasins: Guano, Harney/Malheur Lakes, Alvord Lake, Donner und Blitzen, Thousand-Virgin, and Crooked-Rattlesnake. The entire Planning Area is within an internally drained basin, with the exception of the Crooked-Rattlesnake subbasin on the eastern edge of the Planning Area, which drains to the Snake River via the Owyhee River. The topographic features of these large areas direct surface and some shallow subsurface water to streams, rivers, lakes, reservoirs, or playas.

The major portions of the Planning Area (Guano, Harney/Malheur Lakes, Alvord Lake, and Donner und Blitzen subbasins) are part of the larger Oregon Closed Basins Subregion and the Pacific Northwest Region. The eastern portion of the Planning Area (Crooked-Rattlesnake subbasin) is part of the Middle Snake Subregion and the Pacific Northwest Region. The southwest portion of the Planning Area (Thousand-Virgin subbasin) is part of the Black Rock Desert-Humboldt Region and the Great Basin Region. Regions, subregions, basins, and subbasins are delineated based on protocol defined by the USGS. This system delineates a hierarchy of geographical regions and their subparts such as subregion, basin, subbasin, watershed, and subwatershed. Each hydrologic unit is referred to as a field and given a two-digit numeric identifier. The code, called a HUC, is a unique numeric identifier. Table 3.1 describes the subbasins in the AMU. Table 3.2 describes the subbasins in the CMPA.

The BLM maintains water rights and uses in accordance with Oregon law. In Oregon, water is publicly owned. Permits for use must be obtained from the Oregon Water Resources Department (OWRD), with some exceptions. Laws pertaining to the use of surface water and ground water are based on the principle of prior appropriation ("first in time, first in right") and limited to the quantity of water needed to satisfy the specified use without waste. Therefore, the first person to obtain a water right will be the senior holder on a particular stream and has priority over all junior claims in times of water shortage.

The State of Oregon recognizes instream water rights for the public benefit to maintain flows to protect recreation, fish, wildlife, and other river related resources. Instream water rights are applied for by the DEQ, Department of Parks and Recreation, and ODFW to the state's Water Resources Commission. The priority date for instream water rights is the date the application is submitted to OWRD.

Current BLM and USDI policy is to use the state's instream flow water right process to protect flow-dependent values, such as ORVs, for designated streams and rivers pursuant to the WSR Act. The WSR Act reserves the minimum quantity of water necessary to maintain the values for which the river was designated. A federal reserved water right is authorized by the WSR Act with the priority date assigned to the date of designation. However, a federal reserve water right is not formally recognized until assigned through the state's water rights adjudication process. In the event that flow-dependent values are threatened, the BLM would seek cooperative solutions to promote adequate flow to protect WSR ORVs prior to exercising a federal reserved water right. This in no way abrogates the federal reserved water right.

Additionally, federal reserved water rights may be applied to certain springs and waterholes pursuant to Public Water Reserve No. 107, Executive Order of April 17, 1926. Public Water Reserve 107 reserves the amount necessary to support present and future uses by livestock and humans. This reservation is limited to springs and waterholes on lands within the public domain prior to April 17, 1926.

3.3.1 Surface Water

Watershed function in the form of capture, storage, and release of available precipitation regulates the timing, intensity, and duration of runoff through attributes of landform, soil, and vegetation. Capture and storage of precipitation occurs through upland and riparian landform features such as floodplain, meadows, swells, and ephemeral/intermittent lakes, as well as constructed facilities (soil and water detention structures and ephemeral/intermittent reservoirs). Upland and riparian vegetation further contribute to this process by trapping snow, disrupting overland and stream runoff, and maintaining soil structure, which facilitates infiltration. Water that infiltrates and percolates into and through the soil profile is available to sustain vegetation and contributes flow to seeps, springs, streams, and lakes. Stored water in

riparian systems and adjacent uplands subsequently releases as a cool water source that augments baseflow, buffers stream temperature, and provides habitat for aquatic species.

Table 3.1: Subbasins in the Andrews Management Unit

Subbasin	HUC	Total Acres[1]	USFWS	State Acres	Private Acres	BLM Acres	Stream Miles[2]
Guano	17120008	625,014	0	658	271,813	352,544	1,061
Harney/Malheur Lakes	17120001	2,567	0	0	14	2,553	5
Alvord Lake	17120009	748,442	0	5,595	117,946	624,901	2,258
Donner und Blitzen	17120003	86,405	26,677	30	35,011	24,688	284
Thousand-Virgin	16040205	171,333	0	0	2,055	169,278	597
Crooked-Rattlesnake	17050109	45,071	0	0	0	45,071	219
	Total	**1,678,832**	**26,677**	**6,283**	**426,839**	**1,219,035**	**4,424**

[1] The total acres value covers the subbasin area within the AMU.
[2] The stream miles include all perennial, intermittent and ephemeral streams within the AMU. There are approximately 430 miles of perennial streams in the AMU.

Table 3.2: Subbasins of the CMPA

Subbasin	HUC	Total Acres[1]	State Acres	Private Acres	BLM Acres	Stream Miles[2]
Guano	17120008	73,679	0	2,839	70,840	189
Harney/Malheur Lakes	17120001	22,910	0	4,725	18,185	59
Alvord Lake	17120009	125,901	433	5,792	119,675	382
Donner und Blitzen	17120003	270,694	637	53,231	216,825	707
	Total	**493,184**	**1,070**	**66,587**	**425,525**	**1,337**

[1] The total acres value covers the subbasin area within the CMPA boundary.
[2] The stream miles include all perennial, intermittent and ephemeral streams within the CMPA boundary. There are approximately 371 miles of perennial streams in the CMPA.

The Planning Area contains several perennial and intermittent reservoirs and lakes on both public and private lands. Reservoirs include Rock Creek, Three Mile, Skull Creek, V Lake, Sixmile, Lower Borax Lake, Krumbo, Kern, Larkspur, and Granddad. Lakes include Garrison, Borax, Tumtum, Juniper, Wildhorse, Little Wildhorse, Mann, Ten Cent, Lily, Pate, Fish, Lost, and Honeymoon.

The Planning Area contains approximately 5,760 miles of ephemeral, intermittent, and perennial streams, of which 800 miles are considered perennial. Most surface runoff is from snowmelt or rainfall at the higher elevations, producing peak discharges in the spring and early summer. Many of the streams in lower-elevation semiarid areas are either intermittent, with segments of perennial flow near springs, or ephemeral, with flow only during spring runoff and intense summer storms.

3.3.1.1 Surface Water Quality

The EPA delegated authority to the DEQ to implement the CWA. The objective of the CWA is to restore and maintain the physical, chemical, and biological integrity of the nation's waters. To implement the CWA, the State of Oregon develops and adopts water quality standards, which include beneficial uses, narrative and numeric criteria, and anti-degradation policies. Oregon's water quality standards are contained in OAR 340 Division 41. Section 303(d) of the CWA requires the state to identify those waters not meeting the water quality standards, referred to as "water quality limited" or "impaired" and to develop TMDLs. The TMDLs describe the amount of each pollutant a waterbody can

receive without violating water quality standards. The schedule for completing TMDLs for subbasins in the Planning Area is 2003 for the Alvord Lake Subbasin and 2007 for the remainder. Table 3.3 and Table 3.4 list the streams in the AMU and the CMPA, which are 303(d) water quality limited streams.

Table 3.3: Water Quality Limited Streams within the Andrews Management Unit

Stream Name	Parameter	Segment	List Date
Harney/Malheur Lake Subbasin			
Riddle Creek	Temperature-Summer	River Mile 0 to 24.4	1998
Donner und Blitzen River Subbasin			
Bridge Creek	Temperature-Summer	River Mile 0 to 2.2	2002
McCoy Creek	Temperature-Summer	River Mile 0 to 26.2	2002
Guano Subbasin			
Home Creek	Temperature-Summer	River Mile 0 to 21.3	
Skull Creek	Temperature-Summer	River Mile 0 to 13.3	1998
Alvord Lake Subbasin			
Big Trout Creek	Temperature-March 1 to June 30 and Summer	River Mile 0 to 16.6	2002
Denio Creek	Temperature-Summer	River Mile 0 to 6.1	1998
East Fork Big Trout Creek	Temperature-March 1 to June 30 and Summer	River Mile 0 to 6.6	1998 and 2002
Little Trout Creek	Temperature-Summer	River Mile 0 to 9.3	1998
Little Whitehorse Creek	Temperature-Summer	River Mile 0 to 2.5	1998
Mosquito Creek	Temperature-Summer	River Mile 0 to 7.4	2002
Trout Creek	Temperature-Summer	River Mile 0 to 30	1998
Van Horn Creek	Temperature-Summer	River Mile 0 to 8.2	1998
Willow Creek (Steens Mountain)	Temperature-Summer	River Mile 0 to 5.3	1998

Table 3.4: Water Quality Limited Streams within the CMPA

Stream Name	Parameter	Segment	List Date
Harney/Malheur Lake Subbasin			
Riddle Creek	Temperature-Summer	River Mile 0 to 24.4	1998
Donner und Blitzen River Subbasin			
Ankle Creek	Temperature-Summer		1998
Big Indian Creek	Temperature-Summer		1998
Deep Creek	Temperature-Summer	River Mile 0 to 7.2	1998
Donner und Blitzen River	Temperature-March 1 to June 30 and Summer	River Mile 45.3 to 77.3	1998 and 2002
Fish Creek	Temperature-Summer	River Mile 0 to 7.5	1998

Stream Name	Parameter	Segment	List Date
Indian Creek	Temperature-Summer	River Mile 0 to 4.2	1998
Little Blitzen River	Temperature-Summer	River Mile 0 to 26.2	1998
McCoy Creek	Temperature-Summer	River Mile 0 to 26.2	2002
Mud Creek	Temperature-Summer	River Mile 0 to 4.8	1998
Guano Subbasin			
Home Creek	Temperature-Summer	River Mile 0 to 21.3	1998
Alvord Lake Subbasin			
Mosquito Creek	Temperature-Summer	River Mile 0 to 7.4	2002
Willow Creek (Steens Mountain)	Temperature-Summer	River Mile 0 to 5.3	1998

Through a MOA (USDI 1990), the DEQ recognizes the BLM as the Designated Management Agency responsible for implementing and enforcing natural resource management programs for the protection of water quality on public lands under its jurisdiction. This MOA recognizes that nonpoint source water quality issues are best controlled through the development, adoption, and implementation of sound resource management practices, referred to as BMPs. The primary cause of water quality degradation on public land is nonpoint source pollution. To further the purposes of this MOA and the CWA, the USFS and the BLM developed a Protocol for Addressing the CWA Section 303(d) Listed Waters (Protocol) (USDA/USDI 1999) in coordination with the EPA, DEQ and other agencies. The BLM is implementing the Protocol in Oregon and will establish, through another MOA with the DEQ, recognition of the Protocol as the vehicle for achieving water quality compliance.

3.3.2 Ground Water

The regional ground water gradients and the extent of aquifer systems within the AMU have not been studied. Ground water data are limited and are based on small isolated basin studies and well logs. The geology of the area is composed primarily of volcanic rocks. The water-bearing properties of these geologic formations depend largely on faults, fractures, joints, etc. The rate and quantity of ground water movement depends on the hydraulic conductivity of the geologic formation and the hydraulic gradient.

Ground water occurs as both confined and unconfined aquifer systems. Most unconfined aquifers are located in stream valleys or are associated with Pleistocene lakebeds that contain recent alluvial material; some may exist as perched aquifers. Alluvial aquifers vary greatly in size and yield from one stream/lakebed to another. These aquifers are important as transient storage systems to move ground water to or from streams and the deeper confined aquifers, and they are typical of drainages in the Planning Area. Perched aquifers occur along ridges between stream valleys and can usually be identified by the occurrence of springs above the valley bottoms. They are often associated with alluvial aquifers where streambeds intersect permeable outcrop areas.

Little is known of the areal extent or depth of the deep, confined bedrock aquifer systems. The DEQ has not identified any sole-source aquifers. The presence of numerous volcanic flows and faults does not support the concept of a uniform regional ground water gradient. Recharge to ground water systems occurs mainly at higher elevations where precipitation highly exceeds seasonal evapotranspiration. Precipitation is the major recharge source in areas with an exposed permeable formation and average annual precipitation in excess of 12 inches.

Ground water is used for domestic and livestock purposes and for irrigation. Ground water quality depends on the chemical makeup of the water-bearing formation. Most of the region contains good quality water, but the water is usually hard and contains moderate amounts of dissolved minerals. Minor exceptions are geothermal and hydrothermal waters that have concentrated elements such as arsenic, mercury, molybdenum, uranium, and selenium (Ferns et al. 1993a; Ferns et al. 1993b). Springs and seeps occur in areas where water from aquifers reaches the surface. Many springs begin in stream channels; others flow into small ponds or marshy areas that drain into channels. Some springs and seep areas form their own channels that reach flowing streams, but other springs lose their surface expression and recharge alluvial fill material or permeable strata. Inflow from riparian/hyporheic zones impacts baseflows and associated water temperature buffering and moderation. Water from springs differs from that of overland runoff in that it is generally more constant

in temperature and lower in dissolved oxygen, especially close to the source. Mineral content in water varies from spring to spring along stream courses, depending upon the geochemistry of the substrata through which it flows.

3.4 Soils and Biological Soil Crusts

Surface soils in semiarid southeastern Oregon are young and poorly developed. Chemical and biological soil-building processes such as rock weathering, decomposition of plant materials, accumulation of organic matter, and nutrient cycling proceed slowly in this environment. Since soil recovery processes are also slow, disruption of soils can lead to long-term changes in ecological status and productivity. In many areas, natural, or geologic, erosion occurs too rapidly for distinct, deep soil horizons to develop.

Soil productivity varies widely due to characteristics such as soil depth, nutrient status, available water-holding capacity, and site characteristics including elevation, aspect, and slope gradient. A productive ecosystem depends on maintenance of soil productivity. Current soil productivity reflects site-specific natural conditions and past management practices.

Surface management actions affect, to varying degrees, the following soil characteristics: soil bulk density (weight per unit volume), porosity (hydrologic conductivity), soil temperature, organic matter content, moisture content, and nutrient content. These factors in turn affect soil hydrologic response, productivity, nutrient cycling, water-holding capacity, and soil erosion rates.

Management practices may affect soil productivity by influencing soil characteristics and processes such as displacement, compaction, erosion, and alteration of organic matter and soil organism levels. Natural processes are slow to restore soil productivity in this semiarid region; therefore, prevention of soil degradation is an effective remedy.

Soil erosion varies throughout the Planning Area. In the semiarid portion of the SBR area, bare soil between plants comprises between 40 and 80 percent of the total ground cover of a native plant community, leaving large areas of exposed soil between plants to erode naturally. In addition to this background erosion rate, management regimes affect the rate at which soil erodes from a landscape. Any activities that remove vegetative cover increase the erosion rate. If the surface layers of vulnerable soils are washed or blown away, the productivity potential may be lost.

Historically, erosion occurred on upland soils and in drainage channels as a result of uncontrolled land use, prolonged drought, and catastrophic storms. Ephemeral drainages were deeply incised by gully erosion more than 30 years ago. Some geologic and localized erosion, caused by concentrated uses, still occurs. Introduced annual and perennial plants currently occupy many of these highly disturbed sites.

Current management practices have reduced erosion. These practices include proper stocking rates for livestock, rotation of grazing, improved designs of roads, rehabilitation of severely disturbed areas, restriction of vehicles to roads and trails, and control of concentrated recreational activities.

Biological soil crusts are also known as cryptogamic, microbiotic, cryptobiotic, and microphytic crusts, leading to some confusion. The names are all meant to indicate common features of the organisms that compose the crusts. The most inclusive term is biological soil crust, as this distinguishes them from physical crusts while not limiting crust components to plants. Whatever name is used, there remains an important distinction between these formations and physical or chemical crusts (Belnap 2003).

Identification of biological soil crusts at the species level is very difficult and is often not practical for field work. The use of some basic morphological groups simplifies the situation. Morphological groups are also useful because they are somewhat representative of the ecological function of the organisms (USDI Tech. Ref.1730-2). These basic morphological groups are cyanobacteria, algae, micro-fungi, short moss (under ten millimeters), tall moss (over ten millimeters), liverworts, crustose lichen, gelatinous lichen, squamulose lichen, foliose lichen, and fruticose lichen. The dominant groups represented in the Northern Great Basin include cyanobacteria, short moss, tall moss, crustose lichen, gelatinous lichen, and squamulose lichen. Algae and cyanobacteria are hard to observe without a microscope except where their presence affects soil characteristics. Micro-fungi are difficult to observe unless the fruiting bodies are present. The fruiting bodies tend to be very minute and often require an organic substrate to induce fruiting. Liverworts are present in some parts of the Planning Area on moist sites. Foliose and fruticose lichens are not commonly found in the Planning Area.

Biological soil crusts contribute to the functional, structural, and compositional parts of a functioning ecosystem. They function as living mulch by retaining soil moisture and discouraging annual weed growth. In some systems, they comprise up to 70 percent of the living cover. They reduce wind and water erosion, fix atmospheric nitrogen, and contribute to soil organic matter.

In the past, biological soil crust data specific to the Northern Great Basin have been lacking. New monitoring studies proposed for the Pueblo-Lone Mountain Allotment and other parts of the Planning Area will be utilized to inform decisions on future management actions.

The Planning Area was covered by an Order III soil survey completed in 1994 for the Harney County Area by the National Cooperative Soil Survey. Soil types are shown in Table 3.5, which describes the general types of soils found in the Planning Area.

Table 3.5: Soil Types in the Planning Area

Map No.	Soil Type	Description
1	Alvodest-Droval-Playas	Poorly to very poorly drained, very deep soils formed in lacustrine sediments on low lake terraces and basin floors; 0 to 3 percent slopes
2	Spangenburg-Enko-Catlow	Well or moderately well drained, very deep soils formed in lacustrine sediments and alluvium on middle lake terraces; 0 to 20 percent slopes
3	Atlow-Tumtum-Deppy	Well drained, very shallow or shallow soils formed in old alluvium, residuum, or colluvium on high lake terraces and low hills; 2 to 50 percent slopes
4	Gumble-Risley-Mahoon	Well drained, shallow or moderately deep soils formed in residuum and colluvium on hills and tablelands; 2 to 40 percent slopes
5	Felcher-Skedaddle	Well drained, very shallow to moderately deep soils that formed in colluvium and residuum on mountains; 20 to 70 percent slopes
6	Fury-Skunkfarm-Housefield	Somewhat poorly to very poorly drained, very deep soils formed in alluvium and lacustrine sediments on stream terraces, and lake terraces; 0 to 2 percent slopes
7	Poujade-Ausmus-Swalesilver	Moderately well and somewhat poorly drained very deep soils formed in lacustrine sediments, and alluvium on middle lake terraces; 0 to 5 percent slopes
8	Reallis-Vergas-Lawen	Well drained, very deep soils that formed in alluvium and eolian material on high lake terraces and fan terraces; 0 to 8 percent slopes
9	Baconcamp-Clamp-Rock outcrop	Well drained, shallow or moderately deep soils formed in residuum and colluvium; 5 to 80 percent slopes
10	Raz-Brace-Anawalt	Well drained, shallow or moderately deep soils formed in residuum and colluvium on tablelands having 8 to 12 inches of precipitation; 0 to 30 percent slopes
11	Ninemile-Westbutte-Carryback	Well drained, shallow and moderately deep soils that formed in residuum and colluvium on tablelands and hills having 12 to 16 inches of precipitation; 0 to 70 percent slopes
12	Merlin-Observation-Lambring	Well drained, shallow to very deep soils formed in residuum and colluvium on shrub and grass covered hills; 0 to 70 percent slopes

3.5 Vegetation

The existing vegetation in the Planning Area is discussed under four different communities or habitat types: riparian and wetlands, woodlands, WJMA, and rangelands. Noxious weeds are also discussed in this section. General Vegetation Types

in the Planning Area are listed in Table 3.6 and are broken out by the AMU and the CMPA. A complete vegetation list is in included in Appendix L.

Table 3.6: General Vegetation Types in the Planning Area

General Vegetation Type	AMU BLM Acres	CMPA BLM Acres
Unsurveyed/Unknown Vegetation Type	17,419	835
Annual Grassland	2,475	1,220
Crested Wheatgrass	9,014	12,506
Big Sagebrush/Crested Wheatgrass	13,333	6,882
Big Sagebrush/Perennial Grassland	457,672	84,939
Low Sagebrush/Grassland	104,681	130,419
Silver Sagebrush/Grassland	4,071	1,085
Black Sagebrush/Grassland	17,148	0
Mountain Big Sage/Perennial Grassland	15,463	41,584
Salt Desert Shrub/Grassland	200,967	321
Mountain Shrub/Grassland	7,658	6,538
Juniper/Big Sagebrush	1,083	52,659
Juniper/Low Sagebrush	1,740	51,128
Playas	36,141	395
Quaking Aspen	3,168	10,748
Native Perennial Grassland	2,785	8,425
Rabbitbrush/Grassland	8,883	5
Rock	1,512	1,466
Big Sagebrush/Annual Grassland	316,101	16,997
Total	**1,221,314**	**428,152**

3.5.1 Riparian and Wetlands

Riparian/wetland areas are water-dependent ecosystems bordering streams, springs, and lakes. They form ecological links between the terrestrial and aquatic components of the landscape. Riparian landform (flood plain), and vegetation and/or other structural components, such as woody debris and boulders, reduce erosion and dissipate stream energy or wave action (standing water) during high water events. Detention and storage of high flows reduce flood risks and contribute inflow during periods of receding water surface elevation or flow. Reduced bank erosion contributes to maintenance of water quality and general riparian integrity.

Riparian vegetation communities are influenced by landform, water availability, soil, elevation, and climate, as well as disturbance factors. These communities may consist of herbaceous or woody vegetation, or a combination of these two vegetation types. Presence and dominance are associated with the species' obligation or sensitivity to saturation, as well as the circumstances and conditions during which opportunities for establishment occur. Progression of a riparian community following changes in the physical characteristics of the site, particularly large changes in soil or water status, may result in a different Potential Natural Community (PNC) (USDI 1992, Procedures for Ecological Site Inventory).

Riparian vegetation communities in the Planning Area range from dominant woody tree/shrub species adjacent to moderate gradient streams to monotypic stands of sedge or rush associated with springs, saturated meadows, and low gradient stream reaches. Commonly observed woody riparian plant communities include cottonwood-willow, alder-willow, mixed willow, willow-chokecherry, and aspen. These communities may exhibit further diversity with additional

shrub or herbaceous species associated with colonization opportunities, such as localized bank disturbance, canopy openings, and increased solar exposure. Herbaceous communities such as grasses, rushes and sedges, are often associated with finer textured soils with species composition associated with the duration of saturation.

The majority of public land riparian areas associated with perennial streams was assessed using the PFC assessment between 1997 and 2000 (Table 3.7). Functioning condition of riparian/wetland areas is a result of interactions among geology, soil, water, and vegetation. PFC is an assessment of the physical function of riparian/wetland areas through consideration of hydrology, vegetation, and soil/landform attributes. This assessment utilizes existing site-specific inventory and monitoring information, as well as helping to identify management objectives and future monitoring. Definitions of the PFC ratings are identified below:

- Proper Functioning Condition: Riparian/wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; to filter sediment, capture bedload, and aid in floodplain development; to improve floodwater retention and ground water recharge; to develop root masses that stabilize streambanks against cutting action; to develop diverse ponding and channel characteristics; to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and to support greater biodiversity.

- Functional at Risk: Riparian/wetland areas that are in functional condition, but an existing soil, water, or vegetation attribute makes them susceptible to degradation.

- Non-Functioning: Riparian/wetland areas that clearly are not providing adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows, and thus are not reducing erosion, improving water quality, etc.

Riparian/wetland areas will function properly before they achieve an advanced ecological status or a theoretical "desired future condition." The range between PFC and an area's physical and biological potential becomes the "decision space" for social, economic, and other resource considerations.

Table 3.7: PFC Assessment for the AMU and CMPA

	AMU		CMPA	
Rating/Trend	**Miles**	**Percent**	**Miles**	**Percent**
PFC	106	67	185	75
FAR[1]/Upward	22	14	33	13
FAR/Non-Apparent	19	12	21	9
FAR/Downward	0	0	4.5	2
Non-Functioning	11	7	3	1
Total	158	100	246.5	100

[1] Functional at Risk

3.5.2 Woodlands

3.5.2.1 Quaking Aspen

Quaking aspen is found throughout the Great Basin in small to moderately sized patches. This tree species is often found on north slopes or areas where snow accumulates and persists later into the spring than in adjacent areas. Quaking aspen are unique in their ability to reproduce from seed or by sprouting from below-ground buds. The production of suckers (sprouts) greatly increases when overstory stems are removed by disturbances such as fire, wind, and cutting. Reproduction from seed is extremely uncommon due to exacting conditions required for germination and establishment (McDonough 1979). Quaking aspen form stands with an even-aged structure of dominant trees. These stands can be characterized as young, mature, or old (Wall 1999). Young stands are found shortly after disturbance, mature stands are

often 80 to 100 years old, and stands older than 120 years in age are classified as old (Bartos and Mueggler 1981). Old stands have signs of deterioration present in the form of numerous standing dead trees and trees with large portions of their canopies dead. Younger stands may appear to be quite productive with healthy overstory trees and dense understory production. DeByle (1985) stated that quaking aspen stands regularly produce over 2,000 pounds per acre in forage, over ten times that of some adjacent plant communities. Quaking aspen stands are often focal points for animal activity, including grazing animals. Wild ungulates (mule deer and Rocky Mountain elk) rely on the forage during times of the year when other forage sources are scarce. Domestic livestock will utilize these areas in the summer months for forage and relief from high temperatures. Invertebrate herbivores also utilize quaking aspen stands, but only a few result in severe damage to the overstory.

Quaking aspen communities constitute a small portion of the Planning Area, but contribute to the biodiversity of wildlife and plant species. Maser and others (1984) identified 84 wildlife species that utilize quaking aspen stands for breeding and 117 species that utilize quaking aspen communities for forage. Plant communities dominated by quaking aspen are often considered to be more productive than adjacent sagebrush or forested communities. Understory growth may vary from 560 pounds per acre to over 4,500 pounds per acre (Mueggler 1985). The vegetation occurs in multilayered mixtures of shrubs, forbs and grasses. Over 300 plant species have been identified growing in quaking aspen stands across the Great Basin. Common grass and grasslike genera found in quaking aspen stands include wheatgrass, bromes, wildrye, bluegrass, and sedges. Forb genera include Thalictrum, sweet cicely, geranium, aster, peavine, yarrow, bedstraw, and butterweed. Shrub genera typically found within quaking aspen stands are snowberry, rose, serviceberry, cherry, sagebrush, rabbitbrush, and Oregon grape. Soils located within aspen stands were formed from igneous rock and are typically deep loam Haploxerolls.

Within the Planning Area, quaking aspen is found on the Pueblo, Trout Creek, and Steens Mountains between 4,500 and 7,500 feet. Isolated stands occur as low as 4,500 feet along creek corridors and around springs on protected north slopes.

Quaking aspen communities are experiencing a general decline across the western United States (Bartos and Campbell 1998). Many factors are contributing to the decline, but two of the most common links are the lack of fire and the encroachment of conifers into the quaking aspen communities. Above 6,500 feet, quaking aspen will reproduce within the community and form a fairly dense stand. Mean fire return intervals may be fairly long at these elevations. Wet site conditions and short summer seasons reduce the likelihood of wildland fires. However, at lower elevations, quaking aspen is being actively replaced by western juniper. Three-fourths of all quaking aspen stands below 6,500 feet studied by Wall (1999) were either dominated by western juniper or had western juniper present in the community. The lack of fire has permitted western juniper to establish and become dominant or co-dominant in many quaking aspen stands; this situation is limited to Steens Mountain. The Pueblo and Trout Creek Mountains do not have western juniper, except for isolated trees. Stands below 6,600 feet on Steens Mountain are most susceptible to encroachment by western juniper (Wall et al. 2001).

3.5.2.2 Western Juniper

Western juniper woodlands are the dominant woodland type throughout much of the Planning Area. They occupy an elevational band between 4,500 and 7,000 feet. Below 4,500 feet, available soil moisture limits western juniper's growth to wet areas or stream courses. Above 7,000 feet, temperature and the short growing season limits growth.

Two categories of western juniper woodlands can be found. Woodlands with trees less than 120 ybp have developed after European settlement (hereafter identified as post-settlement woodlands) of the Great Basin. These include over 90 percent of the current western juniper woodlands across the Planning Area. These sites are altered mountain big sagebrush, low sagebrush, quaking aspen, riparian broadleaved woodland, and in some cases mountain mahogany plant communities. Encroachment of western juniper into these plant communities can be attributed to past grazing practices, fire suppression, and subtle climate shifts over the last 120 years. Understory vegetation in the post-settlement stands contains similar species to the pre-settlement plant community.

Woodlands with old to ancient trees are found on rocky ridge tops, shallow soil areas, and other areas where there is limited accumulation of ground fuels. Tree ages may exceed 1,000 years in these stands. Growth form of old trees is often characterized by a generally asymmetrical appearance, rounded spreading canopies, canopies that are often sparse, large irregular tapering trunks, deeply furrowed and fibrous bark, few but heavy branches, and the presence of a bright green arboreal fruticose lichen (Burkhardt and Tisdale 1969, Miller, R.F. and J.A. Rose 1999).

Associated understory plant species in post-settlement woodlands are similar to the species found in sagebrush, aspen and riparian plant communities prior to juniper encroachment. Over 90 percent of the current western juniper woodlands in Oregon have developed since the latter part of the 19th century. Introduction of domestic livestock, fire suppression, and subtle climatic shifts over the last 120 years have permitted western juniper to encroach into more productive mountain big and low sagebrush, quaking aspen, and riparian deciduous woodlands (Miller et al. 1999). Current GIS data indicate that between 100,000 and 200,000 acres of western juniper dominated plant communities are within the Planning Area (BLM Ecological Site Inventory [ESI] file data). Western juniper encroachment has occurred across a variety of soil types and topography. These stands also exhibit a variety of woodland development. Areas where encroachment of western juniper has been fairly recent resemble the original plant community. However, areas where woodland development is more advanced are dominated by western juniper. In these areas, western juniper has either reduced or eliminated associated woody vegetation. Herbaceous plant species are similar to the pre-encroachment plant community. On shallower soils, often found on south facing slopes, herbaceous vegetation and associated understory shrubs are also severely reduced by the developing woodlands.

Shrub species that occur in juniper woodland include big and low sagebrush, bitterbrush, rabbitbrush, currant, and snowberry. Grass species common in the juniper woodland community include bluebunch wheatgrass, Sandberg's bluegrass, Idaho fescue, western and Thurber's needlegrass, and cheatgrass. Mountain mahogany can occasionally be found at the upper elevations of this community. Among the rich array of forbs found in this community are the buckwheat and milkvetch species, balsam root, asters, phlox, pussytoes, lupine, yarrow, and phacelia species.

3.5.2.3 Grand Fir

In the Planning Area, approximately 20 acres of grand fir are present in scattered stands within the CMPA. These areas contain a mature overstory with large numbers of young trees as an understory and have marginal commercial value.

3.5.3 Wildland Juniper Management Area

Additional information is needed to address the various challenges of juniper management. Gathering this information is one component of the 3,268-acre WJMA created by the Steens Act. As stated in the Steens Act, special management practices shall be adopted for the WJMA for the purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and native vegetation communities on Steens Mountain. The area was selected because it is representative of western juniper woodlands across the Planning Area and it has good access for demonstration areas. Information obtained from this area will be utilized in future planning decisions and project design.

Juniper woodlands in the CMPA occur between 5,700 to 6,560 feet in elevation and are dominated by juniper. Mountain big sagebrush, Idaho fescue, needlegrass, and low sagebrush occupy drier sites in this community. Mountain mahogany, bitterbrush, wax currant, and Lemmon’s needlegrass dominate the rimrock areas. Seasonally moist depressions, vernal pools, clay barrens, riparian meadows, seeps, gorge-bottom woodlands, and mesic north-facing quaking aspen dominated slopes all contribute to the habitat diversity in this community.

The restoration of historic fire regimes in the CMPA is specified in the Steens Act and discussed in the Fire Management Section (2.15). In order to reach this objective, various strategies and techniques for juniper management must be examined, including natural and prescribed burns. This is one reason why the Steens Act established the 3,267-acre WJMA and released the area from WSA status.

3.5.4 Rangelands

The Basin and Range Province in Oregon is dominated by sagebrush/native bunchgrass communities with site-specific sagebrush species. Basin big sagebrush grows mainly on sites having moderately deep loamy soils such as droughty bottomlands and fans. Wyoming big sagebrush is present almost everywhere throughout the lower elevations of the province on slightly sandy or gravelly soils. Mountain big sagebrush occurs in similar soils, but at higher elevations. Low sagebrush/bunchgrass communities are strongly dominant on shallow to very shallow stony upland lithic soils. Silver sagebrush dominates internally drained basins with seasonally saturated soils. Black sagebrush/bunchgrass communities are found on shallow soils with a calcareous layer. Perennial grassland communities do not form a major climax vegetation type, although they do dominate for a period following fire when the shrub component is eliminated. Although western juniper generally occurs as a vegetation type in many woodland communities, it has also invaded big

sagebrush/bunchgrass and low sagebrush/bunchgrass communities on mesic sites where it has not been limited by wildland fires.

3.5.4.1 Big Sagebrush Shrubland Communities

Big Sagebrush shrubland is the most common vegetative cover type in southeastern Oregon. It appears as a mosaic with shrub-steppe communities over many of the unwooded areas along mountain range foothills and on the valley floor. There are several different mixtures of plants within the big sagebrush mosaics. The mixtures include big sagebrush with perennial grasslands, annual grasslands (cheatgrass), crested wheatgrass, bitterbrush, western juniper, black greasewood, shadscale, winterfat, and rabbitbrush.

Native grasses range from a mere presence of grass to an abundance of grass, depending on history of the site and beneficial soil/water relations. Native perennial grasses include bluebunch wheatgrass, Sandberg's bluegrass, Idaho fescue, basin wildrye, junegrass, needle and thread grass, Thurber's needlegrass, bottlebrush squirreltail, mountain brome, and Indian ricegrass. Introduced grasses are primarily cheatgrass and crested wheatgrass.

The big sagebrush community in the Planning Area primarily occurs between 4,200 and 8,000 feet in elevation. Much of the Wyoming big sagebrush habitat on the west side of Steens Mountain has been planted to crested wheatgrass and occasionally fourwing saltbush. Western juniper extends into this community from above, along basaltic fractures occupied by wax currant, ocean spray, and other shrubs. Riparian woodlands dominated by willow, alder, black cottonwood, chokecherry, and dogwood interrupt the broad expanses of sagebrush scrub.

3.5.4.2 Black Sagebrush/Grassland Communities

Black sagebrush has a limited distribution in the Basin and Range Province and is considered a "rare type" in this province. This plant community is found on shallow soil plateaus and gentle slopes. The sites have extensive areas of exposed rock. Wildland fire occurrence is rare, with a mean return interval (average number of years between fire events), of approximately 100 to 200 years. Sandberg's bluegrass is usually the dominant grass, making up most of the vegetative cover; however, other bunch grasses also occur on these sites. Black sagebrush is the dominant shrub and often the only shrub present. In some areas, these black sage stands can be extensive or may occur in a mosaic with low or big sagebrush. Shadscale, squirreltail, and cheatgrass also occur on these sites.

3.5.4.3 Silver Sagebrush/Grassland Communities

The silver sagebrush/grassland community is usually found in valley bottomlands. Silver sage is the dominant and characteristic shrub of this community. This tall shrub community is moderately to widely spaced. It grows in areas that have been deflated (eroded by wind) and subsequently partially filled with ingrained sediments. Although species such as creeping wildrye occasionally occur, the understory can be dominated by widely spaced, often robust bunchgrasses such as Nevada bluegrass.

3.5.4.4 Low Sagebrush/Grassland Communities

Low sagebrush communities are found throughout eastern Oregon, generally on areas with shallow basalt soils. Low sagebrush is the dominant and often the only shrub in the stand. Western juniper is also commonly found on this site. Other associated grasses can be bluebunch wheatgrass, Idaho fescue, Thurber’s needlegrass, Nevada bluegrass, Sandberg's bluegrass, and cheatgrass. Plants such as Lomatiums, onions, and Indian carrot are economically important to American Indian tribes and are found in this plant community. The low sagebrush plant communities usually occur on soils where rooting depth is restricted by bedrock or a heavy clay layer. The restricted rooting profile lowers the site productivity. Low sagebrush occupies some large areas of land, especially on the north and west sides of Steens Mountain. In other areas, low sagebrush plant communities are found in a complex mosaic with other sagebrush plant communities such as Wyoming and mountain big sagebrush. The sites have extensive areas of exposed rock and often do not have enough vegetation to support wildland fires. Low sagebrush can also occur within an aspen mosaic. After the snow melts and soil warms in the spring, these areas are rich with colorful and diverse perennial and annual wildflowers.

3.5.4.5 Mountain Big Sagebrush/Grassland Communities

At elevations between 5,500 and 8,000 feet in the Basin and Range Province, mountain big sagebrush communities occur on plateaus and rocky flats with minimal soil development. Sandberg's bluegrass, bluebunch wheatgrass, Idaho fescue, Nevada bluegrass, cheatgrass, bitterbrush, wax currant, snowberry, and grey rabbitbrush are common in this community type. This medium to medium-tall shrubland varies from widely spaced to fairly dense shrubs occurring on deep-soiled to stony flats, ridges, and mountain slopes, and usually in cool moist areas receiving a large snowpack. In this community, Idaho fescue is the most common and diagnostic grass.

3.5.4.6 Mountain Shrubland Communities

Mountain shrubland is found on the steep rocky slopes of mountains in southeastern Oregon. It usually appears as a minor component within the juniper woodland types, or it grades in and out of sagebrush steppe. This cover type is commonly encountered but generally exists as units that are too small to be mapped. This widely dispersed tall shrubland grows in rock talus and rock outcrops, in soil pockets within rocky slopes, and in flatter areas with big sagebrush. The key shrub species in the mountain shrubland community are bitterbrush and snowberry, but others can be wax currant, ocean spray, chokecherry, and bitter cherry. Bitterbrush communities are found in medium-tall shrubland steppe with bunchgrass or cheatgrass understory. Bitterbrush can be dominant or codominant with big sagebrush. Idaho fescue is the characteristic native bunchgrass, with bluebunch wheatgrass codominant under bitterbrush at lower elevations. Western needlegrass is dominant at the higher elevations and where soils are more sandy. Snowberry communities are found on steep slopes between alpine habitats and riparian or sagebrush steppe.

3.5.4.7 Alpine Grassland Communities

The Alpine Bunchgrass community on Steens Mountain occurs at elevations greater than 8,000 feet. This community forms the bulk of the native perennial grassland vegetation type in the Planning Area. The highest vegetation zone on Steens Mountain has been referred to as either subalpine grassland or true alpine tundra. The dry, gravelly, windswept summit ridges have a characteristic xeric flora including cut-leaf daisy, sulfur-flowered buckwheat, balloonpod milkvetch, prairie smoke, Steens Mountain paintbrush, lance-leaf stonecrop, mountain butterweed, and needle-leaf sandwort. Dry bunchgrass communities below the ridge crests are dominated by Sandberg's bluegrass, sheep fescue, and sedges. A complex assortment of alpine wet and mesic meadows occurs in cirques and pockets where snow accumulates and provides perennial water in the form of springs or a high water table. Common species in this area include American bistort, cinquefoil, monkeyflower, speedwell, buttercup, elephant's head, sedges, rushes, tufted hairgrass, and redtop.

3.5.4.8 Modified Grassland - Crested Wheatgrass and Cheatgrass Communities

Approximately two percent of the public lands in the Planning Area have been planted with crested wheatgrass or have been invaded by cheatgrass. Both of these species originated in Eurasia and have adapted very well to these soils and climate. Cheatgrass, an annual, was inadvertently introduced into America with cattle and in hay used for ship ballast. It can out-compete the native grasses by germinating in the fall. Presently, these grasslands are used primarily for grazing. Weedy native and exotic annual forbs may also be present or even dominate on some sites. Large expanses of cheatgrass can be the result of fires, unsuccessful seedings, historic overgrazing, abandoned farming, or other disturbances. Weedy forbs such as tumble mustard, filaree, tumbleweed, burr buttercup, clasping peppergrass, and bull thistle are often common in these areas.

In the past, many acres were planted with crested wheatgrass after wildland fires. These sites may remain in a dominant crested wheatgrass community for about ten years until sagebrush and rabbitbrush recolonize the site. This vegetation type is often restricted to foothill margins and gentle terrain in close proximity to valley bottoms. The undisturbed remnants of this type (primarily on steeper slopes) are dominated by native perennials. Green and gray rabbitbrush are common, and Wyoming big sagebrush occurs locally when the seedings have aged.

3.5.4.9 Salt Desert Shrub/Grassland Communities

A large portion of the southern end of the Planning Area is dominated by salt desert shrub plant communities. These communities make up most of the types on the valley bottoms near playas and also occur on shallow soils in the foothills. The dominant shrub species in this type is black greasewood. Greasewood grows with Wyoming big sagebrush in the

deeper soils at the edge of the foothills, and with saltgrass on the extremely alkaline soils of the valley bottom. Other shrub species common to the salt desert shrub community include shadscale, bud sage, spiny hopsage, fourwing saltbush, winterfat, rabbitbrush, and horsebrush. Some of the common understory grasses in this type include saltgrass, Indian ricegrass, basin wildrye, squirreltail, and cheatgrass.

3.5.5 Noxious Weeds

Noxious weeds are present throughout the Planning Area. These weeds are introduced in the Planning Area where disturbance has occurred. The road networks provide a major vector for introduction and spread. The weed control program is dynamic, due to new weed introduction and the ongoing implementation of varied control methods. Grazing and fire management, as well as chemical, mechanical, and biological control methods, are used as part of an integrated weed management program. These methods are subject to a site-specific determination of appropriate techniques. The BLM monitors the changes in distribution and new introductions of noxious weeds on an annual basis.

In Oregon, as well as in other western states, noxious weeds are so thoroughly established and spreading so rapidly that they have been declared a menace to the public welfare (Oregon Revised Statute [ORS] 570.505). Noxious weed invasion contributes to the loss of rangeland productivity, increased soil erosion, reduced species and structural diversity, and loss of wildlife habitat. In some instances, such invasion is hazardous to human health and welfare, as emphasized in the Federal Noxious Weed Act (PL 93-629). Some weed species pose a threat to multiple use management of public land.

Noxious weeds cannot be adequately controlled unless federal, state, county, and private interests work together. The Carlson-Foley Act (PL 90-583), as well as state and county laws, make the federal government responsible for control of weeds on public land and provide direction for their control. The Burns DO of the BLM operates under the weed protocols set forth in the following documents: Vegetation Treatment on BLM Lands in Thirteen Western States FEIS and ROD (USDI 1991), Supplement to the Northwest Area Noxious Weed Control Program FEIS and ROD (USDI 1987), and the Burns District Noxious Weed Management Program EA #OR-020-98-05 (USDI 1998a).

The Oregon Department of Agriculture (ODA) has developed a classification system to provide guidelines for implementing and prioritizing noxious weed control programs, to assist in the distribution of limited funds, and to serve as a model for other weed classification systems (ODA 1997). This system defines three classes of noxious weed species: 1) weeds that pose a known economic threat and occur in infestations small enough to make eradication or containment possible; 2) weeds that pose an economic threat and whose regional abundance limits control techniques primarily to biological methods; and 3) weeds for which the ODA will implement a statewide management plan.

Harney County has listed and classified the noxious weeds currently present or that occur in close proximity to Harney County. The weeds are rated as A, B, or C pests. Weeds rated as “A” pests are of known economic importance, are known to occur in the county in small enough infestations to make eradication practicable, or are not known to occur but have “A” status in surrounding counties so that future occurrence seems imminent. Weeds rated as “B” pests are of known economic importance, are of limited distribution in the county, and are subject to intensive control or eradication where feasible at the county level. Weeds rated as “C” pests are of known economic importance and of general distribution that is subject to control, intensive control, or eradication as local conditions warrant. See Table 3.8 for the complete list of noxious weeds known to occur in the Planning Area.

3.6 Fish and Wildlife

As a public land administrator in Oregon, the BLM is responsible for managing a wide array of habitats used by native and introduced fish and wildlife species. The ODFW is responsible for managing animal populations. The BLM manages fish and wildlife and their habitats in cooperation with the ODFW. Management is directed toward maintenance, improvement, and expansion of habitat quality and quantity under multiple use considerations. Management programs designed to benefit wildlife consider both population and habitat.

3.6.1 Fish and Aquatic Habitat

Fish inhabit perennial and intermittent streams, springs, ponds, lakes, and reservoirs throughout the Planning Area. The AMU and CMPA contain approximately 430 miles and 370 miles of perennial streams, and 58,600 acres and 1,337 acres of reservoirs, ponds, and lakes, respectively.

Public land in the Planning Area provides habitat for a total of 11 native fish species, distinct subspecies or distinct populations, and several introduced fishes (Table 3.9). A high proportion of the native fish fauna is endemic to relatively localized regions, primarily due to the unique post-Pleistocene climatic and geologic history of the Great Basin. Of the 11 native fish populations, four have distributions that are restricted to the Planning Area for a major portion of their range (the Catlow Valley population of Great Basin redband trout, Borax Lake chub, Catlow Valley tui chub, Alvord chub). These four species are discussed in section 3.7.3.

Table 3.8: Noxious Weed Species in the Planning Area

Common Name	Scientific Name	County Rating	Reported in AMU	Reported in CMPA	No Reports in Planning Area
bindweed, field	*Convolvulus arvensis*	C	X	X	
black henbane	*Hyoscyamus niger*	A	X		
bull thistle	*Cirsium vulgare*	NR	X	X	
Canada thistle	*Cirsium arvense*	C	X	X	
dalmatian toadflax	*Linaria dalmatica*	B	X	X	
diffuse knapweed	*Centaurea diffusa*	A	X	X	
halogeton	*Halogeton glomeratus*	C	X		
leafy spurge	*Euphorbia esula*	A			X
Mediterranean sage	*Salvia aethiopis*	B	X	X	
medusahead	*Taeniatherum caput-medusae*	B		X	
musk thistle	*Carduus nutans*	A			X
perennial pepperweed	*Lepidium latifolium*	B	X	X	
puncturevine	*Tribulus terrestris*	B	X		
purple loosestrife	*Lythrum salicaria*	A			X
rush skeletonweed	*Chondrilla juncea*	A			X
Russian knapweed	*Acroptilon repens*	B	X	X	
Scotch thistle	*Onopordum acanthium*	B	X	X	
smallflower tamarisk	*Tamarix parviflora*	A	X	X	
scotchbroom	*Cytisus scoparius*	A			X
spotted knapweed	*Centaurea maculosa*	A	X	X	
squarrose knapweed	*Centaurea virgata*	A			X
St. John's wort	*Hypericum perforatum*	C	X	X	
tansy ragwort	*Senecio jacobaea*	A		X	
whitetop	*Cardaria spp.*	C	X	X	
yellow starthistle	*Centaurea solstitialis*	A	X	X	
yellow toadflax	*Linaria vulgaris*	A		X	

Table 3.9: Fish Species or Subspecies within the Planning Area

Common Name	Scientific Name	Status			Native
		BLM	State[1]	Federal[2]	
Lahontan cutthroat trout	*Oncorhynclus clarki henshawi*		T	T	X
Great Basin redband trout	*Oncorhynchus mykiss spp.*	Tracking		S	X
Brook trout	*Salvelinus fontinalis*				
Rainbow trout, generic	*Oncorhynchus mykiss*				
Mountain whitefish	*Prosopium williamsoni*				X
Malheur mottled sculpin	*Cottus bairdi ssp.*	Sensitive			X
Borax Lake chub	*Gila boraxobius*		E	E	X
Catlow Valley tui chub	*Gila bicolor spp.*	Tracking		S	X
Alvord chub	*Gila alvordensis*	Assessment			X
Longnose dace	*Rhinichthys cataractae*				X
Speckled dace	*Rhinichthys osculus*				X
Redside shiner	*Richardsonium balteatus*				X
Largescale sucker	*Catostomus macrocheilus*				X
Bridgelip sucker	*Catostomus columbianus*				X

[1]State Status (ODFW): E-endangered; T-threatened
[2]Federal Status (USFWS): T-threatened; S-Species of special concern with conservation agreements.

Two fish found in the Planning Area are listed as threatened or endangered by both the State of Oregon and the federal government (Lahontan cutthroat trout and Borax Lake chub). Five species or populations are considered assessment, tracking, or sensitive by the BLM. (One amphibian, the Columbia Spotted Frog, is a candidate for listing under the ESA and is discussed in the Wildlife Section of this document.)

A variety of nonnative fish species have been introduced to the Planning Area. The ODFW periodically stocks hatchery rainbow trout in Krumbo Reservoir, Fish Lake, and three small stock-water reservoirs in the Planning Area; and Lahontan cutthroat trout in Mann Lake. The Kings River has a self-sustaining population of rainbow trout established from previous stockings. Past rainbow trout stocking of the Trout Creek system has resulted in a self-sustaining population of rainbow-cutthroat hybrids. Currently, the ODFW does not stock any streams within the Planning Area. Brook trout, hatchery rainbow trout, and mixed-strain Lahontan cutthrout trout occur within the Planning Area from past stocking. Other fish introductions include crappie, which have become established in Rock Creek Reservoir. Several other transplants (guppies and other aquarium fish, several types of sunfish) are commonly found in Great Basin aquatic systems, the result of unauthorized introductions by private individuals (Sigler and Sigler 1987). These species may be present in the Planning Area.

The Planning Area contains other native nongame species such as mountain whitefish and speckled dace, with a full complement of Malheur Lake fish species occurring in the Donner und Blitzen River and McCoy Creek.

The condition of fish populations is highly dependent on the quantity and quality of available habitat.

The condition of aquatic habitat, in turn, is a reflection of physical and biological processes operating throughout the watershed. Streams, for example, transport water and sediment through a watershed. Changes in rates of erosion in upland areas can therefore affect stream ecosystems (e.g., increases in fine sediment supply to the stream negatively affect salmonid spawning and the production of aquatic macroinvertebrates, an important food source for all fish). The integrity of uplands in the watershed therefore may have consequences for the health of aquatic ecosystems.

Fish habitat is also dependent on the integrity of the stream channel, floodplain, and adjacent riparian vegetation. Riparian vegetation moderates water temperature, adds structure to the banks to reduce erosion, and provides overhead cover for fish. Intact vegetated floodplains dissipate stream energy, store water for later release, and provide rearing areas for juvenile fish. Well-established riparian woodlands also supply woody debris to the stream channel, an important component in developing habitat complexity in stream channels.

Since riparian vegetation and fish habitat are ecologically interconnected, the condition of riparian habitat is an indicator of the condition of fish habitat. Riparian Condition and Trend surveys conducted in the Planning Area during the 1970s and 1980s on 286.5 miles of riparian habitat indicated that 38 percent were considered "Good" to "Excellent" condition and 62 percent as "Fair" to "Poor" condition (Table 3.10). These surveys further indicated that 54 percent of the riparian habitat rated as "Fair" and "Poor" were in an improving trend. Subsequent observations and monitoring suggest further improvement in riparian condition of many stream reaches in the Planning Area.

Table 3.10: Riparian Condition Ratings during the 1970s and 1980s for Streams in the AMU and CMPA

	AMU		CMPA	
Condition Rating	**Miles**	**Percent**	**Miles**	**Percent**
Excellent	35.1	22	6.4	5
Good	41.1	26	26.3	21
Fair	63.4	39	55.6	44
Poor	21.6	13	37	30
Total	76.2	100	125.3	100

Water quality is another indicator of the condition of fish habitat. Several streams in the Planning Area in the Donner und Blitzen, Guano, and Alvord Lake Subbasins have been listed as water-quality limited for exceeding the temperature standard. Most of these streams contain special status fish species. Special status fish species are discussed in detail in Section 3.7.3.

Fisheries management in the AMU is ongoing to restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms. Consistent with these management objectives, the Steens Act designated the RTR. These areas are discussed in section 3.7 (Special Status Species) and in section 3.24 (Wild and Scenic Rivers).

The area also provides habitat for the Columbia spotted frog, a Federal Candidate species, and the Pacific chorus frog.

3.6.2 Wildlife and Wildlife Habitat

The Planning Area provides diverse habitat including sagebrush steppe, riparian and wetlands, and juniper woodlands. Wildlife species utilizing the habitat include upland game bird species, Rocky Mountain elk, mule deer, pronghorn antelope, California bighorn sheep, cougars, raptors, waterfowl, shorebirds, wading birds, neotropical migratory birds, reptiles, amphibians, and invertebrates. A list of some of the wildlife species known to inhabit the Planning Area is included in Appendix L. The following section describes the major wildlife habitat and species found in the Planning Area.

3.6.2.1 Wildlife Habitat

The sagebrush steppe includes several upland vegetation communities with a shrubland character and a variable understory of grasses and forbs. The presence of a shrub overstory is associated with wildlife community diversity. Shrubby plants are important to most small and large wildlife because they supply food as well as hiding cover and structure. Within the sagebrush steppe community, grasses and forbs provide food and cover for wildlife. Habitats that provide a mix of grasses and forbs meet the needs of a wide range of species.

Riparian areas consist of plant communities associated with streams and rivers. The structure, food, and water available in these areas make them the single most diverse and productive wildlife habitat. Well-developed riparian areas with trees, shrubs, grasses, forbs, sedges, and rushes provide valuable habitat for a wide array of wildlife species. Wetlands consisting of either permanently or seasonally wet areas, are associated with various landscape settings including reservoirs, sloughs, playas, meadows, springs, and seeps. Wetlands typically provide succulent green forage, insects, and drinking water for wildlife. Riparian and wetland areas that do not support diverse plant communities still provide important sources of water and food for wildlife.

The juniper woodlands provide habitat for a large number of species supported within the Planning Area. These woodlands vary greatly in their habitat value depending on factors such as height, density, and age of trees. Older trees may provide cavities for nesting birds while deer and elk use juniper for thermal and escape cover. The distribution of juniper (normally between 5,700 to 6,560 feet elevation) influences the condition and quality of neighboring wildlife habitat.

Forested habitat in the Planning Area is limited to 90 acres of a relic grand fir grove of which 20 acres occupy public land. This area contains a mature overstory with a large number of young trees in the understory with marginal commercial value.

3.6.2.2 Mule Deer

Mule deer are widespread throughout the Planning Area. They are typically associated with complex mid- to upper-elevation plant communities supporting a wide variety of sagebrush, mountain shrubs, aspen, juniper, and herbaceous vegetation. Mule deer browse on shrubs and forbs, which provide most of their annual diet.

Thermal cover is critical on winter range to provide protection from wind and other adverse elements. Grassy slopes, meadows, brush fields, and other early successional stages (artificially created and otherwise) provide the majority of deer forage. During hot summer weather, aspen stands and juniper/big sage/antelope bitterbrush shrublands function as thermal cover, reducing heat stress on the animals.

Transition range can be divided into spring and fall. The vegetation of the spring transition range is similar to winter range and consists of sagebrush and juniper woodland. Grasses and forbs are important components of the spring transitional ranges. The fall transitional ranges are vegetatively similar to summer ranges and consist primarily of aspen, shrub steppe, and juniper woodland communities. Maintaining migratory routes is critical to the seasonal deer movements.

The winter range, which encompasses 537,929 acres in the Planning Area, is concentrated along the east margin of Steens Mountain adjacent to the Alvord Desert, along the western lower elevations of Steens Mountain down to the east margin of Catlow Valley, along Pickett Rim, Malheur Wildlife Refuge, and in the lower elevations of the Pueblo Mountains and Trout Creek Mountains. The winter range occurs primarily in juniper woodland and sagebrush communities with interspersed grasses. Shrubs are a major component of the winter diet, primarily antelope bitterbrush, big sagebrush, curl-leaf mountain mahogany, and western juniper. When snow conditions make higher elevations unsuitable, deer will move to suitable habitat in lower elevations. Deer tend to remain at the highest possible elevations until forced to winter concentration areas by snowfall.

3.6.2.3 Pronghorn Antelope

Pronghorn antelope are distributed throughout the Planning Area. Winter range for pronghorn antelope is concentrated in Catlow Valley, Hawks Valley, the southeast end of the Pueblo Mountains, the Fields area, along the eastern base of Steens Mountain, Krumbo Reservoir, and north of Frenchglen. During the summer, pronghorn antelope are widely distributed throughout the Planning Area in habitats having low structure and a mixture of grasses, forbs, and shrubs. Sagebrush is used for both cover and forage. Seedings and wildland fires have converted some previously dense stands of sagebrush into suitable range.

BLM livestock water developments, particularly pipelines, have allowed pronghorn antelope to expand into formerly unoccupied areas. Forage competition with cattle and wild horses is slight due to forage preferences (Vavra and Sneva 1978). Lack of water at natural or developed sites can be a serious problem during periods of drought. BLM fence

construction specifications allow pronghorn to move freely by having smooth bottom wires spaced at least 16 inches above ground level.

When coyote numbers are high, coyote predation of pronghorn kids appears to be a primary factor limiting populations. Pronghorn populations within the Planning Area are currently above the ten-year average due to declines in the coyote population and favorable habitat conditions.

3.6.2.4 Raptors

Raptors, which include predatory birds such as hawks, eagles, and falcons, can be found throughout much of the Planning Area. Local areas provide exceptionally high-quality raptor habitat and support high-density breeding populations. Common breeding species include the red-tailed hawk, Swainson's hawk, prairie falcon, American kestrel, golden eagle, northern harrier, sharp-shinned hawk, Cooper's hawk, and long-eared owl. Other less common breeders that may be found locally include the ferruginous hawk, burrowing owl, and northern goshawk. Important nesting habitats are in juniper and quaking aspen vegetation types. Volcanic ledges and buttes are often excellent nesting sites for many species. Prey species are more likely to be available for a wide range of raptors when plant communities are structurally diverse and support mixtures of grasses, forbs, and shrubs.

Many breeding species also winter within the Planning Area. Species that only winter in the area include the rough-legged hawk and northern bald eagle. Rangeland treatments and power line locations and configurations are examples of actions that potentially threaten raptor reproduction and survival. Local utility companies have cooperated in the past to design power facilities which have greatly reduced the number of raptor electrocutions.

3.6.2.5 Neotropical Migratory Birds

The Planning Area supports a wide variety of neotropical migratory bird species (more than 110 species) that breed in the United States and winter in Central or South America. Populations of some of these species are declining as a consequence of land use practices and other factors. Neotropical migratory birds exhibit variable habitat requirements and are found in several habitat types. Some of the birds in this category include song sparrow, chipping sparrow, Brewer's sparrow, downy woodpecker, hairy woodpecker, yellow-rumped warbler, yellow warbler, dusky flycatcher, Bullock's oriole, American robin, mourning dove, Cassin's finch, rufous hummingbird, Western tanager, pine siskin, violet-green swallow, and lesser goldfinch.

3.6.2.6 Waterfowl and Shorebirds

As many as 70 species of waterfowl, shorebirds, and wading birds may use the area due to the nearby wetland habitat of the Malheur NWR and private lands. Representative species include Canada goose, cinnamon teal, mallard, gadwall, American avocet, white-faced ibis, Wilson's phalarope, greater sandhill crane, great blue heron, and spotted sandpiper. These species exhibit variable habitat requirements and are found in several habitat types.

3.6.2.7 Rocky Mountain Elk

Rocky Mountain elk is one of Oregon's primary big game species found in the Planning Area. Since elk are also valued by the public for wildlife viewing, interest is high relative to the population levels and habitat conditions. The elk population remains near ODFW population objectives. Approximately 400 adult elk summer at mid to upper elevations on Steens Mountain and winter at mid to lower elevations.

Three types of cover are important to elk: hiding cover, thermal cover, and optimal thermal cover. Hiding cover includes any vegetation capable of hiding 90 percent of a standing elk at 200 feet or less. Thermal cover and optimal thermal cover exist in juniper woodlands and juniper/big sage areas.

Winter range is an important consideration in managing elk populations. The winter range in the Planning Area covers approximately 84,871 acres. During winter, elk use south-facing slopes and lower elevations because of warmer temperatures, reduced snow depths, and available forage. During periods of hot summer weather, north-facing slopes, high elevation western juniper/shrub sites, and aspen stands provide important thermal cover.

3.6.2.8 Animal Damage Control

Animal damage control is an activity of the USDA-Agricultural Plant and Animal Health Inspection Service (APHIS). This activity is authorized by federal law under the Animal Damage Control Act (7 USC 426-426b) and by Oregon State Law under ORS 610.105, authority to Control Noxious Rodents or Predatory Animals.

The roles and responsibilities of the BLM and USDA-APHIS are specified under an MOU between the BLM and USDA-APHIS, which was signed on March 21, 1995. According to this memorandum, USDA-APHIS is responsible for environmental analysis documents associated with their control actions on public land. The BLM identifies human safety areas or other resource management concerns where actions are proposed; therefore, this program will not be analyzed further. Areas of animal damage control activity are identified to the BLM on an annual basis.

3.7 Special Status Species

Special status species are plant or animal species known or suspected to be limited in distribution, rare or uncommon within a specific area, and/or vulnerable from activities which may affect their survival.

3.7.1 Plants

Table 3.11 lists 73 special status plant species found in the Planning Area. These species receive priority attention for inventory, research, and monitoring efforts. Federal, state, and nongovernmental agencies have been consulted to assure their protection and management. Special status plant surveys are made prior to land exchanges, range and wildlife projects, proposed mining operations, and other surface disturbing activities.

Nearly all of the plants on the list are rare in Oregon, but common or stable in areas outside of Oregon. There are no known threatened or endangered plant species in the Planning Area. Special status plant species occur in a variety of plant associations and on a variety of physical habitats, many of which have distinctive soil types. Several special status species often occur together. When a new location for a special status plant species is observed, the information is documented and reported to the Oregon Natural Heritage Database Program (ONHP), where it is permanently recorded.

3.7.2 Animals

Special status animal species occur on public lands, within the Planning Area. Special status designations are assigned for many reasons including limited distribution, habitat loss resulting from environmental impacts, suspected or documented population declines, or some combination of these factors. These are priority species for various surveys to determine their distributions, abundance, and habitat preferences. Table 3.12 contains a list of special status animal species found in the Planning Area.

3.7.2.1 Northern Bald Eagle

The bald eagle was listed in 1978 as a federal threatened species in Oregon under the Federal ESA of 1973. The Planning Area supports a wintering population of northern bald eagles, but no breeding pairs. The Planning Area supports approximately ten wintering eagles, primarily in areas associated with major river systems and large reservoirs.

Some systematic winter inventories have been conducted in the Planning Area's one known winter roost site. Whether this site is used consistently or sporadically due to weather conditions and available prey is unknown. Bald eagles in the Planning Area are primarily associated with public land near the Malheur NWR.

3.7.2.2 American Peregrine Falcon

The American peregrine falcon was federally listed as an endangered species throughout its range under the Federal ESA of 1973, and as a state endangered species under the Oregon ESA (ORS 1987). The peregrine falcon was delisted in 1999 after reaching the recovery goals set forth in the 1982 Pacific Coast Recovery Plan for the American peregrine falcon.

The peregrine falcon is a cliff-nesting species. Nest sites are usually associated with cliffs near water with an abundant population of nongame birds, shorebirds, and waterfowl, the peregrine's primary prey. American peregrine falcons are occasionally seen along the Catlow Rim during fall or spring migration, but no recent nesting activity has been documented. A USFWS recovery plan for the peregrine falcon requires the BLM to take action to conserve this species.

Table 3.11: Special Status Species Plants in the Planning Area

Common Name	Scientific Name	BLM Status	ONHP Status	CMPA	AMU
Alvord milkvetch	*Astragalus alvordensis*	T	L3		X
alpine fescue	*Festuca brachyphylla*	T	L3	X	
awned sedge	*Carex atherodes*	T	L3		X
Back's sedge	*Carex backii*	A	L2	X	
Bellard's kobresia	*Kobresia bellardii*	T	L3	X	
Biddle's lupine	*Lupinus biddlei*	S	L3	X	X
Bigelow's four-o'clock	*Mirabilis bigelovii var retrorsa*	T	L3		X
capitate sedge	*Carex capitata*	T	L3	X	
Cusick's hyssop	*Agastache cusickii*	A	L2	X	X
Cusicks's draba	*Draba sphaeroides var cusickii*	T	L3	X	
dark alpine sedge	*Carex subnigricans*	T	L3	X	
Davidson's penstemon	*Penstemon davidsonii var. praeteritus*	T	L3	X	X
Davis' peppergrass	*Lepidium davisii*	S	L1		X
desert needlegrass	*Achnatherum speciosum*	A	L2	X	X
desert chaenactis	*Chaenactis xantiana*	A	L2		X
discoid goldenweed	*Ericameria discoidea var discoidea*	T	L3	X	
Drummond willow	*Salix drummondiana*	T	L3	X	
dwarf evening primrose	*Camissonia pygmaea*	S	L1	X	
ephemeral monkey flower	*Mimulus evanescens*	S	L1	X	
flowering quillwort	*Lilaea scilloides*	T	L3		X
foetid sedge	*Carex foetida var. vernacular*	T	L3	X	
fourwing milkvetch	*Astragalus tetrapterus*	T	L3		X
gray moonwort	*Botrychium minganense*	A	L2	X	
hairstemmed rush	*Juncus capillaris*	T	L3	X	
hairy wild cabbage	*Caulanthus pilosus*	T	L3		X
Hayden's cymopterus	*Cymopterus nivalis*	A	L2	X	
Hayden's sedge	*Carex haydeniana*	T	L3	X	
hedgehog cactus	*Pediocactus simpsonii var. robustior*	T	L3	X	X
iodine bush	*Allenrolfea occidentalis*	A	L2		X
Janish's penstemon	*Penstemon janishiae*	T	L3	X	
Kruckeberg's holly fern	*Polystichum kruckebergii*	T	L3	X	
lance-leaved grapefern	*Botrychium lanceolatum*	A	L2	X	
large-flowered chaenactis	*Chaenactis macrantha*	A	L2		X

Common Name	Scientific Name	BLM Status	ONHP Status	CMPA	AMU
least rush	*Juncus hemiendytus var. abjectus*	T	L3	X	
long-flowered snowberry	*Symphoricarpos longiflorus*	A	L2	X	X
lyrate malacothirx	*Malacothrix sonchoides*	T	L3		X
Malheur cryptantha	*Cryptantha propria*	T	L3		X
moonwort	*Botrychium lunaria*	A	L2	X	
montane pepperwort	*Lepidium montanum var. nevadense*	T	L3		X
moss gentian	*Gentiana prostrata*	A	L2	X	
mosslike dwarf rush	*Juncus bryoides*	T	L3	X	
naked-stemmed phacelia	*Phacelia gymnoclada*	A	L2		X
narrowleaf cottonwood	*Populus angustifolia*	T	L3	X	X
new sedge	*Carex nova*	T	L3	X	
nodding melic	*Melica stricta*	T	L3	X	X
ochre-headed buckwheat	*Eriogonum ochrocephalum ssp. calcareum*	T	L3		X
pale paintbrush	*Castilleja pallescens var. inverta*	T	L3		X
pinnate grapefern	*Botrychium pinnatum*	A	L2	X	
prickly poppy	*Argemone munita spp. rotundata*	A	L2	X	X
purple cymopterus	*Cymopterus purpurascens*	A	L2		X
Rafinesque's pondweed	*Potamogeton diversifolius*	A	L2	X	X
Raven's lomatium	*Lomatium ravenii*	A	L2		X
Rocky Mtn. Helianthella	*Helianthella uniflora var. uniflora*	T	L3	X	
salt heliotrope	*Heliotropium curassavicum*	T	L3		X
short-fruited willow	*Salix brachycarpa var brachycarpa*	T	L3	X	
short-lobed penstemon	*Penstemon seorsus*	T	L3	X	X
Siberian water-milfoil	*Myriophyllum sibiricum*	T	L3	X	X
Sierra willow	*Salix orestera*	T	L3	X	
Sierran springbeauty	*Claytonia nevadensis*	T	L3	X	
sky pilot	*Polemonium viscosum*	T	L3	X	
slender gentian	*Gentianella tenella*	A	L2	X	
slender wild cabbage	*Caulanthus major var. nevadensis*	S	L1		X
Steens Mountain paint brush	*Castilleja pilosa var. steenensis*	S	L3	X	
teacher's sedge	*Carex praeceptorum*	T	L3	X	X
thick-stemmed wild cabbage	*Caulanthus crassicaulis*	T	L3		X
Tiehm's rush	*Juncus tiehmii*	T	L3	X	
Torrey's malacothrix	*Malacothrix torreyi*	T	L3		X
two-stemmed onion	*Allium bisceptrum*	T	L3		X
umbellate springbeauty	*Claytonia umbellata*	T	L3	X	
verrucose seapurslane	*Sesuvium verrucosum*	A	L2		X
weak-stemmed stonecrop	*Sedum debile*	T	L3	X	

Common Name	Scientific Name	BLM Status	ONHP Status	CMPA	AMU
wedge-leaf saxifrage	*Saxifraga adscendens var.oregonensis*	A	L2	X	
white-flowered penstemon	*Penstemon pratensis*	T	L3	X	X

BLM Status

S=Sensitive - species that could easily become endangered or extinct in a state, are restricted in range, and have natural or human-caused threats to survival.

A=Assessment - species not presently eligible for official federal or state status but are still of concern and need protection or mitigation in BLM activities.

T=Tracking - species that may become of concern in the future, but more information is needed to determine status for management purposes.

ONHP Status

L1 - taxa threatened with extinction or presumed to be extinct throughout their range.

L2 - taxa threatened with extirpation or presumed to be extirpated from the State of Oregon.

L3 - taxa of conservation concern that need more information to determine status.

Table 3.12: Special Status Animal Species in Southeastern Oregon

Common Name	Scientific Name	Status				Location (CMPA or AMU)
		Fed	BLM	OR	ONHP	
Amphibian						
Columbia spotted frog	*Rana luteiventris*	FC			L2	CMPA
western toad	*Bufo boreas*		BT		L3	CMPA
Bird						
American white pelican	*Pelecanus erythrorhynchos*		BA		L2	Both
bank swallow	*Riparia riparia*		BT		L4	Both
black rosy finch	*Leucosticte atrata*		BT		L4	CMPA
black tern	*Chlidonias niger*	SoC	BT		L4	CMPA
black-throated sparrow	*Amphispiza bilineata*		BT		L2	Both
bobolink	*Dolichonyx oryzivorus*		BT		L4	CMPA
broad-tailed hummingbird	*Selasphorus platycercus*		BT		L4	Both
Columbia sharp-tailed grouse	*Tympanuchus phasianellus columbianus*	SoC	BS		L1	Both[#]
ferruginous hawk	*Buteo regalis*	SoC	BS		L2	Both
flammulated owl	*Otus flammeolus*		BS		L4	CMPA
Forster's tern	*Sterna forsteri*		BT		L3	Both
Franklin's gull	*Larus pipixcan*		BA		L2	Both
great egret	*Casmerodius albus*		BT		L3	Both
Greater sage-grouse	*Centrocercus urophasianus*	SoC	BS		L2	Both
greater sandhill crane	*Grus canadensis ssp.*		BT		L4	Both
horned grebe	*Podiceps auritus*		BT		L4	CMPA
least bittern	*Ixobrychus exilis*	SoC	BA		L2	CMPA

Common Name	Scientific Name	Status				Location (CMPA or AMU)
		Fed	BLM	OR	ONHP	
loggerhead shrike	*Lanius ludovicianus*		BT		L4	Both
mountain quail	*Oreortyx pictus*	SoC	BT		L4	Both
northern bald eagle	*Haliaeetus leucocephalus*	FT		ST	L1	Both
northern goshawk	*Accipiter gentilis*	SoC	BS		L3	CMPA
olive-sided flycatcher	*Contopus cooperi*		BT		L3	Both
peregrine falcon	*Falco peregrinus ssp.*		BS	SE	L1	CMPA
pinyon jay	*Gymnorhinus cyancephalus*		BT		L4	Both
sage sparrow	*Amphispiza belli*		BS		L4	Both
snowy egret	*Egretta thula*		BA		L4	Both
Swainson's hawk	*Buteo swainsoni*		BT		L4	Both
western burrowing owl	*Athene cunicularia*	SoC	BS		L2	CMPA
western snowy plover (inland)	*Charadrius alexandrinus*			ST	L2	AMU
white-faced ibis	*Plegadis chihi*	SoC	BT		L4	Both
willow flycatcher	*Empidonax traillii adastus*	SoC	BT		L4	Both
yellow-billed cuckoo	*Coccyzus americanus*	FC	BS		L2	CMPA
Fish						
Alvord chub	*Gila alvordensis*	SoC	BA		L2	Both
Borax Lake chub	*Gila boraxobius*	FE		SE	L1	AMU
Catlow Valley tui chub	*Gila bicolor ssp.*	SoC	BT		L3	Both
Great Basin redband trout	*Oncorhynchus mykiss ssp.*	SoC	BT		L3	Both
Lahontan cutthroat trout	*Oncorhynchus clark henshawi*	FT		ST	L1	Both
Malheur mottled sculpin	*Cottus bairdi ssp.*	SoC	BS		L3	Both
Mammal						
California bighorn sheep	*Ovis canadensis ssp.*	SoC	BT		L4	Both
California wolverine	*Gulo gulo*	SoC		ST	L2	CMPA
Canada lynx	*Lynx canadensis*	FT			L2	CMPA*
fringed myotis	*Myotis thysanodes*	SoC	BT		L3	Both
gray wolf	*Canis lupus*	FE		SE	L2-ex	Extirpated
kit fox	*Vulpes velox*			ST	L2	AMU
long-eared myotis	*Myotis evotis*	SoC	BT		L4	Both
long-legged myotis	*Myotis volans*	SoC	BT		L3	Both
pallid bat	*Antrozous pallidus*	SoC	BT		L3	Both
Preble's shrew	*Sorex preblei*	SoC	BT		L3	Both
pygmy rabbit	*Brachylagus idahoensis*	SoC	BA		L2	AMU

Common Name	Scientific Name	Status				Location (CMPA or AMU)
		Fed	BLM	OR	ONHP	
silver-haired bat	*Lasionycteris noctivagans*	SoC	BT		L3	Both
spotted bat	*Euderma maculatum*	SoC	BA		L2	Both
Townsend's big-eared bat	*Corynorhinus townsendii*	SoC	BS		L2	Both
western small-footed myotis	*Myotis ciliolabrum*	SoC	BT		L3	Both
white-tailed antelope ground squirrel	*Ammospermophilus leucurus*		BT		L3	Both
white-tailed jackrabbit	*Lepus townsendii*		BT		L3	Both
Yuma myotis	*Myotis yumanensis*	SoC	BT		L4	Both
Reptile						
desert horned lizard	*Phrynosoma platyrhinos*		BT		L3	Both
long-nosed leopard lizard	*Gambelia wislizenii*		BT		L4	Both
Mojave black-collared lizard	*Crotophytus bicinctores*		BT		L3	Both
northern sagebrush lizard	*Sceloporus graciosus*	SoC	BT		L4	Both

Status:

FE=Federal Endangered: A species which is in danger of becoming extinct within the forseeable future throughout all or a significant portion of its range.

FT=Federal Threatened: A species that is likely to become endangered within the forseeable future.

FC=Federal Candidate: A species for which the USFWS or National Marine Fisheries Service have sufficient information to support a proposal for listing as Threatened or Endangered under the ESA.

SoC=Species of Concern: A former C2 candidate species which needs additional information in order to propose as threatened or endangered under the ESA. The USFWS is reviewing species information for consideration as Candidates for listing under the ESA.

SE=State Endangered: A species which is in danger of becoming extinct within the foreseeable future throughout all or a significant portion of its range. This species may be extirpated from its range within the state.

ST=State Threatened: An animal that could become endangered within the foreseeable future within all or a portion of its range.

BS=Bureau Sensitive: Species that could easily become endangered or extinct in a state, are restricted in range, and have natural or human-caused threats to survival.

BA=Bureau Assessment: Species not presently eligible for official federal or state status but are still of concern and need protection of mitigation win BLM activities.

BT=Bureau Tracking: Species that may become of concern in the future, but more information is needed to determine status for management purposes.

ONHP (Oregon Natural Heritage Program):

L1=List 1: Taxa that are threatened with extinction or presumed to be extinct throughout their entire range.

L2=List 2: Taxa that are threatened with extirpation or presumed to be extirpated from the state of Oregon.

L3=List 3: Species for which more information is needed before status can be determined, but which may be threatened or endangered in Oregon or throughout their range.

L4=List 4: Taxa which are of concern, but are not currently threatened or endangered.

- No longer found in the Planning Area.

* - Trapped once in the Steens Mountain, which is outside its normal range of habitat.

Extirpated - no longer within the original range of the species in Oregon. Outside of the recovery zone for gray wolves.

3.7.2.3 Northern Kit Fox

The northern kit fox is a state threatened species that is present within some of the salt desert shrub habitat of the Planning Area and has a range of approximately 254,691 acres. According to ODFW data, kit fox populations are currently low but are higher than when the species was added to the state list of threatened species. Kit fox populations in Oregon are thought to be naturally limited by the amount of salt desert habitat available. The kit fox is common in Nevada and some other western states. USDA-APHIS animal damage control actions avoid kit fox occupancy areas.

3.7.2.4 Columbia Spotted Frog

Columbia spotted frogs inhabit ponds, lake edges, slow moving streams, or perennial warm marsh habitats with few or no cold springs. They are known to occur on the Donner und Blitzen River and some of its tributaries, on McCoy Creek, in Fish Lake, and in Lily Lake. Spotted frogs are also often associated with non-woody wetland plant communities and use algal mats for resting. Egg masses are usually piled on the stream bottom in very shallow water in late spring, sometimes by several females in the same location in successive years. Egg masses often rise above the surface of the water. Froglets and adults occur in well-vegetated ponds, marshes, and slow streams, but have been found in disturbed habitats with reduced vegetation.

Spotted frogs become active as early as February. Males are not territorial and call during the day using a series of six to nine low clucking sounds. Egg laying has been documented as early as March in southwestern British Columbia and as late as June 30 in higher elevations. In mountain and interior sites, spotted frogs have been known to overwinter as larvae, metamorphosing the following spring (Nussbaum et al. 1983). This phenomenon has not been documented in the Planning Area. When disturbed, spotted frogs will move to deeper water on the stream bottom and conceal themselves in dense vegetation or bottom debris.

3.7.2.5 Greater Sage-Grouse

The western subspecies of the Greater sage-grouse was federally listed as a Category 2 candidate species by the USFWS until the classification was dropped from the list. The Greater sage-grouse is currently a BLM sensitive species.

Sage-grouse populations have exhibited long-term declines throughout North America, declining by 33 percent over the past 30 to 40 years. The species has disappeared in five states (Arizona, New Mexico, Oklahoma, Kansas, Nebraska) and one province (British Columbia). It is "at risk" in six other states (Washington, California, Utah, Colorado, North Dakota, South Dakota) and two provinces (Alberta, Saskatchewan). Even in states where the species is considered to be “secure" (Oregon, Nevada, Idaho, Wyoming, Montana), long-term population declines have averaged 30 percent (Connelly and Braun 1997; Crawford and Lutz 1985). The ODFW has indicated that the population is stable in Oregon (Willis 1993).

The Oregon BLM is committed to the implementation of the “Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Guidelines” (2000). While these guidelines focus on the Greater sage-grouse as an icon, they are dedicated to all of the shrub-steppe obligate species that have been the focus of the ICBEMP effort. The guidelines incorporated information from the “Guidelines to Manage Sage Grouse Populations and Their Habitats” (Connelly et al. 2000).

Sage-grouse depend on sagebrush-grassland communities. Big sage, the primary species upon which sage-grouse depend in Harney County, is usually associated with western juniper, although juniper is not a necessary habitat component. Sage-grouse are most frequently found in sage covered flatlands or gently rolling hills. Free water is also a component of sage-grouse habitat, but it is not required for daily survival. Water is used when available from late spring through late fall. Sage-grouse attain their highest population densities in areas that contain abundant and well distributed surface water and rely on snow and ice during the winter months and moisture from succulent plants when available.

Migratory sage-grouse populations may travel great distances seasonally. Summer and winter ranges may be as far as 50 miles apart, or more. If deep snow covers spring and summer ranges, the birds may migrate to lower elevations to find food and cover. Sage-grouse may nest and raise their broods in sage covered mountain valleys at high elevations. A variety of sage stand conditions are necessary for good sage-grouse habitat. In general, good habitat should contain openings less than 300 yards in circumference, some dense stands, and approximately equal amounts of tall and short sagebrush plants. Sage-grouse use three habitat types throughout the year: breeding habitat, brood-rearing habitat, and wintering habitat.

Lek sites, or sage-grouse strutting and mating grounds, are usually small open areas from less than an acre to ten acres in size, with low, sparse sagebrush or areas devoid of vegetation. Grassy swales, natural and irrigated meadows where grass has been removed, burned areas, cultivated fields adjacent to sagebrush-grass rangelands, and dry lakebeds are often used as leks.

Optimum sage-grouse nesting habitat consists of sagebrush stands containing plants 16 to 32 inches high with a canopy cover ranging from 15 percent to 25 percent, and an herbaceous understory of at least 15 percent cover that is at minimum seven inches tall. These conditions should be found on 80 percent of the breeding habitat for any given population of sage-grouse (Klebenow 1969; Wallestad and Pyrah 1974).

Early brood rearing generally occurs relatively close to nest sites, but movements of individual broods may be highly variable (Connelly 1982; Gates 1983). Sage-grouse chick diets include forbs and invertebrates. Insects, especially ants and beetles, are an important component of early brood rearing habitat. Brood habitats containing a variety of plant species tend to provide an equivalent diversity of insects, which are important chick foods. As sagebrush habitats dry up and herbaceous plants mature, hens move their broods to moister sites during June and July where more succulent vegetation is available (Klebenow 1969; Gill 1965; Connelly et al. 1988). Optimum brood-rearing habitat consists of sagebrush stands that are 16 to 32 inches tall with a canopy cover of ten to 25 percent and an herbaceous understory of 20 percent (ten percent grasses and ten percent forbs). This type of habitat should be found on at least 40 percent of an area that is considered brood habitat.

As fall progresses toward winter, sage-grouse start to move toward their winter ranges. At such times, their diet shifts primarily to sagebrush leaves and buds (Connelly et al. 1988). Timing of movement depends on weather severity and snow depth. Sage-grouse winter habitats are relatively similar throughout most of the species range. Since the sage-grouse winter diet consists almost exclusively of sagebrush, winter habitats must provide sagebrush that is exposed at least ten to 12 inches above snow level (Hupp and Braun 1989). Such conditions provide both food and cover for wintering sage-grouse, which tend to prefer areas of high canopy cover as well as taller Wyoming big sagebrush. They will select the plants with the highest protein content. In situations where snow covers the sagebrush, the birds will move to areas where it is exposed. Sagebrush of varying heights should be found on 80 percent of the wintering range of a given population to guarantee that enough forage will be available.

The greatest negative impact on sage-grouse is the destruction or adverse modification of their habitat. Presently, sage-grouse in reduced numbers occupy most of their historic range in the Planning Area but have disappeared from areas on the periphery of former ranges where large areas of sagebrush have been removed. During the past 40 years, many sagebrush covered valleys and foothill ranges have been sprayed, plowed, chained, burned, disked, or cut in an attempt to convert these ranges to grasslands.

3.7.2.6 California Bighorn Sheep

California bighorn sheep were eliminated from Oregon by 1915. Current populations are the result of numerous ODFW-directed reintroductions and supplemental releases during the past two decades. Bighorns from Steens Mountain have been captured and used for relocations within Oregon and in other western states. Although populations within the analysis area have recently increased, the current distribution in Oregon still represents a small percentage of the former historic bighorn range (Oregon's Bighorn Sheep Management Plan 1992-1997).

Approximately 775 bighorns reside within the Planning Area in seven primary locations including the CMPA. Small herds occupy other regions of the Planning Area. Bighorn range covers 436,715 acres in the Planning Area and 101,168 acres in the CMPA. Summering bighorns from the Alvord Peak area and Pueblo Mountains usually winter in the low mountains east of Fields. This is the only major migratory bighorn movement known in eastern Oregon.

Disease transmission between domestic sheep and bighorns can cause rapid and massive bighorn losses, which results in public controversy. No licensed sheep grazing permits overlap with currently occupied bighorn range, nor has the ODFW indicated any problems with disease transmission between cattle and bighorn sheep. However, domestic sheep grazing does occur on predominantly private land south of Fish Lake on Steens Mountain which is approximately four miles from occupied bighorn sheep habitat. This close proximity poses some additional risk that disease transmission could happen in the future. Due to this potential, transplants of bighorn sheep into sites identified in Oregon's Bighorn Sheep Management Plan in Little Blitzen, Big Indian and Lower Blitzen canyons have been postponed by the ODFW.

In accordance with an approved state management plan, the ODFW wishes to continue releasing bighorns into suitable unoccupied habitat and to conduct supplemental releases into currently occupied habitat. Should bighorn populations exceed management objectives in the future, the ODFW would like to continue removing bighorns by capture for release into other suitable habitat in Oregon and elsewhere.

3.7.3 Fish

The following section is a description of sensitive fish species found in the Planning Area. It includes a discussion of distribution and current status, important habitat relationships, and key factors influencing status. Much of the following discussion is excerpted from the Draft SEORMP (USDI 1998b) and the ICBEMP Scientific Assessment (USDA/USDI 1996 [see these documents for references]).

3.7.3.1 Redband Trout

Redband trout are a subspecies of rainbow trout. The rainbow trout is a widely distributed western North America native salmonid. Rainbow trout have been segregated into these three forms: 1) Coastal rainbow trout west of the Cascade/Sierra mountain divide; 2) Interior Columbia River redband trout upstream of Celilo Falls, including the Fraser and Athabasca

rivers in Canada, the upper Klamath River Basin, and the isolated interior basins of Oregon; and 3) the Sacramento-San Joaquin redband trout (Behnke 1992). Although the systematics are incomplete, physical characteristics and genetic studies support the view that these three rainbow trout forms warrant subspecific recognition (Allendorf 1975; Allison and Bond 1983; Berg 1987; Stearley and Smith 1983). The USFWS (FR Vol. 65, No. 54, pp. 14932-14936) recognizes the redband trout within the Planning Area as Great Basin redband trout.

Redband trout occupy a wide array of habitats (Scott and Crossman 1973). Research suggests that redband trout are found in a wide range of conditions, often more extreme than those associated with other species. Populations found in the southern Oregon deserts inhabit turbid and alkaline waters that range from near freezing to over 77º F (Johnson et al. 1985; Kunkel 1976; Zoellick 1995). Redband trout tolerate warmer waters than many other salmonids (Gamperl 2003); however, in warmer and drier environments the loss of riparian cover has been associated with reduced numbers and production of fish (Li et al. 1994; Tait et al. 1994).

Relatively little work has been completed to define habitat use for this fish, but patterns are generally similar to other salmonids. Thurow (1988) found redband trout most abundant in pool habitats and in association with cover components including undercut banks, large woody debris, and over-hanging vegetation. Some have suggested that redband trout, like steelhead, may be associated with higher gradient channels, often in riffles or with substrates dominated by boulders, cobbles and pocket water (Kunkel 1976).

Redband trout are widely distributed throughout the Interior Columbia Basin, including southern Oregon closed desert basins. In the Planning Area, it occupies the Donner und Blitzen River system, including Kiger Creek and McCoy Creek drainages; the headwaters of the Riddle Creek watershed; and Home, Threemile and Skull Creeks in the Catlow Valley. The Donner und Blitzen River system demonstrates three life forms of redband trout depending on water conditions in Malheur Lake: resident, fluvial and adfluvial.

Redband trout are considered a species of special concern by the American Fisheries Society and all states in the historical range, and are classified as a tracking species by the BLM (Williams et al. 1989). Six Great Basin populations, including populations in the Planning Area, were petitioned for listing as threatened or endangered under the ESA in 1997. The USFWS found that the most appropriate grouping of the six populations under consideration was as a single Distinct Population Segment, the biological unit managed for protection under the ESA of 1973. In March of 2000, the USFWS published a finding which stated that listing for these populations is not currently warranted (FR Vol. 65, No. 54, pp. 14932-14936). This determination was based, in part, upon evidence of moderate to high densities of redband trout in each of the six subbasins (Dambacher et al. 2001).

The limited distribution and small population sizes of redband trout located in Catlow Valley streams, as well as the Catlow tui chub, prompted the August 1997 completion of the "Catlow Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy". This Conservation Agreement was entered into by the BLM, USFWS, Malheur NWR, ODFW, and a private land owner in order to expedite conservation measures needed for the recovery of the species. The agreement, which focuses on the fishes' habitat in Home, Threemile, and Skull Creeks, has these two objectives: 1) to reduce and eliminate significant threats; and 2) to enhance and/or stabilize specific stream reaches of occupied and unoccupied historic habitat. The public land portions of Threemile Creek and Home Creek are within the CMPA, and are included in the area covered by the Conservation Agreement. These efforts further contributed to the USFWS finding that the Great Basin redband trout did not warrant listing pursuant to the ESA (FR Vol. 65, No. 54, pp. 14932-14936).

Hybridization and competition are biotic factors influencing redband trout. Introduced fishes create risks of genetic introgression, competition for food and space, predation, and increased exposure to disease (Fausch 1988; Reisenbichler 1977). Introduced rainbow trout are now the most widely distributed fish in the Inter-Columbia Basin and have contributed to losses of the native redband trout genotype through introgression (Behnke 1992; Campton and Johnston 1985). In the Planning Area, documented hatchery rainbow trout stocking within the distribution of redband trout is limited to the Donner und Blitzen River subbasin. However, hatchery supplementation in the Donner und Blitzen River was discontinued upstream of the Page Springs gauging weir in the 1940s (ODFW 1983) and downstream of the weir

in 1992. Rainbow trout continue to be stocked in Krumbo Reservoir, Fish Lake and two small BLM reservoirs in the Donner und Blitzen River subbasin. The ODFW (1999) indicated a limited likelihood of hatchery trout escaping these waters and concluded a low risk of introgression with redband trout. Coordinated fish composition surveys conducted in the Donner und Blitzen River indicated no presence of hatchery rainbow trout upstream of the Page Springs gauging weir or in tributary streams upstream of Fish Creek (ODFW 1983). These surveys were conducted during the period when ODFW actively stocked rainbow trout in the Donner und Blitzen River. The ODFW (1983) further suggested that the redband trout gene pool is relatively unaltered upstream of the Page Springs gauging weir, which functions as a barrier to hatchery stocked rainbow trout. This report further recognizes hatchery rainbow trout as poorly adapted to the warm and often alkali waters of the Great Basin streams, where the native trout are more adapted to these environments (Bowers et. al. 1979). Genetic analysis of redband trout in Mud Creek and Bridge Creek, tributaries of the Donner und Blitzen River downstream of the Page Springs gauging weir, suggest limited to no genetic introgression from hatchery rainbow trout (Currens, unpublished report on file with ODFW). Although brook trout previously stocked in Fish Lake are reported to have moved into Fish Creek (ODFW 1980), a tributary of the Donner und Blitzen River, the ODFW (1983) did not observe brook trout in the Donner und Blitzen River. However, other fish species, such as carp and sunfish, that may compete for resources or prey upon redband trout are present downstream of the Page Springs gauging weir.

Fragmentation and isolation of habitats influence redband trout distribution and abundance. If watershed disturbances result in loss of corridors or connecting habitats, remaining redband trout populations can be progressively isolated into smaller and smaller patches of productive habitats. Corridors that provide habitat for migration, rearing, and over-wintering may be critical to the conservation of species where connections among population are important (Hanski and Gilpin 1991; Rieman et al. 1993).

Habitat degradation is a third factor influencing redband trout status. Great Basin redband trout habitats have been altered by a host of land use practices (Moskowitz and Rahr 1994; Williams et al. 1989). Thurow (1988) reported four principle effects from water diversions: dewatering of stream reaches, loss of fish in unscreened diversions, blockage of migration corridors, and alteration of stream channels by earthmoving equipment. The loss or conversion of riparian cover has been caused by grazing, mining, urbanization, and agriculture (Meehan 1991). In desert climates, the loss of riparian canopy has been associated with excessive temperature and reduced redband trout abundance (Li et al. 1994; Tait et al. 1994). Channel alterations adversely affect stream hydraulics (Bottom et al. 1985), nutrient pathways (Schlosser 1982), invertebrate production (Benke et al. 1985), and fish production.

The Malheur NWR, in coordination with the ODFW, Trout Unlimited, and Oregon Trout, has been improving conditions for redband trout in the Donner und Blitzen River system through maintenance and modification of fish passage and screening at diversion facilities on the Malheur NWR (ODFW 1999).

3.7.3.2 Lahontan Cutthroat Trout

The Lahontan cutthroat trout is native to the Pleistocene Lake Lahontan Basin of northwestern Nevada, northeastern California, and a small adjacent portion of southeastern Oregon. It has been introduced elsewhere in southeastern Oregon and eastern Washington.

During the 1970s, Lahontan cutthroat trout from Willow and Whitehorse creeks were introduced into Denio, Van Horn, Pike, Mosquito, Little McCoy, Big Alvord, Little Alvord, Cottonwood, and Willow creeks in the Alvord Lake Subbasin. Surveys conducted in 1991 confirmed that many of the introduced Lahontan cutthroat trout still persist. A population of hatchery-produced Lahontan cutthroat trout also inhabits Mann Lake, Wildhorse Lake, and Wildhorse Creek. Since these fish originated from hatchery stock, they are not considered pure-strain Lahontan cutthroat trout and not considered a protected species.

Pursuant to the ESA, this subspecies is federally listed as threatened throughout its range. The BLM and the USFWS conduct interagency consultation pursuant to Section 7 of the ESA regarding authorization of grazing permits where Lahontan cutthroat trout are present and may be affected, except for hatchery produced populations. These consultations have concluded that current grazing practices are not likely to jeopardize the continued existence of the trout. The USFWS Biological Opinions (USFWS 2001, 1999, and 1995) further recognize that current livestock grazing practices associated with these permits allow for the continued improvement of instream and riparian conditions. In 1995, the USFWS office in Reno, Nevada formalized a cooperative management agreement among the ODFW, the Nevada Division of Wildlife, the USFS, and the BLM for the coordination and performance of activities identified in the

Lahontan Cutthroat Trout Recovery Plan. The primary purpose of the agreement was to provide specific direction to conserve the trout and reduce or remove threats that could prevent its recovery.

Although somewhat hardier than other cutthroats, the Lahontan subspecies requires cool water temperatures, deep-water refuges, and silt-free gravels for spawning. Optimal riverine habitat for Lahontan cutthroat trout is characterized as clear, cold water with an average maximum summer temperature of less than 22º C; an approximate 1-to-1 pool-to-riffle ratio; well-vegetated, stable stream banks; at least 50 percent of the stream area providing cover; a relatively stable water flow regime; and a relatively silt-free rocky substrate in riffle-run areas (USFWS 1995b).

Habitat degradation, especially loss of riparian vegetation, is identified as a key factor in declining Oregon stream populations. Loss of vegetation has, in some cases, contributed to increases in stream temperatures that exceed those considered optimal for the sub-species. Drought conditions coupled with extremely low temperatures and limited riparian cover may cause stream segments to freeze completely during winter. Loss of vegetation has resulted in the loss of forage organisms and cover (Hanson et al. 1993). Excessive turbidity and sedimentation also contribute to habitat degradation problems because of their effects on food production, spawning areas, and feeding ability (Hanson et al. 1993). Water diversions and the introduction of nonnative salmonids are also key factors. Observations and assessments of public land stream reaches in the Planning Area occupied by Lahontan cutthroat trout indicate that riparian and stream habitat conditions are naturally resilient to disturbance or have improved over recent historic conditions.

3.7.3.3 Borax Lake Chub

The Borax Lake chub is a small minnow restricted to the Borax Lake ecosystem of southeastern Oregon. Due to its restricted distribution and threats to its remaining habitat, it is listed as an endangered species by the USFWS and the State of Oregon. The BLM will continue to consult with the USFWS on any of its activities that may affect the Borax Lake chub or its critical habitat.

This species is known only from Borax Lake and associated waters in Harney County, Oregon. The Borax Lake chub is a sister taxon of the Alvord chub from which it became isolated as the waters of pluvial Lake Alvord receded (Williams and Bond 1983). The Borax Lake chub occurs in Borax Lake, which covers ten acres and is located within a 60-acre parcel of private land, its associated outflows including Lower Borax Lake (public land), and surrounding marsh and pools (mixed public and private).

From 1986 to 1988, population estimates for the Borax Lake chub ranged from 3,934 to 13,319 depending on the year and season (Williams 1995). Based on water conditions, hundreds of chub may occur in outflow creeks, and during wet years, up to a few thousand may occur in Lower Borax Lake.

The Borax Lake chub is restricted to the thermal waters of Borax Lake and its outflows. Waters flow out from the elevated rim of Borax Lake in many directions, but more typically to the southwest, where they enter a marsh and then flow into Lower Borax Lake (a reservoir). Reproduction is limited to Borax Lake; Borax Lake chub in other habitats gain access through interconnected out-flows and marshes. In Borax Lake, the species occurs throughout the lake except in hot spring inflows, where temperatures exceed approximately 34º C.

Threats of geothermal energy exploration and manipulation of surface flows from Borax Lake were the primary factors that resulted in the 1980 listing of the species by emergency provision under the ESA. Changes in thermal flows that enter the lake could cause slight temperature increases or decreases that would be detrimental to the species. Alterations in surface flows from Borax Lake could isolate subpopulations adjacent to the lake causing their desiccation. Due to the restricted size of the lake, threats also exist from introductions of chemicals or nonnative species. Protection of the fragile salt crusts that maintain water level at Borax Lake is also critical (USFWS 1987). Livestock grazing and physical damage from off-highway vehicles and humans are the primary risks to shoreline salt crusts. The species is also at risk because of its highly restricted range and specialized habitats. Borax Lake, lower Borax Lake, and the surrounding block of land totaling 640 acres is designated critical habitat for the Borax Lake chub.

3.7.3.4 Alvord Chub

Alvord chub are endemic to the Alvord Basin of southeastern Oregon and northwestern Nevada. It is a moderately sized minnow that inhabits marshes, creeks, and springs with little or no current. The American Fisheries Society considers the Alvord chub to be a species of special concern (Williams et al. 1989), and it is a BLM assessment species.

The Alvord chub is widely distributed within springs, creeks, and lakes in the Alvord basin. Williams and Bond (1983) reported Alvord chubs from 16 localities within the basin, including Serrano Pond, Trout Creek, Alvord Lake, and Pueblo Slough (in the Planning Area) in Oregon, as well as Bog Hot Creek, Bog Hot Reservoir, Thousand Creek Spring, Thousand Creek, Continental Lake, Warm Spring, Dufurrena Ponds, Gridley Springs, and West Spring in Nevada. The current distribution of this species has apparently changed little during the past 100 years except for a recent report of Alvord chubs in Juniper Lake, Oregon (Bond 1974), where they were introduced and subsequently disappeared, and the elimination of the Alvord chub population from Thousand Creek Spring.

The Alvord chub occurs in a wide variety of available habitats such as isolated springs, cool and warm water creeks, reservoirs, and lakes. Within the principal creek systems in the Alvord Basin, Trout Creek in Oregon and the Thousand-Virgin Creek system in Nevada, chubs occur commonly in the mid and lower elevation sections, but are rare or absent entirely from high elevations. Within spring systems, the Alvord chub occupies a variety of spring habitats except springs with water temperatures above 31º C. Alvord chubs are absent from Bog Hot Springs, which is fishless, and from Borax Lake, which is occupied by the Borax Lake chub.

Alvord chub appears capable of occupying a wide range of habitat conditions as long as relatively clean water persists that is free of introduced species. The Alvord chub has been eliminated from Thousand Creek Spring because of the presence of introduced guppies. Alvord chubs are absent from some ponds at Dufurrena, which are dominated by introduced sunfish (Williams and Bond 1983). Introductions of nonnative fish and diversion of stream flows pose the greatest immediate risk to populations. Maintenance of the integrity of aquifers that feed surface waters in the Alvord Basin is critical to the long-term persistence of this species.

3.7.3.5 Catlow Tui Chub

The Catlow tui chub, a small- to medium-sized minnow, is a recognized though undescribed subspecies of the more widespread tui chub. Genetic analysis of the Catlow tui chub is underway at Oregon State University. Due to their restricted distributions and threats to remaining habitat, the subspecies is considered of special concern by the American Fisheries Society (Williams et al. 1989), and it is a BLM tracking species.

Historically, Catlow tui chubs occurred in three streams (Threemile, Skull, and Home Creeks) that drain the west flank of the Catlow Rim and in Rock Creek along the western edge of Catlow Valley (Bills 1977; Kunkel 1976). The Catlow tui chub has a restricted range, but appears to be locally abundant in streams and in Threemile Reservoir. An exception is Rock Creek, where only a few were found in 1994. The limited distribution of the Catlow tui chub, as well as the Catlow redband trout, prompted the August 1997 "Catlow Redband Trout and Catlow Tui Chub Conservation Agreement" (see discussion above under Redband Trout).

Little is known about the habitat relationships of the Catlow tui chub. Their preference for low gradient reaches of Skull, Threemile, and Home Creeks suggests an affinity for low velocity habitats, which is typical of most tui chubs. They also appear to be well-adapted to Threemile Reservoir, at the downstream end of Threemile Creek. Catlow tui chubs occur in streams occupied by redband trout (Kunkel 1976).

Diversions of creek flows for irrigation reduce Catlow tui chub habitat. The low gradient reaches that it prefers are also subject to degradation from livestock overgrazing. Due to the Catlow tui chub's restricted distribution, disturbances such as drought, fire, and human land use practices place populations at risk.

3.7.3.6 Malheur Mottled Sculpin

Malheur mottled sculpin is a recognized, though undescribed, subspecies of the more widespread mottled sculpin. The Malheur mottled sculpin is endemic to the Harney Basin of southeastern Oregon, including the Silvies and Blitzen river systems. It is listed as a sensitive species by the State of Oregon and the BLM.

Historic distribution includes the Blitzen River and tributary streams on Steens Mountain, the Silver Creek drainage, the Silvies River and tributary streams, and the isolated drainages of Poison and Rattlesnake creeks. The sculpin in the Harney Basin is considered by Bailey and Bond (1963), Bond (1974), and Markle and Hill (2000), to represent an undescribed relative of the mottled sculpin in the Snake River drainage. Malheur mottled sculpin historically inhabited Harney Basin (Malheur Lake Basin) when it was connected to the upper Snake River, and became isolated in small creeks when the basin dried up perhaps as recently as 8,000 years ago. Through more recent geologic events, mottled sculpin from the lower Columbia River drainage have entered the basin. This recent form of mottled sculpin has been

hybridizing with the older, previously isolated form, though hybridization seems to be occurring mainly in northern Harney Basin. Samples collected within the Planning Area mostly resemble preliminary descriptions of Malheur mottled sculpin (Markle and Hill, 2000).

Very little is known about the life history of the Malheur mottled sculpin, but it is assumed to be comparable to that of other mottled sculpins. According to Bond (1974), the Malheur mottled sculpin requires cool-water streams with large gravel or rubble substrates for cover and spawning. It requires water temperatures below 26º C, with high dissolved oxygen and very low turbidity. Given these characteristics, the Malheur mottled sculpin can occupy small headwater streams and larger rivers such as the lower Blitzen River.

Malheur mottled sculpin appear to be very sensitive to changes in water quality, including increases in temperature, sediments, and turbidity. Biotic interactions are not specifically known, but the occurrence of the Malheur mottled sculpin would appear to be negatively correlated with the presence of introduced warm-water fishes such as catfish and sunfish, which are more tolerant of turbid water conditions. Elevated water temperature, increased turbidity, and sediment transport caused by activities such as livestock grazing, road construction, and timber harvest activities are detrimental to the sculpin and have been cited by the BLM as causes for the decline of Malheur mottled sculpin populations in Silvies, Hay, Yellowjacket, and Emigrant Creeks within the Silvies Basin.

3.7.4 Redband Trout Reserve

Portions of the Donner und Blitzen River located in the Steens Mountain Wilderness provide habitat for unique populations of wildlife, waterfowl, and fish, including a population of redband trout. The RTR was created by the Steens Act to conserve, protect, and enhance the Donner und Blitzen River population of redband trout and the unique ecosystem; and to provide opportunities for research, education, and fish and wildlife-oriented recreation. The RTR consists of the Donner und Blitzen WSR above its confluence with Fish Creek and the adjacent riparian areas on public land within the Steens Mountain Wilderness.

The management of this area is guided by the Steens Act, the WSR Act, the Wilderness Act, and the WSA IMP, in addition to the required consultation with the SMAC and the ODFW. Recreation would be allowed in the RTR as long as it is consistent with the previously mentioned acts and management guidelines, as well as specific management criteria developed in this RMP/EIS.

3.8 Paleontological Resources

Paleontological resources are defined as the fossilized remains of plants and animals. Of particular interest are vertebrate fossils such as those of camels, saber toothed cats, rhinos, mammoths, giant sloths, turtles, and horses. Fossil localities have been reported on public land in the Planning Area. Most of the finds have been exposed by wind or water erosion, and are widely dispersed. Several localities are the subject of ongoing academic research. Small exposures of Miocene sedimentary rocks are exposed at the base of the east face of Steens Mountain, west of the Folly Farm Road. Known locations of plant fossils are on private and public land, as well as several unexplored exposures that are likely to contain animal fossils.

A survey of known paleontological localities was conducted in May of 1999 within and near the CMPA. Animal remains from sabertooth cats, mastodons, giant camels, small camels (llama-like), horses and horned rodents were found. A plant locality within the area was reassessed and yielded a flora composed of the following plants: true fir, spruce, pine, Douglas fir, juniper, cottonwoods, willow, hornbeam, barberry, serviceberry, mountain mahogany, cherry, rose, mountain ash, indigo bush, sumac, maple, buckbrush, and madrona. This flora would normally occur in a small lake environment in a slightly warmer, more temperate climate than exists in the area today.

A new fossil locality was found in the fall of 1999 in Catlow Valley west of the CMPA. Animals identified in the preliminary analysis are beaver, peccary, camel, and cat. This find dates to the late Miocene to early Pliocene period (five to seven million years ago) and indicates that the Catlow Valley was then much wetter than it is today.

These fossil localities, especially the known and potential localities, are highly significant because they are a window to an environment that existed millions of years ago. They are nonrenewable, extremely fragile, and very small in areal extent. The precise number of acres encompassed by these localities is unknown because they have not been completely described and mapped.

3.9 Cultural Resources

A cultural resource is generally defined by federal agencies as any location of human activity that occurred at least 50 years ago, and that is identifiable through field survey, historical documentation, or oral evidence. Native American traditional practice areas are a special category of cultural resources. Some cultural resources may be less than 50 years old, but have cultural or religious importance to American Indian tribes or paramount historic interest to the public.

Federal antiquity laws require consideration of cultural resource values through consultation, a process designed to encourage protection of cultural properties prior to project approval. This often necessitates intensive surveys and recording where existing data are insufficient to make an assessment. If significant sites cannot be avoided during construction activities, the adverse effects are mitigated through data recovery by excavation, surface collection, photography and recording, and analysis.

Prehistoric, or pre-Euro-American contact, cultural resources include lithic scatters, rock shelters, midden deposits, house depressions, petroglyphs, hearths, and rock alignments. Historic cultural resources include buildings and building ruins, wagon roads, irrigation ditches and associated structures, dams, and archaeological deposits such as trash scatters.

Almost all of the cultural resource inventories in the Planning Area have been for project-specific activities, rather than initiated by the Cultural Resource Program; therefore, the surveys are not necessarily in areas of highest site potential. Only seven percent of the public land in the Planning Area has been inventoried for cultural resources. Earlier inventories and site records are of poor quality and do not conform with more recently approved data standards of the State Historic Preservation Office or the BLM Cultural Resource Program.

The archaeological record in the Planning Area is extensive in terms of the numbers of sites and their antiquity. Evidence exists in the Planning Area of some of the earliest occupation in North America, 10,000 years ago. Prehistoric sites are those older than about 1850 A.D. and include the following: stone flake scatters, habitation sites, toolstone quarries, rock shelters and caves, rock art and rock structures such as rock rings (wickiup supports), and hunting blinds. Historic sites post-date 1850 A.D. and include the following: abandoned and intact townsites, homesteads, buildings, stone or wood structures, wagon roads, military sites, and trash scatters.

Since the late 1970s, 658 cultural properties have been recorded in the Planning Area (163 in the CMPA and 495 in the AMU). Cultural resources have been degraded by natural processes such as erosion and by human actions such as road construction, livestock grazing, rangeland development, recreation, OHV travel, and illegal artifact collection and excavation. In recent decades, federal agencies have attempted to minimize damage to significant National Register of Historic Places eligible cultural resources. Table 3.13 summarizes the condition of sites in the Planning Area.

Table 3.14 summarizes the occurrence of various impacts to archaeological sites in the CMPA and the AMU. Multiple impacts were reported at a number of sites. The number of occurrences exceeds the number of sites in each management unit. Impact agents totaling less than one percent were not summarized.

3.10 Native American Traditional Practices

Prior to Euro-American settlement, the Planning Area was occupied and used by Northern Paiute bands. Many of their descendants now live on the Burns Paiute Reservation in Burns, Oregon; the Warm Springs Reservation in Warm Springs, Oregon; and the Fort McDermitt Reservation in McDermitt, Nevada.

No Native American traditional practice areas have been identified to BLM staff in the Planning Area. However, according to the Burns Paiute Tribal Cultural Resource Manager, traditional resource areas used by tribal members and known tribal historic sites do exist in the Steens Mountain area. In addition, Steens Mountain served as a hideout or refuge during and after the Bannock War of 1878. Some of the Burns Paiute Elders refer to Steens Mountain as “Old Man.” Specific traditional practice site location information has not been released to the BLM because the tribe is concerned about data security.

Resources traditionally used in the Planning Area include a wide variety of plant and animal foods, as well as materials for making tools and shelter. Edible roots include biscuitroot, bitteroot, camas, carrots, and onions. Available in the area are seeds of goosefoot, Indian rice grass, Great Basin wild rye, and berries such as chokecherry, currants, and elderberry. Game animals include various waterfowl, trout and chub, marmots, antelope, and big horned sheep, which are found in specific habitats in the Steens Mountain area. Other game such as mule deer, waterfowl, sage-grouse, rabbit, and ground

squirrel have more widespread distribution. Plants such as red osier dogwood, willow, tules, and cattails are found in riparian or marshland settings, while grasses for basketry and food seeds are encountered in upland and sand dune environments. The wide bands of quaking aspen on the mid-slopes of Steens Mountain are sources of posts for hide working, and mountain mahogany for bows and digging sticks grows on the rocky ridges at and above the juniper zone. Obsidian, basalt, and cryptocrystalline silicate toolstone sources are found at various locations in the Planning Area.

3.11 Visual Resources

The FLPMA requires the BLM to consider the effects of management actions on the visual quality of the landscape. VRM classifications are determined from visual resource inventories. The objectives for each of four VRM classes are listed below.

Class I - The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention. Class I is assigned to those areas where a management decision has been made to preserve a natural landscape. This includes areas such as wilderness, wild sections of WSRs, and other congressionally and administratively designated areas (i.e., WSAs).

Class II - The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III - The objective of Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Table 3.13: Archaeological Site Condition

Management Unit	No Report	Excellent	Good	Fair	Poor	Destroyed	Total
CMPA	0	30	94	12	20	7	163
Percent of Total	0%	18%	58%	7%	12%	4%	99%
AMU	77	123	204	47	35	9	495
Percent of Total	16%	25%	41%	9%	7%	2%	100%
Planning Area	77	153	298	59	55	16	658

Table 3.14: Occurrence of Various impacts to Archaeological Sites

Management Unit	Erosion	None	Grazing	Illegal Collecting and Excavation	Unknown	Road	Weathering	Archaeological Research	Fire	Range Improvements	OHV	Recreation Activites	Animal Burrowing	Total Occurrences
CMPA	33	34	43	61	13	10	7	6	8	2	2	5	6	230
% of Total	**13**	**14**	**18**	**26**	**5**	**4**	**3**	**3**	**3**	**1**	**1**	**2**	**3**	**96**
AMU	214	111	98	57	46	28	29	19	19	12	14	9	10	666
% of Total	**32**	**16**	**14**	**8**	**7**	**4**	**4**	**3**	**3**	**2**	**2**	**2**	**1**	**98**

Class IV - The objective of Class IV is to provide for management activities that require major modification of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate

the view and be the major focus of viewer attention. However, every effort should be made to minimize the impact of these activities through careful location activities, minimal disturbance, and repeating the basic landscape elements.

This RMP will reassess the VRM classes under which public land will be managed. Thus, the proposed VRM class may differ from the class indicated by the current inventory.

VRM Class I is assigned to those areas for which a previous decision has been made to maintain a natural landscape. This includes wilderness areas and other congressionally and administratively designated areas. BLM policy includes WSAs until such time as these areas are designated as wilderness or released by Congress for other uses. Since many WSAs do not necessarily contain exceptionally high scenic values, the primary objective of WSA management is to retain its natural characteristics essentially unaltered by humans during the time it is being managed as a WSA. If the WSA is designated as wilderness, the area would continue to be managed as VRM Class I; however, if the WSA is released to multiple use management, the RMP for the area would need to be amended and appropriate VRM class(es) assigned. This policy applies to all future plans and plan amendments.

To help meet the management objective of a VRM class, the BLM's visual contrast rating system is employed for proposed projects and activities to help analyze and mitigate any visual impacts to the existing landscape. This systematic process uses the basic design elements of form, line, color, and texture to compare the proposed project/activity with the features of the existing landscape.

3.12 Social and Economic Values

The AMU encompasses a large segment of southern Harney County and a small portion of southwestern Malheur County. The CMPA lies entirely within Harney County. Part of the Mineral Withdrawal Area lies within Malheur County and the Vale District's Jordan Resource Area; however, the effects of the withdrawal in that Resource Area have been addressed in the SEORMP. To compile an economic profile of the management units within the Planning Area, Harney County was selected as the analysis unit. The portion of Malheur County within the Planning Area is remote, with no human habitation and little economic value.

Harney County encompasses 10,134 square miles. The cities of Burns and Hines comprise the primary economic center of Harney County. Over 61 percent of the county's population resides in these two adjacent cities. Burns and Hines are located approximately 290 miles from Portland in southeastern Oregon. Burns is the county seat of Harney County and both Burns and Hines are the location of many federal, state, and local government offices. Most basic goods and services are available in Burns/Hines. Redmond, Oregon is the nearest community with commercial air service. No passenger train service is available to Burns or Hines.

Several smaller communities are also located within the Planning Area, including Frenchglen and Fields. Services for residents and visitors are limited, but do include fuel, campground, motel or resort facilities, a small store, a restaurant, and one or two churches.

The following are social and economic goals and strategies taken from the Harney County Strategic Plan for 2002.

Goal for Quality of Life - The quality of life in Harney County is characterized by maintaining the following: clean air and water and starry nights; vast open spaces of great natural beauty; warm, western atmosphere; and friendly, hospitable communities, each with its own beauty and character.

Strategy - The quality of life in Harney County is characterized by enhancing the following: social amenities in cultural, spiritual and civic opportunities; every generation contributing to the balanced community; pro-actively eliminating social and substance abuses; lowering crime rates by concerted efforts at prevention, enforcement and rehabilitation; and fostering respect for diverse cultural and ethnic contributions.

Goal for the Economy - Harney County is creating an economy in which per capita income meets or exceeds Oregon annual average with unemployment rates at or below Oregon's annual average.

Strategies - Harney County has implemented or maintained the following strategies: 1) promote tourism to meet economic goals; 2) create jobs and promotes a sustainable economy; 3) maintain and invite diverse industries that are clean, supportive of the community, offering a wide salary range to an exceptional workforce; 4) a diversified mix of resource based industries which provide a sustainable economy; 5) developed energy resources to support a sustainable

economy; 6) cooperation between public and private interests to strengthen economic opportunities and is a base for government jobs to manage southeastern Oregon public lands; 7) development and maintenance of infrastructure capacity to meet or exceed demand for the following: water, transportation, sewer, education, energy, health care system, telecommunications, community facilities, and social and government service

3.12.1 Economic Findings from the ICBEMP

The ICBEMP included an examination of Harney County generally and the communities of Burns and Hines specifically. Smaller unincorporated communities were not examined. The Draft Eastside EIS concludes that Harney County, located in the Boise trade center, is an area of low economic and social resiliency. This determination is based on the county's dependence on public land timber and forage and the fact that 21 percent of the county budget is derived from federal land payments (USDA/USDI 1997). USFS lands are eight percent of the land base while BLM administered lands represent 62 percent of the land base.

Burns and Hines are analyzed in the subsequently released document, Economic and Social Conditions of Communities: Economic and Social Characteristics of Interior Columbia Basin Communities and an Estimation of Effects on Communities from the Alternatives of the Eastside and Upper Columbia River Basin Draft EISs (Reyna 1998). In the document, Burns was found at that time to have high timber employment specialization and medium agricultural employment specialization. Hines was also found at that time to have very high timber employment specialization and high agricultural employment specialization. Timber is no longer a major source of employment in Burns or Hines.

3.12.2 Population, Age Distribution, and Ethnicity

Harney County is among Oregon's least populated counties, with 0.8 persons per square mile. Except for Burns, Hines, and a few other population centers, the county is rural in character. Table 3.15 displays the census population in 2000 for Oregon, Harney County, Burns, and Hines, as well as the population estimates for Oregon and Harney County in 2001 (U.S. Department of Commerce 2002). The population declined 2.7 percent in Harney County between 2000 and 2001 while the state population increased 1.5 percent.

A relatively high percentage of Harney County's population is age 65 or older. In 2000, there were 1,141 individuals 65 or over, comprising 15 percent of the population, compared to 12.8 percent for the State of Oregon; 26 percent of the population was under 18 and Harney County's median age in 2000 was 38.9. Age distribution for the state in 2000 showed a slightly younger population trend overall; in Oregon, 24.7 percent of the population was under 18 and the median age was 36.3 (U.S. Department of Commerce 2002).

Table 3.15: Census Population in 2000 and 2001 Population Estimates for Selected Areas

Geographic Area	Population (2000)	Population Estimates (2001)
Oregon	3,421,399	3,472,867
Harney County	7,609	7,404
Burns	3,064	
Hines	1,623	

Harney County has limited ethnic diversity with small populations of Hispanic and American Indian residents. Table 3.16 shows the approximate population percentages (for individuals recorded under the single race heading in the 2000 census data) for the White, American Indian, and Hispanic sectors of the population in Harney County; the three Census County Divisions (CCDs) in the county, as well as the State of Oregon (U.S. Department of Commerce 2002).

The Diamond CCD covers the southern portion of Harney County and includes the Planning Area. The American Indian population is substantially lower in this CCD as compared to the rest of Harney County and the state. The Hispanic population is higher in this CCD as compared to the rest of Harney County, but lower than the state as a whole.

Table 3.16: Population Percentages in Harney County

Geographic Area / Population	Race (percent of total in area[1])		
	White	Hispanic	American Indian
Oregon - 3,421,399	86.6	8.0	1.3
Harney County - 7,609	89.7	4.2	4.0
Burns CCD[2] - 5,621	88.6	4.1	4.9
Drewsey CCD - 658	93.2	3.6	1.5
Diamond CCD - 1,330	91.8	6.1	0.8

[1] Population percentages do not include responses from the two or more race category in the 2000 census data; rather, they were derived from the single race category.
[2] CCDs are Census County Divisions. Burns equates to the northwestern portion of the county, Drewsey to the northeastern portion of the county, and Diamond to the southern portion of the county and includes the Planning Area.

3.12.3 Employment and Wages

In 2001, nonfarm payroll employment averaged 2,610 in Harney County. The average total employment was 3,323. Federal, state, and local governments (government sector) employed the greatest number of people with average employment of 1,170. The wholesale and retail trade sector employed an average of 510 people, while the services sector employed an average of 380 people (Oregon Employment Department 2002). Employment in the government sector declined between September 2001 (1,230) and September 2002 (1,160). The trade sector increased employment during this same time going from 510 workers in September 2001 to 520 workers in September 2002. The services sector also increased. Employment went from 400 in September 2001 to 420 in September 2002. Total nonfarm payroll employment peaked at 2,950 in 1999 followed by an average decline of 5.0 percent in 2000 and 9.0 percent in 2001. Harney County lost 400 jobs between 1999 and 2001, most of which were in the manufacturing sector. In 2001, agricultural employment in Harney County was estimated to be 520 (Oregon Employment Department 2002).

There were great fluctuations in unemployment in Harney County during 2001. The average unemployment for 2001 was 14.1 percent, with a low of 10.6 percent in October 2001 and a high of 19.8 percent in February 2001. Overall unemployment in Harney County declined between September 2001 and September 2002, dropping from 11.0 percent to 6.3 percent. This improvement can be attributed to some level of recovery in the job market as well as attrition from the local labor force. Estimates state that the Harney County Labor force declined by 160 individuals between 2000 and 2001 and it appears that the same trend is continuing in 2002 with an estimated decline of an additional 270 individuals (Oregon Employment Department 2002). The most current data from the Oregon Employment Department states that Harney County had an estimated unemployment rate of 14.3 percent in April 2003 with 3,274 persons employed and 545 unemployed (2003). Unemployment was higher for April 2003 than either March of 2003 (3,295 employed) or April of 2002 (3,325 employed). It is unusual for the unemployment rate in Harney County to increase between March and April. This has not been the case historically. April 2003 also marks the seventh month the unemployment rate has increased in Harney County.

The median household income for Harney County was lower than the median income for the state of Oregon in 1999. Harney County had a median household income of $30,957 in 1999, which was approximately $10,000 less than the state of Oregon at $40,916.

3.12.4 Per Capita Income and Poverty Rates

The per capita personal income in Harney County was $21,119 in 2001, lower than Oregon's statewide level of $28,222 (Oregon Employment Department 2003). Harney County also has a higher portion of income derived from transfer payments (19 percent) than the state as a whole (13 percent). Transfer payments include Social Security, Aid to Families with Dependent Children, unemployment compensation, disability, and other government payments. Typically, transfer payments are a major source of income for retirees and low-income people. Total income derived from dividends, interest, and rent (22 percent) in Harney County was the same as that type of income statewide (22 percent). This income represents returns on accumulated assets held by individuals and is often a large portion of income for the self-employed and retirees. Earned income, typically wages and salaries, was 48 percent of income in Harney County, below the statewide proportion of 56 percent (Oregon Employment Department, No Date).

Poverty rates in Harney County are similar to the state as a whole. In 1999 there were 8.6 percent of families and 11.8 percent of individuals below poverty status in Harney County, with 7.9 percent of families and 11.6 percent of individuals below poverty status in Oregon.

3.12.5 Economic Activity Generated by Public Land Resources

The BLM and other public land management agencies often make commodities available for use by the private sector. Both the BLM and the USFS make rangelands available to private ranching concerns on a renewable permit basis. A fee is collected for each grazing head of livestock. Similarly, the BLM and the USFS sell timber to private firms; however, no USFS lands or other commercial forest lands exist in the Planning Area portion of Harney County. For this reason, timber harvests from BLM land within the Planning Area have not been a source of economic revenue.

There are no energy or minerals facilities operating in the Planning Area portion of the county, so these are not a source of economic revenue.

The BLM conducts wild horse gathers approximately every three to four years. These animals are made available for adoption through the Wild Horse Adoption Program. The contractors, which are hired to conduct the gathers, are from out of the area and the money raised through the adoption fees is sent directly back to the national program. Harney County does not see a direct economic benefit from these activities; however, there are indirect benefits associated with the rare horse breeds and the adoption activities, which attract visitors and attention to the area and lead to local spending that would not otherwise occur.

Agricultural activities in Harney County are not considered highly labor intensive, and are limited primarily to production of hay, forage, and livestock. Harney County agriculture focuses on the following products: (1) beef, with sales of $41,129,000 in 2001 and (2) alfalfa, with 2001 sales of $13,068,000 (Oregon Agricultural Information Network 2002). The highest individual agricultural sales revenue in Harney County is derived from cattle ranching, which is inextricably linked to the commodity value of public rangelands. The BLM collected an average of approximately $145,000 annually in livestock grazing fees over the past ten years. This number is based on 107,000 AUMs at $1.35 per AUM. The average number of livestock grazing public land each year is 24,500. The BLM spent $93,680 on range improvement projects in 2002, of which 84 percent went to local contractors.

The 1997 Census of Agriculture stated that there were 504 farms in Harney County and that approximately 75 percent were owned by families or individuals. Total gross farm sales in Harney County totaled $58,618,000 in 2001 (2002). Crop sales were $15,317,000 and animal product sales made up the rest ($43,301,000). The United States Bureau of Economic Analysis estimated a net farm income of $2,716,000 for Harney County in 2000, which had gross sales of $50,418,000. According to Harney County website, the "cattle industry is counted on to provide an average of $28,000,000 per year to the economy of the county" (www.harneycounty.com 2003). In addition, nearly half of the county taxes come from the ranching community (www.harneycounty.com 2003).

The Planning Area fire management strategy focuses on wildland fire suppression and prescribed fire. The wildland fire season generally runs from mid-May through mid-September, while prescribed fires are usually planned for periods before and after the wildland fire season. Approximately 55to 60 temporary firefighters are employed each year during the fire season. In addition, local contractors are hired to assist with fire suppression and prescribed fire activities. Between $25,000 and $275,000 is spent each year on local contracts for fire management depending on the severity of the fire season.

Management of the lands, realty authorizations, and ROWs in the Planning Area has economic implications for the county and local economy. Fees are collected by the BLM for land use authorizations and ROWs. Land sales and retention and purchases can affect property tax revenues and potential commodity production; PILT are paid directly to the county. The average annual fees collected for land use authorizations and ROWs are $15,000. Property taxes collected in Harney County in 2002 totaled $4.9 million. Harney County also received $518,880 in PILT in 2002.

The Planning Area has private, state, county, and BLM roads. Some roads are maintained to a high standard while others are primitive two track routes which receive little or no maintenance. The Steens Loop Road (52.59 miles in length) maintenance contract is made available for bid to local companies and amounts to an average annual contracting expense of $40,000. Materials are purchased locally. Maintenance expenses are approximately $760 per mile for roads in the CMPA. Some of the road uses (e.g., recreation and livestock management) also contribute to the local economy. The revenues from recreation and ranching are discussed under those activities.

OHV use is a major form of recreation and is often associated with hunting and fishing. No data are available on OHV use in the Planning Area or expenditures by OHV enthusiasts in the local economy. However, it can be assumed that these recreators contribute to the economy through the purchase of goods and services such as gas, food, equipment, and lodging.

Hunting and other types of recreation also provide income to the county and local communities. According to data obtained from ODFW hunter surveys, Oregon's Mule Deer and Elk plans, and the 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (published by the USFWS), annual hunting trip-related expenditures were estimated at approximately $3,905,312 and $530,987 for Harney County and Steens Mountain, respectively. These expenditures include such things as transportation, food, and lodging and are based on 13,924 hunters in Harney County and 2,607 hunters in the Steens Mountain area spending 74,743 and 11,386 recreation days in Harney County and the Steens Mountain area, respectively. Numbers for wildlife viewing were not available for the county; however, estimates indicate that 1,680,000 participants spent $304,990 on trip-related expenses in 2001 in the State of Oregon.

The BLM collects recreation fees for campground use and SRPs. In 2002 a total of $40,488 was collected, down from $46,135 in 2001. This was consistent with the nationwide decline in travel and recreation in 2002. SRP fees collected over the past five years have ranged from a high of $4,130 in 1999 to a low of $3,227 in 2002. The fees collected in 2002 for the individual campgrounds were as follows: Page Springs Campground, $21,645; Fish Lake Campground, $9,776; South Steens Campground, $4,542; and Jackman Park Campground, $1,315.

The tourism industry in this area is small compared to other Oregon regions; however, tourism in Harney County provides a critical monetary inflow to the economy. For people seeking outdoor recreation and solitude, public lands in Harney County have much to offer. A 2001 report prepared for the Oregon Tourism Commission, Oregon Travel Impacts, 1991-2000, estimated that travel-related spending in Harney County totaled $18,000,000 with $2,500,000 attributed to travelers staying in public campgrounds during 2000 (Dean Runyan and Associates 2001). Travel is responsible for 6.5 percent of the employment in Harney County. Updated estimates show that travel-related spending in Harney County in 2001 was $18,300,000 and was responsible for 7.4 percent of employment. Travel-related spending in Harney County increased 5.2 percent between 1991 and 2001. Revenues from travel accounted for $3,900,000 in earnings and 340 jobs in Harney County for 2001 (Oregon Tourism Commission 2003).

The 1994 Oregon High Desert Interpretive Center Economic Feasability and Impact Analysis for Harney County and Burns, Oregon (Dean Runyan and Associates et al. 1994) stated that approximately 50,000 people visited both the Steens Mountain area and the Malheur NWR in 1993. Assuming visitation has remained similar between the two destinations and based on numbers determined in the Regional Economic Benefits of Ecotourism and Operations Associated with the Malheur NWR (Northwest Economic Associates [NEA] 2002), visitation to the CMPA may have been as high as 62,700 between October 1, 1999 and September 30, 2000. The NEA analysis found that visitor expenditures in Harney County amounted to over $1,900,000; this equated to $1,200,000 of direct spending within the county (NEA 2002).

It is likely that tourism and visitation to the Planning Area will continue to increase in the long term due to population growth within a day's driving time of the area and the increased publicity the Steens Mountain area is receiving.

The designation of the Steens Mountain Wilderness may attract additional visitors and contribute to the local economy. In a study conducted by Loomis and Richardson (2001), dollar values were determined for recreation benefits, visitor expenditures, and passive use values associated with wilderness in the United States. The average value derived from recreation benefits (benefits to visitors based on their willingness to pay over and above their current trip costs) is $40 per visitor day. Visitor expenditures (eg. gas, food, lodging, fees, and equipment) average $30 per day. Passive-use values are the combination of existence values (knowing wilderness exists and is protected) and bequest values (providing this resource for future generations). The passive-use value is $168 per acre of wilderness (Loomis 2000). Based on these findings, the passive-use value for the Steens Mountain Wilderness would be $28,574,112 ($168 times 170,084 acres). Recreation benefits and visitor expenditures cannot be calculated for the Steens Mountain Wilderness because the wilderness area is too new to have quantified visitor use data. Economic benefits may be realized from the presence of wilderness through attraction of new residents and businesses and increased property values for those lands adjacent to the wilderness (Loomis and Richardson 2001; Rudzitis and Johnson 2000; Lorah 2000). Ecological services, which have been quantified in a number of studies, are additional benefits associated with wilderness. They include watershed protection, carbon storage, nutrient cycling, and fish and wildlife habitat (Loomis and Richardson 2001; Loomis 2000).

3.13 Energy and Minerals

The BLM manages energy and mineral resources on 1,649,000 acres of land that has federal surface and federal subsurface (mineral estate) ownership within the Planning Area ("Public Lands" in Table 3.17). The BLM manages a total of 72,000 acres of land with nonfederal surface and federal subsurface ownership within the Planning Area. The BLM manages a total of 1,000 acres of land with nonfederal surface and partial federal subsurface ownership (ownership of specific mineral resources such as oil and gas resources) in the Planning Area. There is nonfederal subsurface ownership on 552,000 acres of land within the Planning Area, which is 25 percent of the land. Detailed information is on master title plats available in each BLM DO.

Table 3.17: Mineral Ownership by Acres

Andrews RMP Planning Area	Total
Planning Area	
Public lands[1]	1,649,000
All minerals reserved[2]	72,000
Partial minerals reserved[3]	1,000

[1]Public Lands = Surface and mineral estates both under BLM administration.
[2]All Minerals Reserved = Nonfederal surface, 100 percent federal mineral estate.
[3]Partial Minerals Reserved = nonfederal surface, less than 100 percent federal mineral estate.

The Mineral Withdrawal Area designated by the Steens Act encompasses 1,181,362 acres and covers the entire CMPA and Steens Mountain Wilderness, as well as the eastern portion of the AMU, a section of the Jordan Resource Area, and the Diamond Craters area of the Three Rivers RA (Map 2.17). Subject to valid existing rights, no mining or exploration will be permitted anywhere in the Steens Mineral Withdrawal Area. Exceptions are the existing gravel operations within the Steens Mineral Withdrawal Area, which are permitted by the Steens Act as follows: Section 401(b) of the Steens Act "... The Secretary may permit the development of salable mineral resources, for road maintenance only, in those locations identified ... as an existing 'gravel pit' within the mineral withdrawal boundaries (excluding the Steens Mountain Wilderness, WSAs, and designated segments of the National Wild and Scenic River System) where such development was authorized before the date of enactment of this Act."

The Congressionally-designated Mineral Withdrawal Area closed 748,119 acres in the Planning Area to mineral location under the 1872 Mining Law. Six grandfathered claims covering 120 acres are located in the Mineral Withdrawal Area. In WSAs outside of the Mineral Withdrawal Area covering 433,243 acres, claims may be located but no surface-disturbing mineral activity requiring reclamation will be authorized until Congress acts to designate all, part, or none of the WSAs as wilderness. Since no pre-1976 claims are in any of the WSAs in the Planning Area, there can be no claims with grandfathered or valid existing rights in these areas. The following sections discuss the implications of the Mineral Withdrawal Area as it relates to each of the energy and mineral resources.

3.13.1 Energy Resources

No oil, gas, or coal resources have been documented, and potential for oil and gas resources is low throughout the Planning Area. A Known Geothermal Resource Area (Alvord) exists that is within the Mineral Withdrawal Area except for 332 acres northwest of Fields. Twelve deep (greater than 1,000 feet) geothermal wells were drilled within the Alvord Known Geothermal Resource Area. High potential for geothermal resources exists in the Known Geothermal Resource Area and in the area to the east of it. The remainder of the Planning Area has moderate potential for geothermal resources.

There is no commercial wind, solar, or other renewable energy development within the Planning Area and no known proposals for this type of development. The BLM, in cooperation with the National Renewable Energy Laboratory, an agency of the Department of Energy, has developed a Renewable Resource Assessment Project. The findings of this project are contained in a BLM draft report entitled "Assessing the Potential for Renewable Energy on Federal Lands". The report identifies criteria that are considered in establishing potentials for various types of renewable energy. It also summarizes these potentials and identifies the top 25 BLM planning areas with the highest potentials for various classes

of renewable energy development and "top pick" planning areas for combined renewable energy development. The Planning Area was not included in any of the top 25 for any class of renewable energy nor was it a "top pick" planning area.

An example of the report findings is the criteria used for establishing potentials for wind. These criteria include: areas with Wind Class 3 or greater; sites must be within 25 miles of a major power transmission line and within 50 miles of a major road or railroad; and the surrounding land use must be compatible with wind energy development. Other factors considered in wind potentials include ease of permitting and siting, regional market conditions, proximity to population centers, elevation, slope, and site size and configuration. The Planning Area has few areas with Wind Class 3 or better. Higher classes are generally located on the crests of the area's mountain ranges including the Steens, Trout Creeks, and Pueblos where wind development would be incompatible with the various special designations affecting these locations.

Any proposals for wind energy development would be processed in accordance with a new Interim BLM Wind Energy Policy which provides consistent guidance on the timely processing of wind energy ROW applications and that addresses the following: 1) land use plan requirements for wind energy development; 2) authorizations for wind energy activities; 3) establishment of rental fees for various types of development; 4) efficient processing and tracking of applications; 5) due diligence requirements; and 6) requirements for environmental review of wind energy activities.

3.13.2 Locatable Minerals

Locatable minerals in the Planning Area are gold, mercury, uranium, diatomite, copper, molybdenum, and sunstones. Exploration is sporadic and currently only one exploration/mining area is active, containing sunstones.

The potential is high for hot springs type gold and mercury deposits in the Lone Mountain area (in the southwestern part of the AMU); in the area between the community of Andrews south through the Pueblo Mountains; on the east side of Steens Mountain in the Alvord Hot Springs area; in the Flagstaff Butte area; and in the southeastern corner of the Planning Area. The east side of Steens Mountain and the Flagstaff Butte area also have high potential for uranium. Part of the Flagstaff Butte area has moderate potential for diatomite. The Pueblo Mountains and Pueblo Valley areas have moderate potential for gold in quartz veins. The Pueblo Mountains have moderate to high potential for porphyry deposits of copper, gold and molybdenum. In October 2001, 37 mining claims were in the Planning Area; six are claims subject to valid existing rights within the Mineral Withdrawal Area east of the CMPA.

Map 2.17 shows the location of the Mineral Withdrawal Area. Table 3.18 summarizes the number of acres with high, moderate, or low potentials for selected leasable and locatable minerals. The table acreages include lands within the Mineral Withdrawal Area and non-BLM administered lands. The table shows acreages for moderate and low potential for hot springs gold/mercury and for uranium.

3.13.3 Leaseable Minerals

This mineral category includes oil and gas, coal, geothermal, and sodium mineral resources. The BLM has developed four categories to manage leasable minerals in a manner that minimizes conflict with other resource values as follows: (1) open to leasing subject to standard terms and conditions; (2) open to leasing subject to special stipulations that may include seasonal NSO, other timing limitations, or special stipulations (controlled surface use limitations); (3) open to leasing subject to NSO; and (4) closed to leasing.

Rose Valley Borax Company mined borax in the area south of Alvord Lake 100 years ago. The borax mining operation lasted for ten years and shut down when sodium borate levels fell below economic levels. Currently, there are no mineral leases in the Planning Area.

The mineral withdrawal boundary is shown on Map 2.17. Sodium mineral resources have high potential in the Alvord Lake area and low potential outside that area. The Alvord Lake area is within the Mineral Withdrawal Area.

Table 3.18: Mineral Potential in Acres

Commodity	Low	Moderate	High	Total[2]
Leasables[1]				
Oil and gas	2,178,000	0	0	2,178,000
Geothermal	0	1,613,000	565,000	2,178,000
Sodium/potassium minerals	2,163,000	0	15,000	2,178,000
Locatables				
Hot-springs gold and mercury	442,000	1,397,000	339,000	2,178,000
Uranium	509,000	1,559,000	110,000	2,178,000
Vein gold	2,105,000	73,000	0	2,178,000
Copper, gold and Molybdenum (Porphyry)	2,157,000	14,000	7,000	2,178,000
Diatomite	2,148,000	0	30,000	2,178,000

[1]Variations in acreage totals between leasable minerals are due to differences in the mineral reservations; i.e., in many cases, only one of the leasable minerals (e.g., oil and gas) was reserved.
[2]Acreage includes land within the Mineral Withdrawal Area and non-BLM administered lands.

3.13.4 Saleable Minerals

This group of minerals includes sand, gravel, and rock aggregate in this area. Petrified wood and obsidian are rare. There are large amounts of sand, gravel, and rock aggregate available, but they are generally located in visually or ecologically sensitive areas. Development has been limited to road construction and maintenance projects.

The Steens Act allows for development of saleable mineral resources within the Mineral Withdrawal Area, for road maintenance only, at locations identified in the Steens Act. Some of those identified sites are located in exchanged land or are exhausted and in reclamation status. Within the Steens Mineral Withdrawal Area there are three designated rock aggregate sources and four sand and gravel sources that may be developed. In the Planning Area, outside of the Steens Mineral Withdrawal Area, there are eight designated sand and gravel sources, two rock aggregate sources, and two state ROW sites. The two state ROW sites are for use by the Oregon Department of Transportation on state highways.

3.14 Wild Horses and Burros

The Wild Free-Roaming Horse and Burro Act (PL 92-195) states: “It is the policy of Congress that wild free-roaming horses and burros shall be protected from capture, branding, harassment, or death; and to accomplish this they are to be considered in the area where presently found as an integral part of the Public Lands.” After passage of this act in 1971, the Planning Area was inventoried for free-roaming horses and burros. Seven areas in the Planning Area were designated as Herd Areas where wild horses were found. No burros were found in these areas.

Past land use planning decisions designated the entirety of four of the Herd Areas as HMAs and the majority of another as a HMA for the maintenance and management of wild horse herds. These planning decisions also determined that horses would not be maintained in two Herd Areas and a portion of a third. Wild horses were not maintained in Herd Areas because of one or more of the following reasons: majority of the area was private lands; lack of publically owned water sources; a low number of horses precluded maintenance of a viable herd; conflicts with bighorn sheep; and the legal claim of horses by private parties.

Wild horses in the Heath Creek-Sheepshead HMA have unrestricted access to the adjacent Sheepshead HMA located in the Vale District. Horses in these two units mix and are one population. These HMAs were administered as two units due to the political District boundary between the Burns and Vale Districts. The SEORMP (USDI 1998b) determined

that these two HMAs would be managed as one unit and provided guidelines and decisions for management of the combined Heath Creek-Sheepshead/Sheepshead HMA.

Wild horses in the Alvord-Tule Springs HMA have access to and freely mix with horses located in the adjacent Coyote Lake HMA that is in the Vale District. The two HMAs are separated by a partially unfenced political boundary between the Burns District and the Vale District.

Previous land use plans established AMLs for each HMA to maintain public land resources in a satisfactory condition. The Three Rivers RMP (USDI 1992) defined AML as the optimum number of wild horses and burros that contributes to a thriving natural ecological balance on public lands and protects the range from deterioration. In the previous land use plans for the Planning Area, AML is expressed as a numerical range with a low and high number that defines the number of wild horses to be managed for in each HMA. In establishing the AML range (Table 3.19), the following issues were considered: maintenance of a thriving, natural ecological balance; biological/social need of the herds; economics of management actions; reasonable cycles of gathering; and the population at which resource deterioration could be expected. Monitoring data conducted throughout the duration of these plans support maintaining established AMLs. Forage allocations for horses in the HMAs were based on the maximum number of horses in the AML range except in the Heath Creek-Sheepshead HMA where horses migrate to the adjacent Sheepshead HMA during portions of the year.

To prevent resource overuse and to maintain a thriving ecological balance, gathering takes place as a herd reaches the maximum number in the established AML range, and when monitoring data indicate that an excess number of horses exists. Depending on reproductive rates, results of range and monitoring data, death rates, funding, public concern, and other special management considerations, horses are gathered and removed every three to four years. Horse populations are normally reduced to the minimum number of the AML range to avoid the need for frequent and costly gathering. Following minimum feasible management practices, all animals above the lower limit of the AML range are considered excess. Site-specific details of gathering, including trap location, are determined at the time of each gather. Excess animals removed from the range are made available to the public through the Wild Horse Adoption Program.

The fencing that exists in the HMAs for control of livestock movement serves to contain wild horses within the HMAs, but also creates barriers to wild horse movement when livestock are present and gates are closed. After the livestock are removed at the end of the grazing season, gates are left open to provide the opportunity for horse movement within the HMA. The absence of reliable year-round water, especially in drought years, is a limiting factor in some HMAs.

Mature horses are 14 to 16 hands tall (in common horse terminology one hand equals four inches) and weigh 950 to 1,250 pounds. Mature stallions are usually larger than mares. Wild horses in these HMAs exhibit saddle stock conformation, but each herd has its own unique characteristics. Two herds exhibit Spanish mustang characteristics, one herd has a large component of horses with pinto coloration, and the other herds display a variety of colors.

Dominant colors in the Alvord/Tule Spring herd are bay, black, brown, sorrel, palomino, and buckskin. Historically, many of these horses have appeared to be of thoroughbred ancestry with some evidence of draft blood. Major colors in the Heath Creek/Sheepshead herd are dun, black, brown, bay, sorrel, and an occasional paint. All are of saddle stock conformation.

Horses located in the Kiger and Riddle HMAs are often referred to as the “Kiger Mustangs”and are managed for their Spanish Mustang characteristics. They possess the physical color characteristic referred to as the “dun factor.” Most Kigers are dun in color, but grulla, buckskin, red dun, and variations of these colors are common. Other characteristics include dorsal stripes on the back and zebra stripes on the knees and hocks.

The South Steens HMA horses exhibit saddle horse conformation, and the most common colors are pinto variations, sorrel, bay, and red roan. Black, gray, chestnut, brown, blue roan, palomino, and dun horses are also present. These horses are frequently viewed by the public from Highway 205 and the South Steens Loop road.

3.15 Grazing Management

The Taylor Grazing Act was passed on June 28, 1934 to protect public land resources from degradation and also to provide orderly use and improvement/development of public rangelands. Following various homestead acts, the Taylor Grazing Act established a system for the allotment of grazing privileges to livestock operators based on grazing capacity and priority of use, and for the delineation of allotment boundaries. This act also established standards for rangeland improvements and implemented grazing fees. Approximately 142 million acres of land in the western United States were placed under the jurisdiction of the Grazing Service, which became the BLM in 1946. The FLPMA, passed in 1976, and the PRIA, passed in 1978, also provide authority for the management of livestock grazing on public lands.

Table 3.19: Herd Management Areas in the AMU and CMPA

HMA	BLM Total HMA Acres	BLM Acres in AMU	BLM Acres in CMPA	AML Range	Forage Allocation (AUMs [1])
Alvord/Tule Springs	343,201	343,201	0	73 to 140	1,680
Heath Creek/Sheepshead	62,427	54,599	7,828	61 to 102	408
Kiger	38,359	0	6,531	51 to 82	984
Riddle Mountain	28,346	0	25,328	33 to 56	672
South Steens	127,838	4,213	123,625	159 to 304	3,648
Total	**600,171**	**402,013**	**163,312**		**7,392**

[1]AUM - Animal Unit Months

3.15.1 Grazing Authorization

Livestock grazing is administered on 75 allotments in the Planning Area. Seven of those allotments are split, with portions being both inside and outside the Planning Area. Five of the seven split allotments are part of the Three Rivers Resource Area and were split during the legislation that formed the CMPA in 2000. The other two split allotments have pastures that extend across the state line into Nevada. Allotment boundaries are delineated on Map 3.1.

Thirty-four permittees are authorized to graze livestock on 1,535,498 allotted acres of public land in the Planning Area under the direction of Section 3 of the Taylor Grazing Act. Livestock are not authorized to graze on 97,995 acres of unallotted land because of resource conflicts or legislative actions. Currently, permittees are authorized to graze an estimated 98,504 AUMs permitted use within the Planning Area. The current use is estimated because of the seven allotments that are split with portions both inside and outside the Planning Area. Table 3.20 shows the acres, AUMs permitted use, wildlife allocation, seasons of use, management category, and other information for each allotment within the Planning Area.

Twenty-seven of the 75 allotments within the Planning Area are managed using AMPs. The remaining “I” and “M” allotments have grazing systems that satisfy natural resource objectives. Twenty-one allotments have been evaluated to assess the adequacy of the AMP or grazing system. Seventeen of the allotments in the Planning Area have been assessed as to whether they are in compliance with the S&Gs.

Recent land use plans have developed and implemented grazing systems primarily through AMPs and agreements with permittees. An AMP is a documented program that directs grazing management on specified public land toward reaching goals and objectives regarding resource conditions, sustained yield, multiple use, and ranch economics. AMPs are considered to be implemented when incorporated into term grazing permits or leases and when accepted by the permittee or lessee. The RMP/EIS will re-establish resource objectives, which all allotments must meet. Specific management prescriptions will still be made on an allotment or watershed basis. Appendix O contains information on the effects of intensity and season of grazing.

Temporary nonrenewable grazing use is periodically authorized to qualified applicants when additional forage is temporarily available and the use is consistent with multiple use objectives. This use is nearly always authorized on crested wheatgrass seedings because crested wheatgrass can become decadent when it is not grazed periodically. Temporary nonrenewable grazing use is currently being authorized periodically on seven allotments in the Planning Area.

3.15.2 Standards for Rangeland Health and Guidelines for Grazing Management (S&Gs)

The rangeland reform process of 1996 modified the grazing regulations identified in 43 CFR part 4100. A new regulation was developed and is currently being implemented throughout the BLM. The regulation, 43 CFR 4180, addresses the fundamentals of rangeland health. In August 1997, the S&Gs developed in consultation with the RAC, Provincial Advisory Committees, American Indians, and others, were approved by the Oregon State Director for Oregon and Washington. The S&Gs provide the basis for assessing rangeland conditions and trends.

Specific types of field indicators of rangeland health are identified for each standard. The quantitative thresholds for these indicators vary according to soil, climate, and landform, as stated in the standards. An interdisciplinary team, with

participation from permittees and other interested parties, conducts assessments to evaluate the standards according to field indicators. The five standards are as follows:

Standard 1: Watershed Function - Uplands
Upland soils exhibit infiltration and permeability rates, moisture storage and stability appropriate to soil, climate, and land form.

Standard 2: Watershed Function - Riparian/Wetland areas
Riparian/wetland areas are in properly functioning physical condition appropriate to soil, climate, and land form.

Standard 3: Ecological Processes
Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.

Standard 4: Water Quality
Surface water and ground water quality influenced by agency actions complies with state water quality standards.

Standard 5: Native, Threatened and Endangered and Locally Important Species
Habitats support healthy, productive, and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate, and landform.

Based on 43 CFR part 4180, in the event that livestock are detrimental to a resource standard, management will be implemented as soon as practicable to progress toward attaining the standard(s). This will occur no later than the start of the next grazing season.

Collection of monitoring data tracks progress in meeting identified management objectives. The monitoring data is used for periodic evaluations of management actions and active grazing authorizations in each allotment. To maintain or improve public land resources, adjustments are made by agreement or decision in accordance with legislation, regulations, and policy.

3.15.3 Allotment Categorization

Prior to the 1960s, grazing policy focused on allotment boundaries and seasons of use; however, in the mid-1960s, grazing systems were implemented, which considered the maintenance and establishment of plant communities. Grazing systems define the management approach needed for each allotment to protect and maintain plant community diversity and the resource values on public land. Livestock grazing allotments are categorized and managed according to the following three selective management categories:

Improve (I) category allotments are managed to improve current unsatisfactory resource conditions and will receive the highest priority for funding and management actions.

Maintain (M) category allotments are managed to maintain current satisfactory resource conditions and will be actively managed so that resource values do not decline.

Custodial (C) category allotments include a high percentage of private lands and are managed custodially while protecting existing resource values.

Within the Planning Area, there are 34 improve “I” category allotments, eight maintain “M” category allotments, and 33 custodial “C” category allotments.

3.15.4 Grazing Exclusions

The Steens Act altered the previous pattern of use through land exchanges and amendments to individual allotments, and created the first Congressionally designated No Livestock Grazing Area in the Steens Mountain Wilderness, covering 97,671 acres of public land. Portions of the No Livestock Grazing Area will continue to be grazed until the end of the 2003 grazing season. By the start of the 2004 grazing season, offsite forage will have been created to make up for the forage lost through legislation. Land exchanges, conducted to meet the mandates of the Steens Act, necessitated

Allot No.	Allotment Name	M[1] I C	Total Public Land Acres	Total Other Acres	% of Allot. in Planning Area	Public Land Acres in CMPA	Public Land Acres in AMU	AUM Allocation Antelope	AUM Allocation Deer	AUM Allocation Elk	AUM Allocation Wild Horses	AUM Allocation Livestock	AUMs SNU[2]	Period of Use[3]	Grazing System[4]	Mgt Objective[5]
6021	Pueblo Mountain	I	8,177	611	100	-	8,177	1	28	-	-	323	-	sp,su,f	rr	1,2,3,4
6022	Kings River	I	1,771	-	100	-	1,771	-	10	-	-	113	-	su,f	rr	1,2,3,4
6023	Hammond	I	11,009	2,712	100	2,839	8,170	6	33	-	-	473	-	sp,su,f	e,rr,d	1,3,4
6024	South Fork	M	381	138	100	-	381	-	1	-	-	40	-	sp	e	1,2,3,4
6025	Hardie Summer	M	2,405	3,719	100	2,405	-	1	332	10	-	408	-	su,f	d	1,2,3,4
6026	Mann Lake	I	35,363	1,460	100	10,433	24,930	6	110	15	-	3,670	-	sp,w	r,w	1,2,3,4
6027	Carlson Creek	I	8,876	4,017	100	8,876	-	2	29	-	-	684	-	sp,su,f	r	1,2,3,4
6028	Fields	I	4,837	192	100	-	4,837	-	5	-	-	210	-	sp,su	e,d,r	3,4
6029	Keg Springs	I	40,661	503	100	-	40,661	-	13	-	-	1,791	-	sp,su,f	s	3,4
6030	Reicken's Corner	M	8,841	999	100	-	8,841	4	3	-	-	688	-	sp,su,f	e,d,r	3,4
6031	LaVoy Tables	I	38,257	1,708	100	3,280	34,977	7	136	-	-	1,653	-	sp,su,f	e,d,r	3,4
6032	Krumbo Mountain	I	17,353	6	100	16,800	553	4	43	30	-	1,059	-	su,f	rr	3,4
6033	Chimney	I	14,769	10,125	100	10,190	4,579	6	149	38	-	2,015	-	sp,su,f	s	1,2,3,4
6035	Fields Basin	I	30,968	1,773	100	-	30,968	7	49	-	-	3,325	-	sp,su,f	rr	3,4
6037	Bridge Creek	I	3,603	56	100	3,603	-	-	8	32	-	459	-	su,f	d	3,4
6038	Alvord Peak	I	24,354	709	100	21,719	2,635	-	28	-	-	2,328	-	sp,f	e,d	1,2,3,4
6040	Stonehouse	I	10,517	321	100	10,517	-	3	39	17	-	1,772	-	su	d	1,2,3,4
6041	South Catlow	I	42,351	19,817	100	-	42,351	26	2	-	-	2,069	-	w	d	3,4
6042	Basque Hills	I	39,449	-	100	-	39,449	5	2	-	-	900	-	sp	e	3,4
6043	Pueblo Slough	I	9,768	7	100	-	9,768	2	2	-	-	1,400	-	w	d	3,4
6044	Lower Antelope	I	5,867	19	100	-	5,867	1	1	-	-	500	-	w	d	3,4
6100	Hammond FFR	C	1,158	6,158	100	799	359	-	-	-	-	32	-	n	s	4
6101	Waldkirch FFR	C	27	324	100	-	27	-	-	-	-	12	-	n	s	4
6102	Oregon End FFR	C	1,656	841	100	-	1,656	-	-	-	-	138	-	n	s	4
6103	Wiley FFR	C	29	1,145	100	-	29	-	-	-	-	6	-	n	s	4

Allot No.	Allotment Name	M[1] I C	Total Public Land Acres	Total Other Acres	% of Allot. in Planning Area	Public Land Acres in CMPA	Public Land Acres in AMU	AUM Allocation Antelope	AUM Allocation Deer	AUM Allocation Elk	AUM Allocation Wild Horses	AUM Allocation Livestock	AUMs SNU[2]	Period of Use[3]	Grazing System[4]	Mgt Objective[5]
6104	Defenbaugh FFR	C	1,276	2,655	100	-	1,276	-	-	-	-	60	-	n	s	4
6105	Wrench Ranch FFR	C	411	4,514	100	-	411	-	-	-	-	51	-	n	s	4
6106	Orlando FFR	C	1,823	6,605	100	-	1,823	-	-	-	-	320	-	n	s	4
6107	Crump/ Calderwood FFR	C	231	1,399	100	-	231	-	-	-	-	12	-	n	s	4
6108	Henricks FFR	C	131	870	100	-	131	-	1	-	-	30	-	n	s	4
6109	Casey FFR	C	376	243	100	-	376	-	-	-	-	21	-	n	s	4
6110	Still FFR	C	321	2,975	100	-	321	-	-	-	-	68	-	n	s	4
6111	Dunbar FFR	C	536	2,010	100	-	536	-	-	-	-	68	-	n	s	4
6112	Long Hollow FFR	C	836	828	100	-	836	-	-	-	-	103	-	n	s	4
6114	Rock Creek FFR	C	1,260	9,550	100	-	1,260	-	-	-	-	148	-	n	s	4
6115	Dixon FFR	C	96	1,145	100	-	96	-	-	-	-	22	-	n	s	4
6116	Northrop FFR	C	613	1,985	100	-	613	-	-	-	-	40	-	n	s	4
6117	Kaser FFR	C	40	1,578	100	-	40	-	-	-	-	5	-	n	s	4
6118	Lupher FFR	C	79	131	100	-	79	-	-	-	-	21	-	n	s	4
6119	Pollock FFR	C	994	5,128	100	677	317	-	-	-	-	19	-	n	s	4
6120	Mann Lake FFR	C	1,629	26,456	100	1,511	118	-	-	10	-	22	-	n	s	4
6121	Neuschwander FFR	C	640	1,370	100	-	640	-	-	-	-	43	-	n	s	4
6122	Starr FFR	C	194	584	100	-	194	-	-	-	-	9	-	n	s	4
6123	Culp FFR	C	183	3,591	100	-	183	-	-	-	-	-	-	n	s	4
6124	Windmill FFR	C	222	619	100	-	222	-	-	-	-	15	-	n	s	4
6125	Roaring Springs FFR	C	6,400	196,332	100	4,909	1,491	-	24	-	-	374	-	n	s	4
6126	CM Otley FFR	C	907	13,173	100	897	10	-	-	-	-	151	-	n	s	4
6127	Kuney FFR	C	513	11,206	100	-	513	-	-	-	-	35	-	n	s	4

Allot No.	Allotment Name	M[1] I C	Total Public Land Acres	Total Other Acres	% of Allot. in Planning Area	Public Land Acres in CMPA	Public Land Acres in AMU	AUM Allocation Antelope	AUM Allocation Deer	AUM Allocation Elk	AUM Allocation Wild Horses	AUM Allocation Livestock	AUMs SNU[2]	Period of Use[3]	Grazing System[4]	Mgt Objective[5]
6128	Konek FFR	C	80	285	100	-	80	-	-	-	-	10	-	n	s	4
6129	Alvord FFR	C	299	17,978	100	-	299	-	-	-	-	-	-	n	s	4
6130	Scharff FFR	C	276	4,800	100	276	-	-	-	-	-	68	-	n	s	4
6131	South Pocket FFR	C	145	1	100	-	145	-	-	-	-	1	-	n	s	4
6133	Otley Brothers FFR	C	313	8,682	100	225	88	-	-	-	-	21	-	n	s	4
Totals			1,593,775	478,891		329,927	1,205,571	300	3,961	790	8,208	98,504	2,474			

[1] M=Maintain, I=Improve, C=Custodial
[2] SNU=Suspended Nonuse
[3] Periods of Use: sp=spring, su=summer, f=fall, w=winter, n=no particular season
[4] Grazing Systems: rr=rest rotation, s=seasonal, d=deferred, r=rotational, e=early
[5] Management Objectives:
1=Improve and/or maintain riparian vegetation
2=Improve water quality and quantity
3=Maintain and/or improve wildlife habitat
4=Maintain and/or improve ecosite condition
[6] Acres shown are for the whole allotment. Only a portion of the allotment is within the Planning Area.

allotment boundary changes, combining portions of allotments, creating a new allotment, revisions to permitted use, and several new rangeland improvement projects.

Additional areas within livestock grazing allotments are excluded from grazing as determined in prior decisions and agreements between the BLM and permittees. Exclusionary measures are utilized to protect resource values and facilities. The types of resources and facilities protected by the exclusion of livestock grazing include the following: riparian vegetation communities; reservoirs, springs and wetlands; developed water sources; special status plant or animal habitats; relevant and important values for which ACECs are designated; ORVs for which WSRs were designated; wilderness values; research and study plots; administrative sites; recreation sites; and archaeological sites.

3.15.5 Ecological Status

ESI data describe the ecological status of vegetative communities based on soil characteristics and potential natural vegetative communities. ESI data from approximately 1984 to 1989 are provided for the Planning Area. The ecological status of the rangelands in the Planning Area is summarized in Table 3.21. These data are the same as when completed nearly 20 years ago and do not depict changes since then. Trend studies have shown that the ecological status of many vegetative communities has advanced to a higher seral status.

Within allotments containing riparian habitat and water quality values, improved grazing management is a priority for the Planning Area. To date, allotments with important riparian resource values and updated management plans have shown improvement in ecological status and trend.

3.15.6 Rangeland Improvements

In order to effectively manage livestock distribution and protect rangeland, range improvements have been constructed within the planning area. Within the CMPA there is a total of 18,900 acres of crested wheatgrass seeding, 330 miles of fence, 25 cattleguards, 242 reservoirs or waterholes, 23 spring developments, six wells, and 29 miles of pipelines. Within the AMU there is a total of 22,350 acres of crested wheatgrass seeding, 634 miles of fence, 50 cattleguards, 286 reservoirs or waterholes, 69 spring developments, 63 wells, and 104 miles of pipelines. As mandated in the FLPMA and the PRIA, a portion of grazing fees is to be used on range improvements for the benefit of wildlife, watersheds, and livestock grazing. Emergency fire rehabilitation funds have also been expended to protect resource values by converting exotic annual vegetative community types back to native, perennial plant communities to improve plant community and watershed health. Livestock operators, state and federal agencies, and other interested groups have also continued to fund construction of rangeland improvement projects.

Range improvements planned prior to legislation, which have completed NEPA documentation and are in conformance with the Steens Act, may still be implemented within the CMPA. New range improvements, necessary to fully implement the No Livestock Grazing Area and other legislated grazing changes, may be constructed following NEPA analysis. Additional range improvements will be coordinated through the SMAC.

Maintenance and reconstruction of existing support facilities in the Steens Mountain Wilderness and WSAs will be in accordance with existing guidelines for wilderness, WSAs, NEPA, and the Steens Act. Maintenance, reconstruction, and construction of new support facilities in wilderness areas where grazing is allowed, as well as access for these and other purposes, will be in compliance with the Wilderness Act and House Report 101-405 (Arizona Desert Wilderness Act) grazing guidelines. In WSAs, maintenance, reconstruction, new construction, and access to livestock facilities will be in compliance with the WSA IMP.

Table 3.21: Ecological Status of Rangelands in the Planning Area

Ecological Status	AMU Acreage	CMPA Acreage	Total Acreage	Percentage of Total
PNC	15,183	17,629	32,812	2.0
High Seral	276,577	129,210	405,787	24.6
Mixed High/Mid Seral	163,604	76,831	240,435	14.6

Mixed High/Early Seral	20,338	1,540	21,878	1.3
Mid Seral	585,369	161,371	746,740	45.3
Mixed Mid/Early Seral	37,042	7,571	44,613	2.7
Early Seral	66,722	9,487	76,209	4.6
Rock	2,284	20,791	23,075	1.4
No Data	54,192	4,083	58,275	3.5
TOTAL	**1,221,311**	**428,513**	**1,649,824**	**100.0**

3.16 Wildland Fire Management

Fire has played an important role in the development of most plant communities in the Planning Area. The role that fire plays depends on the severity, intensity, and frequency of burning as well as elevation and precipitation. Fire changes plant community structure and species composition, and alters site nutrient dynamics. The Planning Area has a wide variety of plant communities with varied fire histories, and averages about 15 wildland fires per year. Approximately 90 percent of the fires are caused by lightning and about ten percent are caused by humans. Over the last ten years, approximately 24 fires burned 5,300 acres each year. A large percentage of these fires are less than ten acres in size.

3.16.1 Fire Ecology of Major Vegetation Types in the Planning Area

Sagebrush is the dominant vegetation type throughout the Planning Area. Big sagebrush (all three sub-species), low sagebrush, and silver sagebrush are the most common species found. Black sagebrush and stiff sagebrush may also be found in specialized habitats in the Planning Area. Silver sagebrush is the only sagebrush species found in the Planning Area that will sprout following top removal. Other sagebrush species will recolonize areas by seed, either from the seed bank or by emigration from unburned areas. This process may be slow in larger burned areas because of the way sagebrush seed disperses. Sagebrush seeds are extremely small and have no specialized dispersal mechanism. Seeds rarely move more than three feet from parent plant. Size and shape of burned areas become important under these conditions. Burned areas with irregular boundaries will facilitate sagebrush establishment, while large burned areas with little sinuosity to the perimeter must rely on the soil seed bank and seed transport.

Sagebrush fire return intervals (number of years between fire events) are difficult to determine because the plants are typically entirely consumed by fire and do not leave evidence that can be used to determine historical fire regimes. Until recently, the extent and dates of fires have not been recorded and post-fire succession has not been studied in detail. However, site productivity affects the fire behavior and frequency in these sagebrush stands. Sites with higher productivity (more grass and forb understory) will carry fire more easily and more frequently than sites with low productivity. However, low sagebrush can be found in areas with higher productivity. Rooting depth in these areas is often limited by a heavy clay layer and not bedrock. Low sagebrush is usually found on less productive sites compared to mountain, basin, or Wyoming big sagebrush. Silver sagebrush, however, may also be associated with wetland species in areas of high productivity where fire history is more likely to be related to adjacent vegetation than to characteristics of the silver sagebrush plant communities themselves. Silver sagebrush is also found in a mosaic of vegetation types; it does not occupy large areas within the Planning Area.

Juniper woodlands are the most widely distributed woodland type in the Planning Area. Ancient western juniper stands are located in rocky areas where fire return intervals are more than 150 years. The location of these stands provides insufficient understory vegetation to carry fire. If fires did occur, they were often limited to one or two trees and areas of less than one acre. Under certain circumstances, large fires did move across these stands, but such events were rare. The mountain big sagebrush fire regime, where much juniper has encroached today, typically burned every 15 to 25 years (Miller and Rose 1998), a return interval similar to other shrub communities in the arid West. Young western junipers have thin bark and are readily killed by surface fires. Fire will carry through juniper stands with grass and shrub understory. As trees mature, they displace shrub and grass vegetation, leaving little surface vegetation. The stand then becomes more susceptible to erosion due to reduction in near-surface root systems of the lower stature plants. Older stands become resistant to fire because low productivity limits available fuel. Western juniper does not sprout after fire; reestablishment is from seed dispersed by water and animals, and the trees may be slow to regenerate.

Cheatgrass is an invasive nonnative annual grass that creates a fire hazard in limited parts of the Planning Area. Cheatgrass thrives in disturbed environments, especially with fine-textured soils. Over-grazing and/or wildland fires provide conditions that are more favorable for cheatgrass than for native species. Cheatgrass often out-competes native grasses, forbs, and shrubs in disturbed areas, leaving large expanses dominated by it, or by cheatgrass combined with other nonnative species. Cheatgrass dominated areas tend to burn more frequently compared with the native shrublands and grasslands, diminishing the occurrence of associated woody plants. Increases of cheatgrass have also altered the phonological calendar of the plant communities. Cheatgrass begins and completes growth earlier than the associated native vegetation. Areas dominated by cheatgrass now have the potential to burn earlier in the year than plant communities dominated by native vegetation. Earlier fires, especially if repeated every three to seven years, burn native plants when they are actively growing and most susceptible to injury. Fire does not increase cheatgrass production, but it does eliminate other plants and provides an opportunity for cheatgrass to increase at the expense of native grasses, forbs, and shrubs. Cheatgrass invasion substantially reduces biodiversity and the land's value for livestock forage and wildlife habitat. Reversal of this ecological cycle probably requires human intervention and/or alteration of current land management.

Crested wheatgrass is an introduced perennial grass that was planted to revegetate disturbed or burned sites. It is valuable for forage and soil stabilization and if planted in areas formerly dominated by shrubs, the fire regime may be altered.

3.16.2 Fire Management Needs, Status, and Alternatives

The Planning Area fire management strategy focuses on wildland fire suppression and prescribed fire. The wildland fire season generally runs from mid-May through mid-September, while prescribed fires are usually planned for periods before and after the wildland fire season, depending on weather conditions. Prescribed burning can be used to meet resource and fire management objectives such as stimulation of plant growth, changes in species composition, or reduction in amounts of fuels and slash. Generalized policy and procedures for fire planning, assessment, and response are guided by BLM Manual 9102.

3.16.2.1 Juniper Management

Encroachment of western juniper into mountain big sagebrush and quaking aspen plant communities is a major concern across large areas of the Planning Area. Historically, western juniper was limited to rocky ridge tops and shallow soil areas where fires rarely occurred. Past livestock management and fire suppression have reduced the influence of fire in these areas. Subtle shifts in climate may have also helped Western juniper expand its range over the last 100 years. As western juniper density and cover increase, diversity of habitats decreases and potential conflicts over the remaining resources rise.

In addition to prescribed burning, chain saws have also been used to remove western juniper from quaking aspen stands prior to burning, and after burning if the fire did not carry through the stands. Cutting of western juniper helps to reduce competition and the disturbance stimulates suckering, or root-sprouting, of the quaking aspen. Stands that were burned or cut have been temporarily fenced from deer, elk, and domestic livestock, allowing quaking aspen suckers to grow above the reach of large domestic or wild herbivores.

3.16.2.2 Rangeland Condition

In lower elevation sagebrush plant communities, factors such as fuel conditions, proximity to sensitive habitats or presence of introduced annuals may make prescribed fire impractical. In these areas, the Burns DO is using a technique known as "brush beating" in which a large mower kills large sagebrush, but leaves smaller shrubs and herbaceous plants relatively unharmed. Cutting the brush in irregular shapes is another way to create a complex pattern or mosaic. The brush beating also interrupts the structure and continuity of the fuels, reducing the potential for large fires by limiting spread.

3.16.3 Prescribed Fires

Prescribed burns in 2001/2002 included V Lake (South Steens), Stonehouse (Northeast Steens) and East Ridge/Mid Kiger Gorge (North Steens). The current prescribed fire program on the Planning Area has successfully reintroduced fire to sagebrush and aspen plant communities. These management actions are improving habitat for numerous wildlife species and are providing higher quality forage for domestic and wild herbivores.

3.16.4 Wildland Fires

Wildland fire risk depends on the intensity and size of the wildland fire as well as the location, time of season, and time of day. Historically these ecosystems experienced a variety of fire severities and intensities. The variety of intensities and severities was controlled by changing climatic conditions across the season. Early and late in the wildland fire season, conditions were cooler and potentially wetter than during the hot dry summer months. Fires that burned at these times may have had fewer impacts than those that burned in the middle of the hot dry summer. Conditions also changed within a single day. Severity and intensity can be much higher during the middle of the burning period than during night when temperatures are lower and relative humidity is higher. However, conditions today have changed somewhat. The amount of woody vegetation across the Planning Area is greater today than 100 years ago. Increases in western juniper and sagebrush density and cover have altered the characteristics of most wildland fires. Fires today are larger in most cases than they were historically due to a simplification of the vegetation (fuels) structure. Large, catastrophic wildfires are much more common today than 100 years ago. These fires are occurring at an increasing rate across the western United States. Impacts to plants and animals can be dramatic following these large fires. Large grazing animals, domestic and wild, may be displaced for several years following large fires. Wildlife species that depend on sagebrush for part or all of their entire life cycle will decline following burning. Severely burned landscapes lose soil, seed bank, and microflora; consequently, they are more susceptible to invasions of weedy species. Fire may also have adverse effects on recreational and visual resources. The impacts of burning on plant community processes and functions can be naturally mitigated, but social values often require rehabilitation actions be taken to assist recovery.

In case of multiple fires, suppression priority is given in decreasing order of importance to fires threatening life, property, and resources. Fires occurring within wilderness and WSAs and other environmentally sensitive areas have received full suppression responses, but these responses are generally limited, regarding the use of mechanical equipment and retardant. If a fire is likely to become large or to threaten life or property, the line officer can approve the use of mechanical equipment to assist in suppression. In that case, immediate rehabilitation occurs on all areas of ground disturbance.

Current fire management for the CMPA is outlined in the WSA IMP and considers the provisions of the Steens Act as well as the Wilderness Act. On all lands other than WSAs or designated wilderness within the CMPA, the WSA IMP states that current fire management practices will continue, subject to provisions in the Steens Act. Within the Steens Mountain Wilderness, fire suppression will take place in accordance with the provisions of the Wilderness Act, Management of Designated Wilderness Manual 8560, and the Steens Act. Pursuant to 8560 §.35A, all wildland fires will be suppressed until an approved Fire Management Plan (FMP) is prepared. Suppression actions in the Steens Mountain Wilderness will be executed to minimize surface disturbance and alterations of the natural landscape as well as fire suppression costs, while being consistent with management objectives and constraints. Methods and equipment will be used which least alter the landscape or disturb the land surface. Suppression structures and improvements will be located outside the Steens Mountain Wilderness, except those that are the minimum necessary to protect life, property, public welfare, and Steens Mountain Wilderness objectives.

Suppression preplanning will be conducted with review by an interdisciplinary team to determine appropriate response and equipment to be used in fire suppression. Protection of the Steens Mountain Wilderness resource will be made part of the suppression objectives for all fires. Tactics will utilize the minimum tool concept to achieve these objectives. Non-mechanized equipment will be used unless mechanized equipment is approved by the District Manager. Suppression work will be conducted to minimize ground disturbance and vegetation cutting while safely meeting objectives. Mop-up methods that minimize disturbance will be preferred.

Fire management within the WSAs will continue in accordance with the provisions of the WSA IMP. Until an approved FMP is prepared, all wildland fires will be suppressed.

Response to fire incidents that escape initial attack, have the potential to escape initial attack, or occur in sensitive areas, will utilize one or more resource advisor(s) to assist in planning and implementation of suppression activities. These advisors assist the incident commander with suppression decisions concerning resource values and priorities. These individuals know the resources and the landscape near the fire and have a working relationship with local landowners. Although resource advisors do not make suppression decisions, their advice and concerns have a direct bearing on most major suppression decisions.

3.17 Lands and Realty

The approximate percentages of surface area administration/ownership within the Planning Area are as follows: BLM-76.0 percent, USFWS - 1.0 percent, State of Oregon (Division of State Lands, ODFW) - 0.3 percent, and privately owned - 22.7 percent (Table 3.22). All the private land in the Planning Area is zoned by Harney County for exclusive farm and range use (EFRU-1) except the areas at Frenchglen and Fields, Oregon, which are zoned rural service center. The primary use of the private land is cattle ranching and grazing. Other uses include recreation, hunting, small business, and agriculture, with native hay as the primary crop.

3.17.1 Administrative Sites

BLM administrative sites in the Planning Area are the Frenchglen Fire Guard Station, and Fields Administrative Site. In addition, a nonhistorical building at the Riddle Brothers Ranch is utilized as an administrative facility to house employees working in the area.

Table 3.22: Land Ownership and Administration in the Planning Area

Land Ownership/Administration	AMU Acres	CMPA Acres	Total
BLM	1,221,314	428,156	1,649,470
U.S. Fish and Wildlife	26,422	0	26,422
Private (including county)	427,363	66,910	494,273
State of Oregon	6,576	1,070	7,646
Total	**1,681,675**	**496,136**	**2,177,811**

3.17.2 Land Retention, Acquisition, and Disposal

BLM administered lands are divided into three zones that identify the public land for potential land tenure adjustments (e.g., acquisition or disposal), consistent with existing regulations and BLM policy. The FLPMA Section 102.(a)(1) provides that "...the public lands be retained in federal ownership unless as a result of the land use planning procedure provided for in this Act, it is determined that disposal of a particular parcel will service the national interest..." Zone 1 lands have been identified for retention in public ownership. These are also areas where emphasis will be placed on acquisition of land containing high public resource values. Zone 2 lands have been identified for limited retention and consolidation of ownership. Zone 3 lands generally have lower resource value and have been determined difficult and uneconomic to manage and may be identified for disposal. Methods for implementing land disposal actions include the following: (a) BLM and other federal jurisdictional transfers; (b) transfers to state and local agencies (e.g., R&PP patents, in-lieu selections, airport patents); (c) state exchanges; (d) private exchanges; (e) sales; (f) Indian allotments; and (g) desert land entries. Current GIS data show approximately 1,533,505 acres designated as Zone 1, 108,219 acres designated Zone 2, and 7,744 acres designated Zone 3 within the Planning Area. Land management requirements in the Steens Act such as land exchanges and WSA boundary adjustments create inconsistencies between the current land tenure designations and legislative requirements. These inconsistencies will be addressed through the RMP/EIS by adjusting land tenure zones to provide consistency with the Steens Act. Upon approval of the plan, the new zones and management actions will constitute a revised land tenure plan. Map 2.4 depicts the Land Tenure Zones for the Planning Area.

One specific purpose of the Steens Act (Section 1(b)(4)) was to "provide for the acquisition of private lands through exchange for inclusion in the Steens Mountain Wilderness and the [CMPA]." In order to do this, a number of specific land exchanges were outlined in the Steens Act and carried out by the BLM. Lands acquired within the CMPA became part of the CMPA and are managed under its laws and management plans. Lands acquired in the Steens Mountain Wilderness and WSAs came under those designations and are managed as such. The Steens Act also allows for additional future acquisitions of private lands in the CMPA, the Steens Mountain Wilderness, and the WSAs, which will be classified and managed accordingly.

3.17.3 Withdrawal Areas

The Mineral Withdrawal Area designated by the Steens Act encompasses the entire CMPA and Steens Mountain Wilderness. Subject to valid existing rights, no mining or exploration will be permitted anywhere in the CMPA. Exceptions are the existing gravel operations within the CMPA, which are permitted by the Steens Act as follows: Section 401(b) of the Steens Act "... The Secretary may permit the development of salable mineral resources, for road maintenance only, in those locations identified ... as an existing 'gravel pit' within the mineral withdrawal boundaries (excluding the Steens Mountain Wilderness, WSAs, and designated segments of the National Wild and Scenic River System) where such development was authorized before the date of enactment of this Act."

Section 113(g) of the Steens Act also withdraws all lands within the CMPA from all forms of entry except "land exchanges that further the purposes and objectives specified in Section 102" of the Steens Act. WSRs and the Steens Mountain Wilderness also carry with them their own withdrawals made under the terms of the Wilderness Act and the WSR Act. For these reasons the CMPA, depending upon the location, may have a variety of overlapping duplicate withdrawals.

3.17.4 Access

Many roads or segments of roads crossing private lands in the Planning Area have no provision for legal public access. Together with the access restrictions provided in the Steens Act, this situation may severely limit legal public access to large portions of public land within the Planning Area. Over time, the BLM has acquired public access easements on a few major roads such as the Steens Loop, the Trout Creek Loop Road and a few other isolated locations. More recently, land exchanges authorized by the Steens Act have secured public access easements on several private road segments.

Some roads may be "public ways" established through prescription under state law where unobstructed public use over time may have created a public easement across private lands. The BLM has no jurisdiction over these road segments nor does it generally attempt to assert these rights to provide the public access.

As discussed in previous sections, the Steens Act specifies that "reasonable access" will be provided to private and state landholdings within the boundaries of the CMPA and the Steens Mountain Wilderness. Creating the CMPA and implementing the wilderness regulations have raised access issues to the forefront of management planning. The Steens Act and the WSA IMP guide access and use of the roads/transportation. In addition, the Transportation Plan, as well as the RMP/EIS Section 3.18, address the issue of access and outline specific protocols and objectives.

3.17.5 Rights-of-Way and Land Use Authorization

Although the Steens Act does not specifically prohibit grants of new ROWs or land use authorizations, many of its provisions would limit the number and type of grants. An example is the Steens Act's prohibition of road construction and facilities. Valid existing rights are protected under the Steens Act. Regarding ROWs, the Steens Act specifically states "nothing in this Act shall have the effect of terminating any valid existing ROW on public lands included in the Cooperative Management and Protection Area."

Existing ROWs within the CMPA are primarily limited to small scale-electric and telephone distribution lines. Access roads across public lands to private lands generally have no recorded rights associated with them. Use of these roads by landowners and others is considered "casual use" where no authorization is needed as long as such use does not cause appreciable disturbance to the public lands, its resources, or improvements. No well maintained county roads or state or federal highways are within the CMPA, although these roads and highways comprise large portions of the CMPA boundary. Likewise, there are no designated ROW corridors within the CMPA.

In the remainder of the Planning Area, ROWs have been granted for small scale overhead electric distribution lines and buried telephone lines to individual ranches, rural residences and small communities. Harney Electric Cooperative and CenturyTel operate most of these facilities.

Harney County has their primary county roads authorized by FLPMA ROWs. The remainder are presumed to be authorized by ROWs under the provisions of RS2477. The County has never asserted nor the United States formally acknowledged such rights. Otherwise there are few documented ROWs for access roads across public lands in the AMU.

There are a few ROWs existing in the Planning Area for water facilities such as ditches, canals, diversions, and reservoirs. Most of these were granted under pre-FLPMA authorities. Some of these types of irrigation ROWs such as those granted under the authority of RS2339 and RS2340 (Act of July 26, 1866) required no explicit approval by the United States for the ROW to exist and thus are not documented or recorded. The facility had only to be constructed and water right held under state law prior to the enactment of the FLPMA in 1976 for a grant to occur.

The Andrews MFP designated several corridors in the Planning Area outside the CMPA. These corridors are associated with power transmission lines operated by Harney Electric Cooperative, and major county roads. In addition, a designated corridor exists along a route of a 500kV power transmission line proposed by Pacific Power & Light during the early 1980s east-west through the south central portion of the Planning Area. The 500kV line was ultimately constructed along an alternate route through the Three Rivers RA, so no facilities exist along the designated corridor except where Harney Electric's line follows the corridor through Long Hollow and a portion of the Alvord Desert.

There is no commercial wind, solar, or other renewable energy development within the Planning Area and no known proposals for this type of development. Additional discussion concerning renewable energy potentials and development in the planning area can be found in part 3.13.1 - Energy Resources.

Film permits and wilderness access permits under 43 CFR 2920 are the primary type of land use authorizations that have been granted or might potentially be proposed. There are no agricultural or occupancy permits or leases in effect in the Planning Area.

Except for overflight areas there has been no military activity in the Planning Area in recent history and no known proposals for such activity. The BLM currently has no authority to regulate military overflight but may cooperate and coordinate with the Federal Aviation Administration and the military on this type of activity.

3.18 Transportation and Roads

The Planning Area has private, state, county, and BLM roads. Some roads are maintained to a high standard while others are primitive two track routes receiving very little maintenance. Road uses include rancher access for livestock management, access to private lands, the general public seeking recreational opportunities, and agency administration. Many of the roads serve as important access routes to public lands.

Priorities for maintenance in the Planning Area are established as follows: 1) safety of users, 2) high-use roads, 3) resource protection, and 4) all other roads. Road construction has been limited to upgrading segments of existing routes to improve access or alleviate maintenance or environmental problems. Section 112(d) of the Steens Act states that new road construction is only permissible if the BLM finds it necessary for public safety or protection of the environment.

Section112 of the Steens Act calls for a comprehensive Transportation Plan as part of this RMP/EIS. The Transportation Plan outlines the BLM's philosophy toward transportation management and provides specific guidelines for management of individual roads, as well as general standards for construction, maintenance, and access for the CMPA. The portion of the Planning Area outside the CMPA will continue to be managed under currently established transportation guidelines. OHV use and direction relates closely to the Transportation Plan and is discussed in the following section of this document.

In 2000, as part of the Steens Act, Congress closed the Steens Mountain Wilderness to motorized or mechanized vehicles, mechanical transport, motorized equipment, and the landing of aircraft. Certain roads within the CMPA are bounded by wilderness on both sides but are not actually part of the wilderness. These roads include the Steens Loop Road, Cold Springs Road, Newton Cabin Road to Big Indian Creek, Fish Creek Road, portions of the Bone Creek Road, and Three Springs Road. Roads that border the wilderness have specified setbacks from their centerlines, consistent with BLM wilderness policy. High standard roads such as HWY 205, East Steens Road and Catlow Valley Road have a 300-foot setback. The portions of the Steens Loop Road that border the wilderness have a 100-foot setback, while all other roads have a 30-foot setback. Additionally, most of the Steens Loop Road is closed during the winter except by winter recreation permit over a portion of the north segment.

All motorized and mechanized vehicle travel within the CMPA is prohibited off road and is limited to the routes specifically designated for their use as part of this management plan. Exceptions to the off road prohibition include emergencies, BLM administration, construction or maintenance of agricultural facilities, fish and wildlife management, or ecological restoration projects. All off road motorized or mechanized use on public lands within the CMPA must be authorized by the BLM.

Future management of the roads and ways within the CMPA is described in Chapter 2 of this document. Map 3.2 shows the existing roads and ways within the Planning Area as well as current maintenance levels within the CMPA. Map 2.8 more specifically shows the routes within the CMPA and includes the Service/Permit routes and Private Access Routes used by the livestock operators and private land inholders. Public access easements are also depicted on both maps.

3.19 Off-Highway Vehicles

OHV (motorized vehicle) use is frequently associated with hunting, fishing, and driving for pleasure and also occurs for administrative purposes such as management of livestock and maintenance of range projects. All public land in the Planning Area is designated as open, limited, or closed with regard to vehicle use. In an open area, all types of motorized and mechanized vehicle use are permitted at all times. In a limited area, motorized and mechanized vehicle use is restricted at certain times, in certain areas, to designated routes, to existing routes, to certain vehicular uses, or seasonally. In a closed area, motorized and mechanized vehicle use is prohibited. The BLM designates areas as "open" for intensive OHV and mechanized vehicle use where no compelling resource protection needs, user conflicts, or public safety issues exist to warrant limiting cross-country travel. The BLM designates areas as "limited" where it must restrict OHV and mechanized vehicle use in order to meet specific resource management objectives. Areas are designated as "closed" if closure to all motorized and mechanized vehicular use is necessary to protect resources, promote visitor safety, or reduce use conflicts. WSAs are designated as limited, while wilderness areas are closed to OHV and mechanized vehicle use. There are currently 675, 918 acres open, 680,017 acres limited to designated routes, 123,460 limited to existing routes, and 170,076 acres closed to OHV and mechanized vehicle use in the entire Planning Area. Management of OHV activities in the AMU is guided by the Andrews MFP, which states the various protection goals of each designation.

OHV designations for the CMPA only are 170,076 acres closed and 258,080 acres limited to designated roads. OHV use in the CMPA is addressed in Section 112(b) of the Steens Act:

> (1) PROHIBITION. – The use of motorized or mechanized vehicles on federal lands included in the Cooperative Management and Protection Area –
>
> > (A) is prohibited off road; and
> >
> > (B) is limited to such roads and trails as may be designed for their use as part of the management plan.
>
> (2) EXCEPTIONS. – Paragraph (1) does not prohibit the use of motorized or mechanized vehicles on federal lands included in the Cooperative Management and Protection Area if the Secretary determines that such use –—
>
> > (A) is needed for administrative purposes or to respond to an emergency; or
> >
> > (B) is appropriate for the construction or maintenance of agricultural facilities, fish and wildlife management, or ecological restoration projects, except in areas designated as wilderness or managed under the provisions of section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782).Recreation

Federal agencies including the BLM, USFS, and USFWS, administer over 51 percent of the lands in Oregon and 70 percent of the lands in southeast Oregon (Harney, Malheur and Lake Counties), making them the largest managers of outdoor recreation and land facilities in the state (Oregon Parks and Recreation 2000). Therefore, these agencies play a major role in providing dispersed recreation opportunities as well as resource protection of some of the state's most unique and important scenic, natural, and cultural resources.

Sightseeing, driving for pleasure, fishing, and hunting are among the most popular types of dispersed recreation, according to the Southeast Oregon Recreation Plan for Harney, Lake and Malheur Counties. Nonmotorized boating, horseback riding, camping, hiking, wildlife viewing, and OHV use are also popular activities in the Planning Area. From October 2000 through September 2001, the Planning Area had 259,797 visitor days, up from 247,002 the previous year. Specific activities such as hunting, hiking, and camping as well as sites visited are discussed below.

Some of the recreation management objectives for the AMU are outlined in the Andrews MFP as follows:

- Encourage a wide range of recreation activities in addition to hunting and fishing;

- Cooperate with development of High Desert Trail;
- Limit vehicle use in campgrounds to ingress and egress;
- Provide quality recreational opportunities for the public; and
- Protect, preserve, and enhance recreational resources and provide facilities, information, and services to promote safety and a maximum recreational experience.

3.19.1 Recreation Activities

The Planning Area includes all or portions of the Beaty Butte, Juniper, Steens Mountain, and Whitehorse ODFW hunt units. Deer, antelope, bighorn sheep, and elk are hunted with rifle, muzzleloader, and bow in this area. During the 2000 Hunting Season in the four hunt units combined, 8,323 hunter days were spent hunting deer with a 47 percent success rate; 3,237 hunter days were spent hunting elk with a success rate of 13 percent; and 923 hunter days were spent hunting antelope with an 87 percent success rate (ODFW 2002). Fishing is a popular activity in the Planning Area with its variety of fish species including Lahontan cutthroat trout, redband trout, and several others. There are several lakes, reservoirs, streams, and rivers in the Planning Area, which provide fishing as well as sightseeing, camping, hiking, and wildlife viewing opportunities. These areas are discussed in detail in the Riparian and Wetlands, and Fisheries and Wildlife Sections (3.5.1 and 3.6).

Several hiking trails in the Planning Area are located in the CMPA. The High Desert Trail, the longest trail, also runs through the AMU. A component of the National Recreation Trails System, it begins at Denio Canyon near the Nevada border south of Fields, Oregon and is 240 miles long. The High Desert Trail uses a corridor concept with no clearly defined or maintained path to follow. Hikers choose their own route with the help of a printed guide and strategically placed cairns. Portions of the trail are open year round. The corridor is cooperatively managed with the Desert Trail Association.

Trails in the CMPA are generally open from June to late October. The Wildhorse Lake trail starts at the Steens Mountain Summit area and is 1.5 miles long from there to the high elevation lake. The trail is not maintained and is unsuitable for horses because of slick footing and dangerous cliffs. This trail had a minimum of 683 visitors in 2001 who used it for hiking/walking, backpacking, and fishing. The Little Blitzen trail starts near South Steens Campground. It is approximately nine miles in length and is maintained on a limited basis. In 2001 at least 326 trail users hiked/walked, backpacked, fished, and/or rode horses. The Big Indian trail starts at South Steens Campground. It is maintained on a limited basis and is approximately seven miles long. At least 408 people used the trail in 2001 for hiking/walking, backpacking, fishing, horseback riding and hunting. The Steens Summit trail begins near the top of Steens Summit and follows the closed road to the highest point on Steens Mountain. It is 0.5 mile in length. The Blitzen River "fishing path" begins at Page Springs Campground.

Camping occurs throughout the Planning Area, but primarily on Steens Mountain and the Alvord Desert; camping is mainly primitive and dispersed. The Alvord Desert playa, part of the Alvord Desert WSA, is a popular land sailing destination in the spring.

The season of use for the CMPA is generally from July to November, with the highest use on holiday weekends and during hunting season. The main activities include sightseeing, camping, fishing, hiking, nature study, and hunting. Other uses include picnicking, biking, photography, rock hounding, snowmobiling, cross-country skiing, and OHV use. During the winter months, vehicle access to the snow line on the North Steens Loop Road is allowed by permit only for winter recreation. Foot traffic past the locked gates does not require a permit. The developed recreation sites are used both as staging areas for dispersed uses such as hunting, hiking, and nature study, and as destination points. Steens Mountain affords spectacular geologic features and wide-open spaces where wildlife is abundant and vegetation diverse, thus providing outstanding recreation opportunities within a relatively undeveloped landscape.

The four developed campgrounds in the CMPA are Page Springs, Fish Lake, Jackman Park, and South Steens. These campgrounds include such amenities as picnic tables, drinking water, fire rings and vault toilets. In addition, there are facilities for equestrian use at South Steens and a boat ramp and fishing platform at Fish Lake. Page Springs campground is located four miles east of Frenchglen on the Steens Loop Road. The campground is adjacent to the Donner und Blitzen River at 4,200 feet. A day use area is also located here. Fish Lake campground is located 17 miles east of Frenchglen on the Steens Loop. It is located in an aspen grove at 7,400 feet. Only nonmotorized boats are allowed on Fish Lake. This campground is located on Oregon State land, but is operated and managed by the BLM through a permanent easement from the ODFW. The Jackman Park campground is a small campground located in an aspen grove three miles from Fish Lake at 7,800 feet. South Steens campground is located 18 miles east of Highway 205 on the southern leg of the Steens

Loop. The campground was built in 1996 and is located in a juniper grove at 5,300 feet. One campground loop has hitching rails and small corrals for horses. At Mann Lake, primitive camping is allowed in two areas near the shore. The recreation site has vault toilets and a boat ramp. It is located approximately 22 miles south of Highway 78 on the East Steens Road. The lake is stocked with hatchery Lahontan cutthroat trout. Boats with 12 horsepower motors or less are permitted.

The 67-mile Steens Mountain Back Country Byway (BCB) links the four developed campgrounds and seven overlooks. The BCB was traveled by 18,950 visitors to the area in 1975; 45,585 in 2000; and 47,947 in 2001.

Fees are collected at developed campgrounds from approximately April through October with the revenues returned to the site for improvements, facility maintenance, and visitor services as part of the Pilot Recreation Fee Demonstration Program, which Congress authorized in 1995. The intent of the program is to develop and test entrance and user fees to maintain and improve the natural resource, recreation facilities, and services. Participating agencies are allowed to retain all the demonstration project revenues, and at least 80 percent of the revenues are utilized at the sites where they are collected. These revenues yield substantial benefits by providing on-the-ground improvements at local recreation sites. In 2001, campground revenues were approximately $42,300.

3.19.2 Special Recreation Management Areas and Extensive Recreation Management Areas

In order to manage recreation, public land is classified as SRMAs and ERMAs. In SRMAs, recreation is under intensive management and investment in facilities and supervision. ERMAs are typically managed for more dispersed recreation with less oversight of facility development. SRMAs and ERMAs are designated through the RMP Process. The Steens Mountain Recreation Lands is an existing SRMA. Currently, the entire CMPA is managed as an SRMA. The AMU is managed as an ERMA.

Dispersed recreation opportunities exist throughout the entire Planning Area. Opportunities for developed recreation exist at several sites within the CMPA. The Lakeview to Steens BCB provides access to recreation opportunities in the Planning Area. A State Scenic Byway and several Tour Routes through the Planning Area are being considered by a Harney County Chamber of Commerce committee. Adjacent areas of interest managed by other agencies include the Malheur NWR and the Sheldon-Hart Mountain NWR. Although the majority of visitors to the Planning Area are from Oregon, an increasing number are from out of state and abroad. Recent publications and broadcasts featuring BLM attractions have increased visitation to the area.

3.19.3 Special Recreation Permits

SRPs are required for specific recreational uses of the public lands and related waters. They are issued as a means to manage visitor use, protect natural and cultural resources, and provide a mechanism to accommodate commercial recreational uses. The kinds of permits that can be issued are listed below:

1) Commercial - Recreational use of public lands and related water for business or financial gain. Examples are scenic tours, outfitters and guides, trail rides, cattle drives, photography associated with recreational activity, and use by scientific, educational, and therapeutic or nonprofit organizations when certain criteria are met.

2) Competitive - Any organized, sanctioned, or structured use, event, or activity on public lands in which two or more contestants compete and either 1) participants, register, enter or complete an application for the event, or 2) a predetermined course or area is designated. Examples are OHV races, horse endurance rides, or mountain bike races.

3) Organized group - Permits for noncommercial and noncompetitive group activities and recreation events. Examples include a scout campout, a large family reunion, or a school group activity.

4) Commercial Day Use - Special commercial permit provided by the Burns DO for use within limited locations in the Planning Area. It is a one-day permit available for commercial activities such as vehicle tours. Commercial Day Use permit stipulations are developed on a case-by-case basis.

5) Special Area - Officially designated by statute or Secretarial order. Examples include camping in long-term visitor areas in California and Arizona or floating many BLM managed rivers. An August 17, 2001 Federal Register notice designated the CMPA and the Burns DO WSAs as special areas for which permits are required for organized groups.

6) Vending - Temporary, short-term, nonexclusive, revocable authorizations to sell goods or services on public land in conjunction with a recreation activity. Examples are T-shirt sales in conjunction with an OHV race, a hot dog stand at a motocross event, firewood sales in a BLM campground, and shuttle services.

Forty SRPs were issued or active in 2001 and includes the following: 15 commercial, three organized group, two other, and 20 winter recreation permits. SRP revenues in 2001 were approximately $3,800.

3.20 Areas of Critical Environmental Concern

FLPMA and BLM policy require the BLM to give priority to designation and protection of ACECs during the land use planning process. ACECs may be nominated by BLM staff, other agencies, or members of the public at any time. ACECs are parcels of public land that require additional management attention to protect special features or values. ACECs may be established to protect important historic, cultural, or scenic values; fish, wildlife, or other natural resources; or human life and safety. RNAs are a specific type of ACEC that always contain natural resource values of scientific interest and are managed primarily for research and educational purposes. Outstanding Natural Areas are another specific type of ACEC that exhibit outstanding scenic splendor, natural wonder or scientific importance. ACEC nominations are reviewed by an ID team to determine whether they meet the relevance and importance criteria in BLM Manual 1613. Nominated ACECs that meet the relevance and importance criteria must be evaluated in a land use plan to determine whether protection is warranted.

Fifteen ACECs, nine of which are RNAs, are located in the Planning Area. These ACECs were designated to provide special management and protection to areas with special characteristics such as diverse ecosystems, landforms, plant communities, and critical wildlife habitat. The existing ACECs as well as their location and size, are listed in Table 3.23. Appendix K contains a description of each existing and proposed ACEC and their relevant and important values.

Management of the ACECs/RNAs is directed by the Andrews MFP for the entire area; the Steens Act for the CMPA; and the Wilderness Act and WSA IMP for those ACECs/RNAs located in a WSA or the Steens Mountain Wilderness. Specific direction calls for retention of existing and designation of new ACECs/RNAs where relevance and importance criteria are met and special management is required to protect the values identified.

3.21 Wilderness

The FLPMA directs the BLM to manage the public lands and their resources under principles of multiple use and sustained yield. The FLPMA also identifies wilderness values as part of the spectrum of public land resource values and uses to be considered in the BLM's planning, inventory and management activities. A BLM wilderness area is an area of public lands that Congress has designated for the BLM to manage as a component of the National Wilderness Preservation System in accordance with the Wilderness Act of 1964. A WSA is a parcel of public land determined through intensive inventories to meet the definition of wilderness in Section 2(c) of the Wilderness Act.

Public lands were inventoried in the early 1980s to determine whether they contained wilderness characteristics. Those areas found to have wilderness characteristics were identified as WSAs and all other land was eliminated from further consideration in the wilderness review. Some of the criteria used in the wilderness inventory and study were naturalness, solitude, primitive and unconfined recreational opportunities, special features, and manageability.

The Steens Act established the Steens Mountain Wilderness consisting of 170,084 acres of public land. Within the Steens Mountain Wilderness (Map 2.18) is a No Livestock Grazing Area consisting of 97,229 acres of public land, creating the first livestock-free wilderness in the United States. Subject to valid existing rights, the BLM will administer the Steens Mountain Wilderness in accordance with the provisions of the Wilderness Act, BLM Wilderness Regulations (43 CFR 6300), BLM Manual Handbook H-8560-1 Management of Designated Wilderness Areas, and the Steens Act.

Table 3.23: Areas Of Critical Environmental Concern in the Planning Area

ACEC	Located in Withdrawal Area	Location	Acres
Alvord Desert ACEC	Yes	AMU	17,933
Alvord Peak ACEC	Yes	CMPA	15,015
Borax Lake ACEC	Yes	AMU	520

Pickett Rim ACEC	No	AMU	3,941
Steens Mountain ACEC	Yes	CMPA	56,187
Kiger Mustang ACEC[1]	Yes[1]	CMPA	31,859
East Kiger Plateau RNA/ACEC	Yes	CMPA	1,216
Little Blitzen RNA/ACEC	Yes	CMPA	2,530
Little Wildhorse Lake RNA/ACEC	Yes	CMPA	241
Long Draw RNA/ACEC	No	AMU	441
Mickey Basin RNA/ACEC	Yes	AMU	560
Pueblo Foothills RNA/ACEC	No	AMU	2,503
Rooster Comb RNA/ACEC	Yes	CMPA	716
South Fork Willow Creek RNA/ACEC	Yes	CMPA	231
Tum Tum Lake RNA/ACEC	No	AMU	2,064

[1]Part of the Kiger Mustang ACEC is in the Mineral Withdrawal Area and the CMPA (31,859 acres), and the rest is in the Three Rivers RA.

The Projects for Implementation EA authorized the removal of numerous fences used in livestock management which will be not utilized in the No Livestock Grazing Area after the 2003 grazing season. In addition, the EA will allow the construction of new fences for managing the No Livestock Grazing Area within the wilderness.

Specific wilderness management provisions are included in Section 202 of the Steens Act :

> (a) GENERAL RULE. - The Secretary shall administer the Steens Mountain Wilderness in accordance with this title and the Wilderness Act (16 U.S.C. 1131 et seq.). Any reference in the Wilderness Act to the effective date of that Act (or any similar reference) shall be deemed to be a reference to the date of the enactment of this Act.
>
> (b) WILDERNESS BOUNDARIES ALONG ROADS. – Where a wilderness boundary exists along a road, the wilderness boundary shall be set back from the centerline of the road, consistent with the BLM's guidelines as established in its Wilderness Management Policy.
>
> (c) ACCESS TO NON-FEDERAL LANDS. – The Secretary shall provide reasonable access to private lands within the boundaries of the Wilderness Area, as provided in section 112(d).

Section 112(e)(1) of the Steens Act states that "The Secretary shall provide reasonable access to nonfederally owned lands or interests in land within the boundaries of the Cooperative Management and Protection Area and the Wilderness Area to provide the owner of the land or interest the reasonable use thereof."

The road setbacks for wilderness boundaries are described in Section 3.18 of this document.

Except for the designated No Livestock Grazing Area, grazing of livestock will continue and be administered in accordance with section 4(d)(4) of the Wilderness Act, the Steens Act, and the guidelines set forth in Appendix A of House Report 101-405 of the 101st Congress.

Provisions of the general BLM wilderness policy in BLM Manual 8560 are as follows:

> 1. To provide for the long term protection and preservation of the area's wilderness characteristics under a principle of nondegradation. The area's natural condition, opportunities for solitude, opportunities for primitive and unconfined recreation, and any ecological, geological or other features of scientific, educational, scenic, or historical value present will be managed so that they will remain unimpaired.

2. To manage the area for the use and enjoyment of visitors in a manner that will leave the area unimpaired for future use and enjoyment as wilderness. The wilderness resources will be the dominant consideration where a choice must be made between preservation of the wilderness characteristics and visitor use.

3. To manage the area using the minimum tool, equipment, or structure necessary to successfully, safely, and economically accomplish the objectives. The chosen tool, equipment, or structure will be the one that least degrades wilderness values temporarily or permanently.

4. To manage nonconforming but acceptable uses permitted by the Wilderness Act and subsequent laws in a manner that will prevent unnecessary or undue degradation of the area's wilderness characteristics and with overall emphasis placed on retaining wilderness characteristics. Proposed actions that may affect wilderness characteristics will be assessed through the appropriate NEPA analysis.

5. The BLM will only approve that combination of routes and nonmotorized modes of travel to nonfederal inholdings that the BLM determines will serve the reasonable purposes for which the nonfederal lands are held or used and cause the least impact on wilderness characteristics.

Except as specifically stated in the Wilderness Act, the following are also prohibited in wilderness (CFR 6310):

- Operate a commercial enterprise;
- Build temporary or permanent roads;
- Build aircraft landing strips, heliports, or helispots;
- Use motorized equipment; or motor vehicles, motorboats, or other forms of mechanical transport;
- Land aircraft, or drop or pick up any material, supplies or person by means of aircraft, including a helicopter, hangglider, hot air balloon, parasail, or parachute;
- Build, install, or erect structures or installations, including transmission lines, motels, vacation homes, sheds, stores, resorts, organization camps, hunting and fishing lodges, electronic installations, and similar structures, other than tents, tarpaulins, temporary corrals, and similar devices for overnight camping;
- Cut trees;
- Enter or use wilderness areas without authorization, where the BLM requires authorization;
- Engage or participate in competitive use, including those activities involving physical endurance of a person or animal, foot races, watercraft races, survival exercises, war games, or other similar exercises; or
- Violate any BLM regulation, authorization, or order.

3.22 Wilderness Study Areas

Until Congress acts on the wilderness recommendations or otherwise releases the existing WSAs for other purposes, they will continue to be managed in accordance with the WSA IMP, the FLPMA, and other applicable laws and policies.

All or portions of 23 WSAs are located within the Planning Area (Table 3.24). The WSAs were modified to account for designation of the Steens Mountain Wilderness in October of 2000. A 3,267-acre parcel in the Bridge Creek and Blitzen River WSAs was released from the management requirements of section 603(c) of the FLPMA under the provisions of the Steens Act and is no longer subject to the WSA IMP. Otherwise, as stated in the Steens Act, "any wilderness study area, or portion of a wilderness study area, within the boundaries of the Cooperative Management and Protection Area, but not included in the Steens Mountain Wilderness, shall remain a wilderness study area." The Steens Act also added 3,840 acres to the Basque Hills WSA.

Management of existing WSAs in the CMPA will continue as directed under the WSA IMP, the Steens Act, and the FLPMA.

Table 3.24: Wilderness Study Areas in the Planning Area

AMU Wilderness Study Areas	Acres	CMPA Wilderness Study Areas	Acres
Alvord Desert	97,760	Blitzen River	31,737
Basque Hills	72,082	Bridge Creek	14,284

AMU Wilderness Study Areas	Acres	CMPA Wilderness Study Areas	Acres
Blitzen River	165	High Steens	13,227
Disaster Peak	3,672	Home Creek	1,165
East Alvord	22,161	Lower Stonehouse	7,449
Hawk Mountain	24,226	South Fork Donner und Blitzen	27,969
Heath Lake	21,197	Stonehouse	22,765
High Steens	739		
Mahogany Ridge	27,053		
Pueblo Mountains	73,547		
Red Mountain	15,659		
Rincon	104,979		
Sheepshead	21,679		
Table Mountain	39,886		
West Peak	8,598		
Wildcat Canyon	8,543		
Willow Creek	2,424		
Winter Range	15,517		
TOTAL	**559,887**	**TOTAL**	**118,596**

3.23 Wild and Scenic Rivers

There are currently three WSRs in the Planning Area, all located within the CMPA. The Donner und Blitzen WSR was designated as "wild" in October 1988 when Congress passed the Omnibus Oregon Wild and Scenic Rivers Act of 1988; the management plan was completed in 1993 (USDI 1993a). The Donner und Blitzen WSR is located within the CMPA and is made up of the following segments; Donner und Blitzen River, Fish Creek, Little Blitzen River, Big Indian Creek, Little Indian Creek, and South Fork Donner und Blitzen River. In 2000, the Steens Act expanded the WSR system by adding three segments to the Donner und Blitzen WSR and designating two new WSRs. "Wild" segments added to the Donner und Blitzen WSR are Ankle Creek (8.10 miles), South Fork of Ankle Creek (1.60 miles), and Mud Creek (5.10 miles). New "wild" rivers are Kiger Creek (4.25 miles) and Wildhorse Creek (two segments - 7.36 miles of Wildhorse Creek and 2.60 miles of Little Wildhorse Creek). These additions bring the total number of miles of WSR to 101.7. The total area within all the WSR corridors including public, state, and private land is 31,482 acres.

The ORVs associated with the Donner und Blitzen WSR include scenic qualities, geologic features, recreation opportunities, native fisheries habitat, abundant wildlife, a wide variety of vegetation communities, a large number of special status plant species, and historic cultural resources.

Kiger, Wildhorse and Little Wildhorse Creeks are also characterized by several ORVs. Wildhorse and Little Wildhorse Creek ORVs include scenic quality, recreation, wildlife habitat diversity, and the presence of special status plant species. The ORVs associated with Kiger Creek include scenic geologic features, diversity of wildlife habitat, and the presence of special status fish species. Ankle and Mud Creek ORVs would be the same as for the Donner und Blitzen WSR as these were new segments added to the existing WSR management plan, as stated in the Steens Act.

WSRs in the CMPA are generally available for recreational visitor use from June to late October. Nearly all the visitor use is from hiking, fishing, hunting and backpacking along the river corridors Visitor use numbers available to date for WSR's are the same as for trails in the CMPA, as those trails are the same as those used to visit the WSR corridors, and are described in the recreation activities section for Little Blitzen River, Big Indian Creek, and Wildhorse Creek. The Blitzen crossing area is utilized for fishing, hunting, hiking, and very occasional rafting. Approximately 300 to 500

visitor use days occur from June to late October annually. There are very limited visitor use data for Fish Creek, Mud Creek, and Ankle Creek, but use levels are lower than those of the big gorges of Little Blitzen River and Big Indian Creek. Page Springs Campground is open year-round and is the trailhead for visiting the north end of the Donner und Blitzen River. Approximately 1,500 visitor use days occur annually from the Page Springs Campground, but most visitors only travel about a mile up the river because the dense vegetation and lack of a defined trail hinders most visitors from traveling further.

The Donner und Blitzen WSR and the newly designated WSRs are managed in accordance with the Steens Act, the WSR Act, the Wilderness Act, the WSA IMP, and the IMP. In instances where management requirements for a stream segment described in the Steens Act differ between the WSR Act and the Steens Mountain Wilderness, the more restrictive requirements apply. The Donner und Blitzen National WSR Management Plan also continues to guide management of the Donner und Blitzen WSR, to the extent that the management plan is consistent with the Steens Act.

All rivers in the Andrews RA were evaluated for WSR eligibility in 1997 for the SEORMP. Eligible rivers that were not designated as WSRs by the Steens Act are listed below with their river mileage, classification and ORVs:

- Big Alvord Creek - 6.3 miles wild, ORVs are wildlife and botanic;
- Willow Creek - 6.2 miles wild, ORVs are botanic;
- Threemile Creek - 4.3 miles scenic, ORVs are fish and cultural;
- Pike Creek - 4.2 miles scenic, ORVs are wildlife;
- Mud Creek - 7.2 miles scenic, ORVs are botanic;
- McCoy Creek- 30.8 miles scenic, ORVs are wildlife;
- Home Creek- 5.5 miles scenic, ORVs are scenic, recreational, and fish;
- Kiger Creek- 14.25 miles scenic, ORVs are scenic, fish, and wildlife;
- Cottonwood Creek - 12.1 miles scenic, ORVs are botanic;
- Van Horn Creek- 9.9 miles scenic, ORVs are recreational; and
- Big Trout Creek - 20.3 miles scenic, ORVs are scenic.

These eligible rivers are generally available for recreational visitor use from April to November depending on the elevation and time of the year. Although visitor use data are limited for these eligible rivers, visitor use is primarily from hiking, backpacking, hunting and fishing and generally receives dispersed visitor use at a lower level than what the CMPA WSRs.

These eligible rivers and creeks have been evaluated for WSR suitability and are included as Appendix N.

3.24 Environmental Justice

The area under study for environmental justice includes the Planning Area, as well as other portions of Harney County.

Minority Population
Table 3.16 summarizes the ethnic composition of the Planning Area, Harney County, and the State of Oregon. Most notable is the higher percentage of American Indians in Harney County, particularly the northern portion of the County (Burns CCD and Drewsey CCD) compared to the State of Oregon. For Oregon, the American Indian population constitutes approximately 1.3 percent of the total. However, in Harney County the percentage is four percent. The percentage of American Indians in the Planning Area, as represented by the Diamond CCD, is 0.8 percent, which is substantially lower than the rest of Harney County and the State of Oregon.

In accordance with EPA's Environmental Justice Guidelines (EPA 1998), these minority populations should be identified when either:

- The minority population of the affected area exceeds 50 percent; or
- The minority population of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

The population of American Indians does not exceed 50 percent, and the population of American Indians occurring in the Planning Area, as represented by the Diamond CCD, is not "meaningfully greater" than the minority population in

the general population, in this case, the State of Oregon. Therefore, for the purposes of screening for environmental justice concerns, the identified populations defined in EPA's guidance (EPA 1998) do not exist within the Planning Area.

Low-Income Populations

The median incomes for the population living in the Harney County area are lower than those in the State of Oregon (see Section 3.12.4). Analysis of the percentage of persons below the poverty level for the State of Oregon and Harney County reveals that they are about the same. These data indicate that a low-income population group, as defined in EPA's guidance (EPA 1998), for the purposes of screening for environmental justice concerns, is not present in the Planning Area.

Based on the above assessment, there could not be disproportional impacts to minority or low-income populations. Although there are no identified populations within the Planning Area, as defined by EPA criteria, there is a potential for impacts to the American Indians should any of the actions impact areas of traditional use. The American Indian population and the Burns Paiute Tribe have not identified any traditional use areas to the BLM within the Planning Area. There is no known potential for anticipated disproportional effects on minority or economically disadvantaged populations within the Planning Area; therefore, Environmental Justice is not further analyzed in the RMP/EIS.

4 ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This chapter analyzes the environmental effects that are projected to occur as a result of implementing land management actions described for each alternative. The baseline used for projected effects is the current condition described in Chapter 3 (Affected Environment). The analysis for each alternative is presented by resource and organized into five sections:

Goals and Objectives

The goals and objectives defined in Chapter 2 are restated for each resource for ease of reference purposes.

Assumptions

Specific assumptions pertinent to the management and analysis of effects for each resource are listed for that resource.

Analysis of Alternatives

This is a description of the possible effects from the proposed management actions. The effect or change is compared to the current management situation, Alternative A. For ease of reading, the analysis shown in the various alternatives may be referenced in following alternative effect discussions; for example, Alternative A may be referenced in following alternative analyses with such statements as, "...effects would be the same as Alternative A...," or "... effects would be the same as Alternative A, except for ....," as applicable.

The Analysis of Alternatives includes a discussion of the Effects Common to All Alternatives, where applicable, prior to the separate alternative analyses. In addition, the effects discussions are split into Direct and Indirect Effects. The Direct Effects section discusses the results of implementing the management actions specified for a given resource on that resource. The Indirect Effects section discusses the effects that may result from the implementation of other resource management activities. For example, an indirect effect to vegetation may result from management actions proposed for fire management.

Summary of Effects

At the end of each resource section is a summary comparison of the effects of implementing the various alternatives and a discussion of how well each meets the stated objectives.

Cumulative Effects

The final section under each resource discussion is a description of the cumulative effects of the past, present and reasonably foreseeable future actions for each alternative. This section also considers effects of other agency actions as well as actions on private land within or adjacent to the Planning Area.

4.1.1 Assumptions

Several general assumptions were made to facilitate the analysis of potential effects. The assumptions listed below are common to all resources. Other assumptions specific to a particular resource are listed under that resource.

- Changes in BLM policies have been made since the current land use plans were approved. This includes the Steens Act, the S&Gs, and other acts and plans listed in Section 1.3 (Existing Management Plans).
- All alternatives would maintain the vegetation resource and meet needs for water, nutrient, and energy cycling.
- Funding and personnel would be sufficient to implement any alternative described and would be the same across all alternatives.
- Monitoring studies would be completed as indicated, and adjustments or revisions would be made as described in the various resource sections and in the Chapter 2 Adaptive Management and RMP Monitoring Sections.
- The approved RMP would remain in effect for 15 to 20 years.

4.1.2 Critical Elements of the Human Environment

The following are critical elements of the human environment addressed in Chapter 3 and 4, subject to requirements specified in statutes, regulations or Executive Orders: air quality; ACECs; cultural/paleontological resources; energy; invasive nonnative species (Noxious Weeds); Native American religious concerns (Native American Traditional Practices); threatened, endangered, candidate, and special status species (Special Status Species); water quality (Water Resources); wetlands/riparian zones; WSRs; and wilderness and WSAs. The alternatives call for varying degrees of resource use and protection. As a result, there are varying degrees or forms of protective management or mitigation for each of these resources or land use allocations. These critical elements would also be considered, as appropriate, in site-specific project NEPA analysis, design, and implementation. Certain critical elements of the human environment were either not present within the Planning Area or else the discussion under the previous chapters have eliminated them from further consideration. These include environmental justice, prime or unique farmlands, floodplains, and hazardous or solid wastes.

4.2 Air Quality

4.2.1 Goals and Objectives

Goal 1 - Maintain, restore, or protect air resources to support public health, visibility, and regional haze standards and goals.

Objective 1. Manage wildland fires to avoid degradation of the airshed.

Objective 2. Manage mining and aggregate operations to avoid degradation of the airshed.

4.2.2 Assumptions

Land managers and the public must make choices regarding prescribed fire and wildland fire use emissions versus emissions from wildland fires. Land managers have little control over where, when, and how much smoke would be generated during wildland fires. Through prescribed fire, smoke levels can be better managed. For example, air quality may be diminished in the short term so that during wildfire events the probability of violating air quality standards in the long term would be decreased. Although some of the alternatives call for a substantial increase in emissions from prescribed fire and wildland fire use, the effects of these emissions would be mitigated to provide for public health and safety. In addition, land managers must contend with the transport of emissions from areas outside of their jurisdiction. These transported emissions affect the ability of land managers to effectively manage air quality issues through implementation of their management actions.

The following assumptions were used in the analysis of effects for air quality: 1) The national ambient air quality standards and Oregon Smoke Management Plan would not become more stringent. 2) The amount of particulate matter and direction of smoke dispersion can be managed in prescribed fire, but not in wildland fire.

4.2.3 Analysis of Alternatives

4.2.3.1 Alternative A

Direct Effects

The current activities result in a potential to emit between 350 and 700 tons of particulates per year over the life of the RMP from wildland fires. An additional amount of particulates would be emitted from prescribed fires. Emissions from mining operations would occur in an amount that would be proportional to the number of operations.

Indirect Effects

Woodlands and Rangelands. These areas would continue to be managed using mechanical vegetation removal as a method to achieve the identified goals and objectives. These activities would result in fugitive dust emissions from the vegetation removal, and combustion emissions from the equipment used to remove the vegetation, which would then affect air quality. These emissions would be directly proportional to the amount of vegetation removed.

Energy and Minerals. These resources would be managed to allow continued development of saleable, leasable, and locatable mineral and energy resources, as well as wind energy. These projects would result in dust and gaseous emissions from a variety of sources, including dust from construction, mining, and processing operations, and gaseous emissions from fuel combustion. These emissions would have an effect on air quality.

Wildland Fire Management. Natural and human-caused fire would be used to achieve the goals and objectives. As discussed above, these fires would continue to affect air quality.

Transportation and Roads. Transportation would be managed to allow continued current and existing uses on roads and ways in the Planning Area. Use of these roads by motorized vehicles would result in continued gaseous emissions from fuel combustion. These emissions would affect air quality.

4.2.3.2 Alternative B

Direct Effects

Emissions from mining operations would not occur under this alternative. Emissions from prescribed fires would be less than Alternative A, because they would be used to a limited degree. Emissions from wildland fires would likely be somewhat greater than under Alternative A.

Indirect Effects

Riparian and Wetlands. Riparian and wetlands would be managed to eliminate roads in the vicinity of these resources. As a result, fugitive dust emissions in the vicinity of these resources would be reduced, thereby having an effect on air quality.

Woodlands. Woodlands would be managed using natural fires for vegetation removal as a method to achieve the identified goals and objectives. These activities would result in combustion emissions, which would then affect air quality. These emissions would be directly proportional to the amount of vegetation burned.

Wildland Juniper Management Area. The WJMA would be managed using mechanical vegetation removal and fire as methods to achieve the identified goals and objectives. These activities would result in fugitive dust emissions from vegetation removal; combustion emissions from equipment used to remove the vegetation; and fires for disposal of removed vegetation, all of which would affect air quality. These emissions would be directly proportional to the amount of vegetation removed or burned.

Wildland Fire Management. Natural and human-caused fire would be used to achieve the goals and objectives. As discussed above, these fires would continue to affect air quality.

Transportation and Roads. Transportation would be managed with road closures and to allow uses on most of the existing roads and ways in the Planning Area. Use of these roads by motorized vehicles would result in gaseous emissions from fuel combustion. These emissions would affect air quality.

4.2.3.3 Alternative C

Direct Effects

Emissions from prescribed and wildland fires would likely be greater than under Alternative A, because the management objectives would not be limited. Emissions from mining operations would not occur under this alternative.

Indirect Effects

Woodlands and the Wildland Juniper Management Area. These areas would be managed using mechanical vegetation removal and fire as methods to achieve the identified goals and objectives. These activities would result in fugitive dust emissions from vegetation removal; combustion emissions from the equipment used to remove the vegetation; and fires for disposal of removed vegetation, which would then affect air quality. These emissions would be directly proportional to the amount of vegetation removed and burned.

Rangelands. Rangeland would be managed using mechanical vegetation removal as a method to achieve the identified goals and objectives. These activities would result in fugitive dust emissions from vegetation removal and combustion emissions from the equipment used to remove the vegetation, which would then affect air quality. These emissions would be directly proportional to the amount of vegetation removed.

Energy and Minerals. These resources would be managed to allow development of saleable, leasable, and locatable mineral and energy resources, as well as wind energy. These projects would result in dust and gaseous emissions from a variety of sources, including dust from construction, mining, and processing operations, and gaseous emissions from fuel combustion. These emissions would have an effect on air quality.

Wildland Fire Management. Natural and human-caused fire would be used to achieve the goals and objectives. As discussed above, these fires would continue to affect air quality.

Transportation and Roads. Transportation would be managed with road closures and to allow uses on most of the existing roads and ways in the Planning Area. Use of these roads by motorized vehicles would result in gaseous emissions from fuel combustion. These emissions would affect air quality.

4.2.3.4 Alternative D

Direct Effects

Emissions from prescribed and wildland fires would likely be somewhat greater than under Alternative A, because the management objectives would not be limited. Ideally, a limited amount would be burned, but this would enable landscape-scale objectives to be achieved in years when opportunities would be available. Emissions from mining operations would occur in an amount proportional to the number of operations.

Indirect Effects

Woodlands and the Wildland Juniper Management Area. These areas would be managed using mechanical vegetation removal and fire as methods to achieve the identified goals and objectives. These activities would result in fugitive dust emissions from the vegetation removal; combustion emissions from the equipment used to remove the vegetation; and fires for disposal of removed vegetation, which would then affect air quality. These emissions would be directly proportional to the amount of vegetation removed and burned.

Rangelands. These areas would be managed using mechanical vegetation removal as a method to achieve the identified goals and objectives. These activities would result in fugitive dust emissions from the vegetation removal, and combustion emissions from the equipment used to remove the vegetation, which would then affect air quality. These emissions would be directly proportional to the amount of vegetation removed.

Energy and Minerals. These resources would be managed to allow development of saleable, leasable and locatable mineral and energy resources, as well as wind energy. These projects would result in dust and gaseous emissions from a variety of sources, including dust from construction, mining, and processing operations, and gaseous emissions from fuel combustion. These emissions would have an effect on air quality.

Wildland Fire Management. Natural and human-caused fire would be used to achieve the goals and objectives. As discussed above, these fires would continue to affect air quality.

Transportation and Roads. Transportation would be managed with road closures and to allow uses on most of the existing roads and ways in the Planning Area. Use of these roads by motorized vehicles would result in gaseous emissions from fuel combustion. These emissions would affect air quality.

4.2.3.5 Alternative E

Direct Effects

Emissions from prescribed and wildland fires would likely be somewhat greater than under Alternative A, because the management objectives would be limited. Emissions from mining operations would occur in an amount that would be proportional to the number of operations.

Indirect Effects

Woodlands and the Wildland Juniper Management Area. These areas would be managed using mechanical vegetation removal and fire as methods to achieve the identified goals and objectives. These activities would result in fugitive dust emissions from vegetation removal; combustion emissions from the equipment used to remove the vegetation; and fires for disposal of the removed vegetation, which would then affect air quality. These emissions would be directly proportional to the amount of vegetation removed and burned.

Rangelands. Rangeland would be managed using mechanical vegetation removal as a method to achieve the identified goals and objectives. These activities would result in fugitive dust emissions from vegetation removal, and combustion emissions from the equipment used to remove the vegetation, which would then affect air quality. These emissions would be directly proportional to the amount of vegetation removed.

Energy and Minerals. These resources would be managed to allow development of saleable, leasable, and locatable mineral and energy resources, as well as wind energy. These projects would result in dust and gaseous emissions from a variety of sources, including dust from construction, mining, and processing operations, and gaseous emissions from fuel combustion. These emissions would have an effect on air quality.

Wildland Fire Management. Natural and human-caused fire would be used to achieve the goals and objectives. As discussed above, these fires would continue to affect air quality.

Transportation and Roads. Transportation would be managed with road closures and to allow uses on most of the existing roads and ways in the Planning Areas. Use of these roads by motorized vehicles would result in gaseous emissions from fuel combustion. These emissions would affect air quality.

4.2.4 Summary of Effects

The alternatives have the potential to emit varying amounts of particulate matter into the atmosphere over the life of the RMP. The air quality goal should be met because of the ability to manage emissions in prescribed fire. Since wildland fire would be a random event, the alternatives encompassing large amounts of particulate emissions have the potential to exceed the stated management goal for air quality. Due to the relative isolation of the area and the predominate wind patterns for smoke dispersion, the probability would be low that the airshed would be degraded. Alternatives C through E would all likely have greater effects than Alternative A. Alternative B would likely have the least potential effects. Alternative C would likely have the greatest potential effects.

4.2.5 Cumulative Effects

Smoke from prescribed or wildland fires burning simultaneously on adjacent BLM Districts (Lakeview District, Prineville District, Vale District and Winnemucca Field Office), and on private lands and state lands, would affect the air quality of southeastern Oregon. Prevailing winds in the area are south and southwesterly. As a result, multiple fires could degrade the air quality in the Planning Area. It would not likely that several prescribed fires would occur at the same time since burn plans would be coordinated with other BLM, USFS, and ODF offices. However, large wildland fires or escaped prescribed fires could occur in a number of areas at one time, resulting in air quality degradation for a short period of time.

4.3 Water Resources

4.3.1 Goals and Objectives

Goal 1 - Maintain, restore, or improve water quality and quantity to sustain the designated beneficial uses on public lands.

Objective 1. Comply with state and federal requirements to protect public waters.

Objective 2. Protect all designated beneficial uses by preventing or limiting nonpoint source pollution; maintain or improve existing water quality and quantity though implementation of BMPs.

Objective 3. Manage impaired waters on public lands listed under Section 303(d) of the CWA to restore beneficial uses and improve water quality so listing would no longer warranted.

4.3.2 Assumptions

Water quality and quantity would be dependent on the condition of resources throughout the watershed, including soils, upland vegetation, and especially riparian vegetation. Therefore, management actions that affect the condition of these resources may influence water quality and quantity. Water quantity would be primarily influenced by watershed functions (e.g., capture, storage and beneficial release of precipitation). This would be achieved through vegetation management, particularly in riparian areas where floodplains have the capacity to store water. Nonpoint source pollution, such as elevated water temperature and sediment input, would be the primary water quality issue regarding public lands management. Water quality would be managed to comply with CWA requirements under all management alternative themes. Several management actions in the sections describing environmental effects on water resources, particularly under riparian vegetation, would be specifically intended to maintain or restore water quality.

BMPs are recognized as the best way to maintain and restore water quality and quantity. BMPs range from specific practices designed to protect water quality at individual sites (such as installation of silt fences during road crossing maintenance) to management actions designed to reduce potential water quality effects due to recreation, grazing, or other activities. BMPs such as water developments (e.g., reservoirs and spring developments) can function for multiple beneficial uses. These types of actions directly provide additional and alternative water sources for wildlife and livestock, and indirectly decrease use of, and effects to, riparian vegetation. Reservoirs further function to detain runoff and increase infiltration, as well as trap potential sediment associated with overland flow. The effectiveness of BMPs relies on using appropriate measures, adequate implementation, and monitoring of both implementation and effectiveness. Where management prescriptions call for BMPs to protect or restore water quality, it would be assumed that BMPs would be selected and implemented appropriately; monitoring of BMP implementation and effectiveness would be conducted; and monitoring data would be used in an adaptive management framework to provide that BMPs would be reasonably effective. Implementation and effectiveness of BMPs should incorporate the physical progression of stream channel adjustment and ecological progression of growth and expansion of vegetation in monitoring and evaluation.

WQRPs and associated BMPs would be developed and implemented to support Water Quality Management Plans and TMDLs developed by the DEQ for water quality limited streams, lakes, or other bodies of water identified pursuant to the CWA, section 303(d) in the Planning Area. The WQRPs would serve as the mechanism for defining project specific BMPs and outlining implementation and effectiveness monitoring for waters identified as not meeting state water quality standards.

Portions of many water bodies throughout the Planning Area would not be managed by the BLM. In these situations, BLM management actions alone may not be sufficient to restore water quality. To restore water quality, it would be assumed that in mixed ownership watersheds, BLM WQRPs would be part of Water Quality Management Plans developed by the DEQ in coordination with the ODA and surrounding landowners.

4.3.3 Analysis of Alternatives

4.3.3.1 Effects Common to All Alternatives

Direct Effects

BMPs would be prescribed and implemented at the activity plan level to reasonably prevent degradation of water quality. Management actions that could affect water quality and quantity include site-specific or broad-scale projects that occur near water bodies associated with rangeland, grazing, recreation, transportation, minerals, and wildland fire management. The specific BMPs used in each instance would be selected during development of activity plans. For example, silt fences or other soil containment structures may be used to control sediment movement into water during construction or maintenance projects. In the case of allotment or recreation management plans, BMPs would include management actions designed to maintain or restore water quality and quantity. Grazing management might include modification of season or place of use and/or development of off-channel water to restore actively eroding banks, thereby limiting sediment introduced to the stream. The application of BMPs in this fashion should reduce direct alteration of stream channels and the amount of sediment entering the water. These BMPs should also increase stream shading through maintenance or restoration of riparian vegetation, and improve the function of floodplain processes, such as floodwater retention and ground water storage. In some locations, disturbance to riparian vegetation or to stream channels may occur at localized scales to promote the large-scale maintenance or improvement of riparian vegetation, bank stability, and water quality through implementation of BMPs such as livestock or wild horse water gaps or designated camping areas. BMPs would also be directed toward management practices to facilitate maintenance or improvement of attributes

identified through PFC assessment, such as channel geometry or vegetation characteristics. BMPs designed to reduce channel width-to-depth ratios by stabilizing streambanks and increasing riparian vegetation, would tend to increase shade and reduce stream temperature. Increases in the density and distribution of riparian vegetation would stabilize streambanks, shorelines, and floodplains, reducing erosion and the amount of sediment reaching water bodies.

Waters identified on the 303(d) list would be evaluated to validate impairment or improvement following the listing, and for those water bodies where required, WQRPs or other sufficiently stringent measures would be developed to restore water quality. These management actions would remove impaired waters from the 303(d) list, and would improve water quality and restore beneficial uses in these watersheds.

Indirect Effects

Riparian and Wetlands. Prescriptions at the activity plan level would be implemented or continued to manage riparian/wetland vegetation to maintain or progress toward PFC. While vegetation communities in PFC would not be necessarily at site potential or ecological potential, PFC represents a condition where potential erosion and sediment production would be reduced, and establishes a base condition to implement actions relative to specific values such as water quality and quantity. In streams not currently at PFC, management directed to maintain or progress toward PFC would increase the density and coverage of riparian vegetation, which would stabilize streambanks and floodplains, reducing erosion and sediment delivery to water bodies. Increased density of riparian vegetation may also result in greater canopy cover and may narrow stream channels, buffering stream temperature. In streams currently at PFC, this management action would provide for maintenance of PFC and associated water quality conditions.

BMPs would be prescribed and implemented at the activity plan level to maintain, restore, or improve floodplain function and process across all alternatives. Functioning floodplains filter in-channel or upland generated sediment during runoff events, and store ground water during wet periods and release it to adjacent streams during drier months. BMPs designed to maintain or restore floodplain function would decrease stream sediment input and potentially increase summer stream flow. Flow contributions from adjacent riparian and floodplain areas would contribute to reduced stream temperature.

Establishment and maintenance of local riparian vegetation in a nursery-type facility would contribute to riparian restoration efforts to maintain or restore water quality through increased shading and bank stability.

Noxious Weeds. Noxious weed prevention and control would continue to be a priority in all alternatives. Noxious weeds invade native plant communities, including riparian vegetation, resulting in degraded plant community structure, cover, composition, and diversity. Erosion and runoff both tend to increase as a result. Reduced cover may also result in reduced shade and increased water temperature. The priority on noxious weed prevention and control would reduce these effects on water resources.

Effects to water quality and associated beneficial uses through the potential introduction of chemicals into water would assumed to be minimized or avoided through appropriate application techniques according to label restrictions and BLM guidance.

Fish and Wildlife. As noted in Chapter 2, aquatic habitat values would be the products of the attributes and processes of properly functioning riparian and aquatic systems at a desired ecological status. Therefore, the maintenance, restoration, or improvement of riparian and aquatic habitat to support fish and wildlife would be primarily addressed in the alternatives identified under Water Resources, Vegetation, and Special Status Species. The broad objective under Fish and Wildlife to maintain, restore, or improve habitat, generally promotes water quality maintenance, improvement or restoration.

Grazing Management. In areas where grazing would be determined to be contributing to nonattainment of water resource objectives, changes in management would be implemented. These changes in management would be designed to reasonably prevent nonpoint source pollution and contribute to maintenance or restoration of water quality, such as increases in riparian and upland vegetation density and structure, reduced erosion, increased streambank stability, and increased stream shade. However, the effects of livestock grazing such as soil compaction, soil disturbance, and streambank destabilization, with corresponding sediment input, may continue pending project-specific objective development and management implementation through allotment evaluation and management planning. The effects may also continue after implementation due to a lag in recovery processes such as channel adjustment and riparian vegetation establishment.

Areas burned by wildland or prescribed fire would be rested for a minimum of two growing seasons, and until monitoring data support resumption of grazing. This would allow vegetation to increase in density, and would reduce erosion and sediment delivery to water bodies.

Wildland Fire Management. Fire suppression actions may result in initial effects to water quality in the form of increased sediment delivery associated with constructed fire breaks, water dipping or pumping, and overland travel. However, suppression actions may not increase sediment delivery over the effects of the fire itself, such as reduced vegetation cover and increased erosion potential. The limitation of fire extent through suppression activities likely reduces the total potential sediment produced during a single fire event. All burned areas would be evaluated for rehabilitation. Rehabilitation activities may result in initial increases in erosion and soil compaction, thereby increasing sediment and runoff delivered to stream channels, although these activities may not increase sediment delivery over the effects of the fire itself. Over longer timeframes, revegetation would progress more quickly in rehabilitated areas, reducing the amount of sediment produced. Also, the potential effects of rehabilitation activities could be reduced through application of BMPs.

An FMP would be developed to identify areas that possess significant natural resource values. Fire management strategies based on protecting natural resource values would assist in protecting water quality.

Transportation and Roads. Current BLM mapping does not include all routes within the CMPA. Unmapped routes would be inventoried, and an EA would be conducted to determine their disposition. Water quality effects would be addressed through site-specific analysis in the EA.

BMPs would be used for the construction, maintenance, and general management of the transportation system (Appendix F). Properly implemented and monitored, these BMPs reduce erosion, alteration of surface water flow paths, disturbance to riparian vegetation, and alteration of stream channels. Use of BMPs would reduce potential sediment and runoff delivered to water bodies.

Wilderness Study Areas. Under the WSA IMP, some constraints may be placed on watershed rehabilitation and vegetative manipulation of noxious weeds and exotic plants (e.g., cheatgrass) to protect wilderness values. Only aerial or hand seeding of native species may be allowed to restore natural vegetation, and land treatments (e.g. trenching, ripping, terracing, plowing) would not be permitted on lands under wilderness review. Although use of nonnative vegetation would not be expressly prohibited, it would be generally implied. If interpretation of the WSA IMP precludes the use of nonnative vegetation in site preparation for the establishment of native vegetation, or effective mechanical seedbed preparation and seeding techniques to restore riparian and/or adjacent upland vegetation communities (Riparian and Wetlands: 2.5.2.1.2; Alternatives C, D, and E), the Water Resources goal and objectives may not be achieved in the affected areas.

4.3.3.2 Alternative A

Direct Effects

Water resources would continue to be maintained or restored through management of riparian and adjacent uplands based on site or reach management objectives. Management would be modified, where necessary, through WQRP prescriptions and associated activity plans. These actions would be designed to increase bank stability and thermal buffering by increasing riparian vegetation density and distribution. Water quality improvements would be expected as WQRPs would be developed and implemented, and riparian vegetation would be restored and erosion reduced. Nonattainment of water temperature standards in current and potential future 303(d) listed water, as well as potential future listings associated to other water quality constituents, may continue due to lag between the implementation of restoration actions and recovery of riparian vegetation and stream channels.

Indirect Effects

Soils and Biological Soil Crusts. BMPs would be implemented to protect and manage soil for all ground-disturbing activities. This would reduce surface erosion and sediment introduction to stream water bodies. Also, compaction of soils would be reduced, maintaining infiltration capacity of existing soils, preventing erosion due to increased overland runoff, and maintaining the ability of soils to store water that can be released to streams at low flow periods.

Riparian and Wetlands. Existing grazing, recreation and transportation systems and improvements to maintain PFC would continue. Outside of areas affected by WQRPs or other special planning requirements (e.g., WSRs), riparian/wetland areas would not necessarily be managed to attain an advanced ecological status, although in many areas management to maintain or promote PFC may also promote an advanced ecological status. Sources of localized tree and shrub source material for restoration would continue to be established and maintained. These sources would assist in restoring riparian vegetation and subsequently decrease potential sediment and solar input to water bodies.

Roads located outside the CMPA and associated Transportation Plan, within or affecting riparian areas, would be maintained and developed in conformance with existing laws and regulations. Although BMPs would be applied to minimize or eliminate the effects of roads on water quality, the development and management of roads would be based on all resource management objectives. The potential effects of roads on water resources, including erosion and reduction of riparian vegetation density and coverage, would be addressed on a case-by-case basis.

Beaver populations would be allowed to expand naturally under this alternative. Beaver expansion into riparian and wetland areas without sustainable levels of riparian vegetation could result in reduced bank stability and shade, and subsequent increased sediment input and water temperature. Abandoned beaver dams could wash out, reduce channel stability, and increase sediment load. Beaver expansion into riparian communities with sustainable levels of riparian vegetation could result in riparian vegetation expansion and increased in-channel and streambank water storage that would moderate summer stream temperatures and trap sediment.

Woodlands. Mechanical removal and prescribed fire treatments to reduce the presence and influence of western juniper on upland and riparian plant communities could result in short-term effects to water quality in the form of increased sediment delivery to stream channels associated with surface runoff. However, because the invasion of juniper has resulted in the loss of ground cover and increased erosion, juniper treatment would not be likely to increase sediment production over existing conditions. The potential to affect increases with proximity to water and increased topography. Application of BMPs based on site-specific analysis would minimize or mitigate potential short-term sediment input. Reduced western juniper canopy cover would be expected to reduce interception and sublimation of precipitation, increase vegetative ground cover, reduce sediment input, and subsequently increase water infiltration and other watershed functions in upland areas. Reducing competition from juniper in riparian/wetland areas would facilitate passive and active restoration efforts to maintain or improve the density of riparian vegetation, contributing to decreased sediment input and increased thermal buffering along streams. The anticipated long-term effects of juniper treatment at a landscape level would be increased infiltration, reduced runoff, reduced erosion, moderation of peak stream discharge, and increased summer stream flows.

Rangelands. The ecological status of native plant communities would be maintained or improved. Plant density and coverage in these communities would be maintained or increased, resulting in decreased erosion and potential sediment delivery to water bodies.

Prescribed fire would be used to promote ecologically desirable traits in the range plant community. Over short timeframes (one to two years), prescribed fire may result in increased erosion potential due to loss of vegetative cover, and may result in increased runoff. However, these effects may be mitigated by applying appropriate BMPs during prescribed burns, and restoration of burned areas. Long-term effects of this practice on water resources could include increased watershed function. The vegetation goals of prescribed fires, which include reduced dominance of woody vegetation and release of desirable plants, would result in increased ground cover and increased infiltration of precipitation. This would reduce sedimentation into water bodies and potentially increase stream flow during the summer.

The mechanical removal of woody vegetation to create a mosaic of successional stages in range vegetation would result in some soil disturbance and compaction over short timeframes, potentially resulting in localized increased erosion and runoff. These effects could be mitigated by applying appropriate BMPs, and restoration or rehabilitation of treated areas. Long-term effects of this practice would be reduced dominance of woody vegetation and release of desirable plants, which would result in increased ground cover and increased infiltration of runoff. This would reduce sedimentation in water bodies and potentially increase stream flow during the summer.

Special Status Species. Goals and objectives for the management of riparian- dependent and aquatic special status species promote the objectives for water quality. The management of special status species habitat for conservation and/or recovery would have water resource effects in water bodies where redband trout or other special status animals would be found, as habitat conservation or improvement would include vegetation management to buffer stream temperatures and reduce erosion.

Energy and Minerals. Current management of locatable mineral entry would continue. Locatable mineral development could occur in some locations within the Planning Area where not restricted by other regulations. Depending on the size, nature, and location of the development, effects on water resources could include increased erosion due to road development and vegetation disturbance, water pollution from toxic or deleterious substances, or disruption of ground water hydrology through mine development. However, special stipulations would be identified through NEPA review for a mining Plan of Operations and by ID team review for a mineral exploration Notice that would partially or fully mitigate these effects.

Leasing and development of oil and gas, geothermal, and solid leasable mineral resources would continue under the current management framework. NSO or other seasonal or special stipulations would be applied and identified by an ID team immediately prior to leasing. Depending on the size, nature, and location of the development, effects on water resources could include increased erosion due to road development or vegetation disturbance, water pollution from toxic or deleterious substances, or disruption of ground water hydrology through well or mine development. Special stipulations developed through NEPA review would partially or fully mitigate these effects.

Saleable minerals development would be permitted under this alternative on a case-by-case basis. Depending on the size, nature, and location of the development, effects on water resources could include increased erosion due to road development or vegetation disturbance, or disruption of ground water hydrology through well or mine development.

Renewable energy authorization would be managed under current planning framework, with no exclusion or avoidance areas except where current law or regulations require. Water quality effects from renewable energy development would likely be limited due to the nature and location of this development. However, erosion from road development or vegetation disturbance could occur.

Wild Horses and Burros. Current AMLs and wild horse forage allocation levels would be maintained in all HMAs. Decreases in forage availability, such as extensive wildfire and/or drought, and reduced water availability due to drought could increase wild horse concentration and use in riparian areas associated with perennial or more persistent water sources. Increased concentration could result in bank disturbance through trampling, and reduced riparian vegetation cover and corresponding increased sediment input and reduced stream shading. However, this should be mitigated through emergency horse gathers.

Wildland Fire Management. Management actions to reduce fuels and/or restore historic fire regime would increase watershed function and reduce the occurrence of wildland fire through riparian/wetland areas. This would facilitate maintenance and persistence of riparian/wetland vegetation, and subsequent maintenance or improvement of water quality and quantity. Mechanical treatments or prescribed fire could result in initial effects such as soil compaction and increased erosion. These effects could be reduced through application of BMPs. Over the long term, reduction of fuel loading would reduce the risk of catastrophic fire, and therefore reduce potential disturbance of vegetation communities, erosion, and sediment delivery to water bodies.

Recreation. Recreational use could result in localized disturbance to riparian and wetland vegetation and soil compaction, thereby causing erosion and sediment production and reducing shade. Intensive management of some areas s could provide greater protection for water resources through more immediate identification and resolution of conflicts between recreation and other resources.

4.3.3.3 Alternative B

Direct Effects

As in Alternative A, BMPs would be prescribed and implemented to facilitate maintenance or improvement of attributes identified through assessments, with the same effects. An assessment component would be added to identify and protect stream reaches or sites that provide cold water habitat in streams where temperature limits the abundance of aquatic species. These cold water refuges, created by spring seeps, geologic structure or faulting, or the characteristics of sedimentary deposits, would be important to providing water quality to meet beneficial cold water uses in the arid desert climate of the Planning Area. Active identification, assessment, and management of these areas would help maintain or improve water resources in these areas, providing more site-specific protection for beneficial uses (i.e. trout spawning and /or rearing habitat).

Management of perennial and intermittent streams to progress toward an advanced ecological status of riparian vegetation would emphasize management for riparian resource values, such as riparian density, structure, and cover that would maintain or improve water quality and quantity relative to capabilities and time frames of natural processes.

Under this alternative the WQRPs would generally be guided by stream/watershed prioritization (Table 2.1). As with Alternative A, water resources would improve over time, based on the prioritization schedule; short-term degradation of water resources may occur in some areas prior to the implementation of WQRPs, and relative to recovery processes. However, to restore impaired waters, the prioritization schedule should provide for efforts that would be directed toward areas most likely to respond to management, and toward areas most important for special status species, WSRs, and wilderness.

Under this alternative, active restoration (i.e. planting riparian vegetation) directed toward water quality would be limited to areas not likely to progress toward an advanced ecological status within the next 20 to 50 years.

Indirect Effects

Soils and Biological Soil Crusts. Natural processes would be allowed to dictate soil conditions except where management would be necessary to arrest excessive soil movement on critical sites. If other management activities and uses throughout the Planning Area remained at current levels, this management action may result in increased soil disturbance, compaction, and erosion.

Riparian and Wetlands. Activity plan management prescriptions or WQRP prescriptions promoting maintenance or improvement of riparian conditions would be developed similar to Alternative A, but would be guided by stream/watershed prioritization along with consideration of new circumstances and emerging opportunities. Under this alternative, riparian management prescriptions would be generally prioritized over the entire project area, potentially providing greater improvements in water quality for beneficial uses than under Alternative A.

Similar to Alternative A, this alternative would direct management of existing grazing systems and improvements in the CMPA to maintain PFC and promote maintenance or progress toward an advanced ecological status. This could result in increased density and structure in the riparian community, reducing erosion and water temperature.

Similar to Alternative A, establishing sources of localized tree and shrub source material for restoration would assist in restoring riparian vegetation. However, restoration actions (i.e., planting riparian vegetation) would be limited to areas that would not be likely to achieve an advanced ecological status in a 20 to 50 year timeframe.

Transportation and Roads. Roads within or providing access to riparian areas would be inventoried and routes that affect riparian areas would be eliminated, relocated, or reconstructed. Natural recovery of roads would be allowed in areas where erosion potential would be low and recovery potential would be high; active restoration of roads would be pursued in other areas. Road crossings would be evaluated and modified, as necessary, to simulate natural stream function and processes. All of these actions related to roads would decrease disturbances to riparian vegetation, expand riparian vegetation, increase vegetation cover, reduce erosion, increase shade, reduce sediment in streams, and buffer stream temperature.

Beaver populations would be managed as in Alternative A, with the same effects.

Woodlands. Under this alternative, no mechanical removal of juniper would occur, thereby reducing the short-term effects of disturbance from this practice as described under Alternative A. Where fire would be successful in reducing competition of juniper, riparian vegetation would likely increase in density and structure, thereby reducing erosion and increasing shade. Reliance on fire without mechanical manipulation may preclude or reduce the effectiveness of reducing competition of juniper in riparian/wetland areas. Reduced ground cover and suppression of riparian/wetland vegetation could increase sediment input to streams from overland flow and stream bank erosion.

Wildland fires that occur in quaking aspen and mountain mahogany stands would be allowed. Short-term effects may include increased erosion. Over long timeframes, restoration of the native vegetation and fire regimes would likely reduce erosion and improve other watershed functions, such as infiltration and ground water storage.

Rangelands. The ecological status of native plant communities would be defined by natural processes. In most locations, this would likely result in maintenance or increase in ecological status, with effects similar to Alternative A. In some

highly disturbed locations, vegetation communities may not progress toward higher ecological status, resulting in decreased cover, reduced infiltration, and increased sediment and runoff to water bodies.

Wildland fire would be used to promote ecologically desirable traits in the range plant community. Short-term effects would be similar to Alternative A. Long-term effects of this practice would also be similar to Alternative A, though improved watershed function may occur more quickly as both natural and prescribed fire would be used to promote desirable vegetation characteristics.

Noxious Weeds. Treatment for noxious weeds under this alternative would be only for high priority areas. In areas treated, effects on water quality would be similar to those in Alternative A. In areas that would not be treated, vegetation community function would be reduced, and would likely lead to increased erosion and runoff.

Special Status Species. Management prescriptions for special status species would have water quality effects similar to those in Alternative A, except that conservation and/or recovery would emphasize allowing natural processes to occur in all cases except where designated critical habitat of federally listed species occur. In some cases where habitat of special status species has been degraded and would not be likely to recover in the timeframe of this RMP, sediment and/or temperature improvements may not occur as quickly under this alternative.

Redband Trout Reserve. The Page Springs gauging station weir would be assessed for removal or modification under this alternative. If removal or modification were undertaken, short-term effects could include increased erosion and sedimentation. Incorporation of BMPs and resource protection into modification or removal designs could minimize or mitigate these effects.

Energy and Minerals. The entire Planning Area would be withdrawn from locatable mineral entry. No water resource effects would result from locatable mineral development.

The entire Planning Area would be closed to leasing and development of oil and gas, geothermal, and solid leasable mineral resources. No water resource effects would result from energy leasing and development.

The entire Planning Area would be closed to saleable minerals development. No water resource effects would result from saleable minerals development.

The entire Planning Area would be considered a renewable energy authorization exclusion area. No water resource effects would result from renewable energy development.

Wild Horses and Burros. Current AMLs and wild horse forage allocation levels would be maintained in all HMAs. However, permanent increases or decreases in AMLs and forage allocations would be considered if forage availability changed greatly. Adjustments in AMLs and forage allocations could reduce the risk of increased utilization by wild horses and burros, thereby improving vegetation cover and structure, and reducing erosion.

Current water sources would be maintained, with similar water resource effects. However, additional water sources would also be developed to improve animal distribution. If properly located and maintained, these water sources would reduce wild horse and burro concentration and use in riparian areas, thereby reducing soil compaction and increasing riparian vegetation coverage and density. This in turn reduces erosion and increases shade, reducing sedimentation and temperature.

Grazing Management. Under this alternative, grazing would be eliminated in the AMU. In some areas, riparian vegetation may progress more quickly to PFC and to an advanced ecological status than in Alternative A. This may result in increased cover and canopy, thereby reducing erosion and temperature. Potential effects of grazing such as soil disturbance, soil compaction, and streambank destabilization, with associated erosion and sedimentation, would be eliminated.

Nonconsumptive uses would be emphasized in the CMPA. Water resource values may receive a higher emphasis under this management, providing more protection for riparian soils and vegetation, and reducing sediment and temperature inputs to water bodies.

Wildland Fire Management. Wildland fires that threaten property, human life, or significant resource values would be suppressed, and a plan to manage wildland fires for resource benefit would be developed. Where fires would be suppressed, short-term effects may include reduced sedimentation due to reduced erosion and maintenance of vegetation communities. Over the long term, management of wildfire for resource benefit would likely reduce water quality effects associated with the occurrence of larger, hotter fires with respect to Alternative A.

As in Alternative A, mechanical treatments or prescribed fire would be used to reduce fuel loading, with the same effects.

Recreation. Minimal recreation management could reduce recreation opportunities and use through much of the Planning Area. Reduced use could result in less localized disturbance to riparian and wetland vegetation, thereby increasing aquatic habitat cover and shade. Minimal recreational management may provide less protection for water resources, as conflicts between recreation and resources may be less likely to be identified and resolved.

4.3.3.4 Alternative C

Direct Effects

As in Alternative B, BMPs would be prescribed and implemented, and an assessment component would be added to identify and protect stream reaches or sites that provide cold water habitat in streams where temperature limits the distribution of aquatic species, with the same effects.

As in Alternative B, perennial and intermittent waters would be managed to maintain or progress toward an advanced ecological status.

As in Alternative B, WQRPs would be generally guided by stream/watershed prioritization (Table 2.2), with the same effects.

Under this alternative, active restoration may be pursued to initiate or increase the rate of progress toward an advanced ecological status. In disturbed or degraded areas, where natural rates of recovery may be slow, this action would increase vegetative cover and improve riparian community structure, reducing sediment input and increasing thermal buffering.

Indirect Effects

Soils and Biological Soil Crusts. As in Alternative A, BMPs would be implemented to protect and manage soil for all ground-disturbing activities, with the same effects.

Riparian and Wetlands. As in Alternative B, activity plan management prescriptions or WQRP prescriptions promoting improved riparian conditions would be developed and would be generally guided by stream/watershed prioritization, with the same effects.

As in Alternative B, this alternative would direct management of existing grazing systems and improvements to maintain PFC and would promote an advanced ecological status, which could result in increased density and structure in the riparian community, thereby reducing erosion and water temperature. In addition to Alternative B, both active and passive management and/or restoration of vegetation may be pursued. Some vegetation communities currently in degraded condition would develop coverage and structure more quickly under this alternative than under Alternatives A or B, reducing erosion and stream temperature.

Upland vegetation communities adjacent to riparian areas would be managed to reduce fire frequency and intensity as in Alternative B, with the same effects.

The establishment of sources of localized tree and shrub source material for restoration would be the same as for Alternative A, with the same effects.

Roads within or providing access to riparian areas would be managed the same as in Alternative B, with the same effects.

Beaver populations would be allowed to expand naturally as in Alternatives A and B, with the same effects. In addition, beaver would be reintroduced into suitable habitat. Since reintroduction areas would have suitable habitat for beaver, increases in vegetative utilization would be sustainable. The effects of reintroduction would therefore tend to include expansion of riparian vegetation, increased streambank stability, increased shade, and reduced erosion.

Woodlands. Mechanical removal of western juniper from quaking aspen and mountain mahogany stands would have the same effects as in Alternative A. Under this alternative, burning of quaking aspen stands would also have the same effects as in Alternative A. As in Alternative B, fire would be allowed in quaking aspen and mahogany stands to reduce the dominance of juniper, with the same effects.

Mechanical removal of juniper in riparian and sagebrush habitats would have the same effects as in Alternative A. Fire would be allowed to reduce western juniper influence in riparian habitats as in Alternative B, with the same effects.

Rangelands. The ecological status of native plant communities would be defined by minimizing emphasis on commodity production, and instead emphasizing natural values such as diversity and structure. Native plant communities would likely become more widespread, with variable effects.

Only natural fire would be used to promote ecologically desirable traits in the range plant community. Short-term effects would be similar to Alternative A. Long-term effects of this practice would be the same as in Alternative A.

The mechanical removal of woody vegetation to create a mosaic of successional stages in range vegetation would be similar to Alternative A, though only on selected sites. Effects would be similar to those described for Alternative A.

Noxious Weeds. As in Alternative B, treatment for noxious weeds under this alternative would be only for high priority areas, with the same effects.

Special Status Species. Management prescriptions for special status species would have water quality effects the same as those in Alternative A.

Redband Trout Reserve. As in Alternative B, the Page Springs gauging weir would be evaluated for removal or modification under this alternative, with the same effects.

Energy and Minerals. Important resource areas would be withdrawn from locatable mineral entry, including big game winter range, and areas containing special status species. In these areas, effects of locatable mineral development on water resources would be eliminated. In the rest of the Planning Area, effects would be similar to Alternative A.

Important resource areas would be closed to leasing and development of oil and gas, geothermal, and solid leasable mineral resources, including big game winter range, and areas containing special status species. In these areas, effects of energy development on water resources would be eliminated. In the rest of the Planning Area, effects would be similar to Alternative A. In addition, areas would be designated for NSO where natural values would be impaired by surface disturbance, and seasonal or other special stipulations would be designated where natural values would be impaired by seasonal leasing activities. Depending on the type of stipulation, water resource effects may be reduced.

Saleable minerals development would not be permitted in important resource areas, including areas containing special species habitat. In these areas, effects of saleable mineral development on water resources would be eliminated. In the rest of the Planning Area, effects would be similar to Alternative A.

Renewable energy authorizations would be excluded from ACECs, WSAs, WSRs, the Steens Mountain Wilderness, and the CMPA. In these areas, effects of renewable energy authorizations on water resources would be eliminated. In the rest of the Planning Area, effects would be similar to Alternative A.

Wild Horses and Burros. As in Alternative B, permanent increases or decreases in AMLs and forage allocations would be considered if forage availability changed greatly, with the same effects. Water sources for wild horses and burros would be managed as in Alternative B, with the same effects.

Grazing Management. Nonconsumptive uses would be emphasized in both the AMU and the CMPA. Water resource values may receive a higher emphasis under this management, providing more protection for riparian soils and vegetation, thus reducing sediment load and temperature inputs to water bodies.

Wildland Fire Management. As in Alternative B, wildland fires that threaten human life, private property, or significant resource values would be suppressed, and a plan to manage wildland fires would be developed, with the same effects.

As in Alternative A, mechanical treatments or prescribed fire would be used to reduce fuel loading, with the same effects.

Recreation. Recreational use could result in increased localized disturbance to riparian and wetland vegetation and soil compaction, thereby increasing erosion and sediment production and reducing shade. Intensive management of some areas could provide greater protection for water resources through more immediate identification and resolution of conflicts between recreation and other resources, while conflicts between recreation and resources may be less likely to be identified and resolved in other, less intensively managed areas.

4.3.3.5 Alternative D

Direct Effects

As in Alternatives B and C, BMPs would be prescribed and implemented, and an assessment component would be added to identify and protect stream reaches or sites that provide cold water habitat in streams where temperature limits the abundance of aquatic species, with the same effects.

WQRPs would be generally guided by stream/watershed prioritization (Table 2.2) However, priorities for development of WQRPs would also be based on cooperative management opportunities. Management of CWA 303(d) listed waters and contributing streams toward an appropriate ecological status to attain water quality standards or other surrogate measures through passive and/or active management, including restoration of riparian and adjacent upland vegetation, would have similar effects as Alternative C.

Indirect Effects

Soils and Biological Soil Crusts. As in Alternative A, BMPs would be implemented to protect and manage soil for all ground-disturbing activities, with the same effects.

Riparian and Wetlands. As in Alternatives B and C, activity plan management prescriptions or WQRP prescriptions promoting improved riparian conditions would be developed and would be generally guided by stream/watershed prioritization, with the same effects.

This alternative would direct management of existing grazing systems and improvements to maintain PFC and would promote an ecological status dependent on meeting multiple resource objectives through active and passive management and restoration. Effects would be similar to Alternatives A, B, and C. However, depending on activity or WQRP objectives, a range of riparian vegetation ecological status may be promoted to achieve water resource objectives.

Upland vegetation communities adjacent to riparian areas would be managed to reduce fire frequency and intensity, with the same effects as Alternative C.

Roads within or providing access to riparian areas would be managed similar to Alternatives B and C, with the same effects.

Beaver populations would be managed similar to Alternative C. However, this alternative would allow for the removal of beaver if suitable habitat would not be available or if economic harm or ecological damage would be occurring. In areas where natural expansion of beaver into unsuitable riparian habitat (i.e., incapable of sustaining increased utilization) occurs, removal of beaver could result in increased riparian vegetation density, increased shade, and reduced erosion. In areas where natural expansion of beaver into suitable riparian habitat (i.e., capable of sustaining increased utilization) occurs, but beaver would be removed to reduce economic harm, improvements to riparian vegetation and water resources associated with beaver would not occur.

Woodlands. Mechanical removal of western juniper from quaking aspen and mountain mahogany stands would be the same as in Alternative A, with the same effects. Under this alternative, burning of quaking aspen stands would be the same as in Alternative A, with the same effects. As in Alternative B, fire would be allowed in quaking aspen and mahogany stands to reduce the dominance of juniper, with the same effects.

Mechanical removal of juniper in riparian and sagebrush habitats would be the same as in Alternative A, with the same effects. Fire would be allowed to reduce western juniper influence in riparian habitats as in Alternative B, with the same effects.

Rangelands. The ecological status of native plant communities would be maintained or improved as in Alternative A, with the same effects.

Both prescribed and natural fire would be used to promote ecologically desirable traits in the range plant community. Short-term effects would be similar to Alternative A, though greater in magnitude. Long-term effects of this practice would also be similar to Alternative A, though effects would be more widespread across the Planning Area.

The mechanical removal of woody vegetation to create a mosaic of successional stages in range vegetation would be the same as in Alternative A, with the same effects.

Noxious Weeds. Management of noxious weeds would be similar to Alternative A, except that emphasis on control would be given to high quality natural resource areas. Water resource effects would be similar to Alternative A.

Special Status Species. Management prescriptions for special status species would have water quality effects similar to those in Alternative A.

Redband Trout Reserve. As in Alternatives B and C, the removal of the Page Springs gauging station weir would be assessed, with similar effects.

Energy and Minerals. Areas containing federally listed species and their designated critical habitat would be withdrawn from locatable mineral entry. In these areas, effects of locatable mineral development on water resources would be eliminated. In the rest of the Planning Area, effects would be similar to Alternative A.

As in Alternative A, no new areas would be closed to leasing and development of oil and gas, geothermal, and solid leasable mineral resources, with the same effects. Some ACECs would be designated for NSO, and seasonal or other special stipulations would be designated for big game winter range, and areas containing federally listed species and their designated critical habitat. Depending on the type of stipulation, water resource effects may be reduced in these areas.

Saleable minerals development would similar to Alternative A, except that permits would not be allowed in any ACECs or areas containing federally listed species and their designated critical habitat. Water resource effects from saleable minerals development would be eliminated in these areas.

Renewable energy authorizations would be excluded from ACECs, WSAs, WSRs, the Steens Mountain Wilderness, and the CMPA. In these areas, effects of renewable energy authorizations on water resources would be eliminated. In the rest of the Planning Area, effects would be similar to Alternative A.

Wild Horses and Burros. As in Alternative B, permanent increases or decreases in AMLs and forage allocations would be considered if forage availability changed greatly, with the same effects.

Water sources for wild horses and burros would be managed the similar to Alternative B, with the same effects.

Grazing Management. Sustainable livestock grazing that meets allotment management objectives would be emphasized in both the CMPA and the AMU. Less emphasis could therefore be placed on other resource values, such as water resources.

Wildland Fire Management. As in Alternative B, wildland fires that threaten human life, private property, or significant resource values would be suppressed and a plan to manage wildland fires would be developed, with the same effects as in Alternative B.

As in Alternative A, mechanical treatments or prescribed fire would be used to reduce fuel loading, with the same effects.

Recreation. The effects would be the same as in Alternative C.

4.3.3.6 Alternative E

Direct Effects

As in Alternative A, BMPs would be prescribed and implemented to facilitate maintenance or improvement of attributes identified in PFC assessment, and management would consider ecologically important cold water refuges. Effects would be the same as Alternative A.

Similar to Alternative A, riparian areas and adjacent uplands of 303(d) listed water bodies would be managed according to site or reach management objectives. However, development and implementation of WQRPs would be generally guided by stream/watershed prioritization as in Alternative B.

Indirect Effects

Soils and Biological Soil Crusts. As in Alternative A, BMPs would be implemented to protect and manage soil for all ground-disturbing activities, with the same effects.

Riparian and Wetlands. As in Alternatives B, C, and D, activity plan management prescriptions or WQRP prescriptions to promote maintenance or improvement of riparian conditions would be developed and would be guided by stream/watershed prioritization, with the same effects.

Grazing and recreation management would be implemented to provide maximum use while maintaining or progressing toward PFC and/or WQRP objectives. Effects would be similar to Alternative A.

As in Alternative B, upland vegetation communities adjacent to riparian areas would be managed to reduce fire frequency and intensity, with similar effects.

Roads within or providing access to riparian areas would be managed similar to Alternative A, with the same effects.

As in Alternative A, beaver populations would be allowed to expand naturally as habitat conditions indicate unless suitable habitat would not be available, or economic harm or ecological damage would be occurring (as in Alternative D), with the same effects.

Woodlands. Mechanical removal of western juniper from quaking aspen and mountain mahogany stands would be similar to Alternative A. Under this alternative, burning of quaking aspen stands would be similar to Alternative A. Similar to Alternative B, fire would be allowed in quaking aspen and mountain mahogany stands to reduce the dominance of juniper.

Mechanical removal of juniper in riparian and sagebrush habitats would be similar to Alternative A. Fire would be allowed to reduce western juniper influence in riparian habitats similar to Alternative B.

Rangelands. The maintenance of native plant communities would not be emphasized under this alternative. While many native communities would be converted to nonnative, water resource effects would be highly variable, depending on site history and location.

As in Alternative D, both prescribed and natural fire would be used to promote ecologically desirable traits in the range plant community, with the same effects.

Noxious Weeds. As in Alternative D, management of noxious weeds would be similar to Alternative A, except that emphasis on control would be given to high quality natural resource areas. Water resource effects would be similar to Alternative A.

Special Status Species. Management prescriptions for special status species would have water quality effects similar to those in Alternative A.

Redband Trout Reserve. As in Alternatives B, C, and D, the Page Springs gauging station weir would be assessed for removal or modification under this alternative, with similar effects.

Energy and Minerals. No new areas would be recommended for withdrawal from locatable mineral entry. Effects would be the same as Alternative A.

As in Alternative A, no new areas would be closed to leasing and development of oil and gas, geothermal, and solid leasable mineral resources. No seasonal or other special stipulations would be designated. Effects would be the same as Alternative A.

Saleable minerals development would be the same as Alternative A, with the same effects.

As in Alternative D, renewable energy authorizations would be excluded from ACECs, WSAs, WSRs, the Steens Mountain Wilderness, and the CMPA, with the same effects.

Wild Horses and Burros. As in Alternative B, permanent increases or decreases in AMLs and forage allocations would be considered if forage availability changed greatly, with the same effects.

The addition of the Dry Creek and Big Springs pastures in the Fish Creek-Big Indian Allotment, and the Carlson Creek Allotment, Serrano Point Allotment, and Bone Creek and Miners Field pastures of the Alvord Peak Allotment would return wild horses to areas where they have not been since the 1970s. This could affect water resources in these areas by adding year long use of the water and riparian resources. Some of these areas have streams that would not be in PFC at present and the addition of wild horses and year long use may not allow these areas to reach PFC. This translates into potential loss of structure and diversity of riparian plant species that relates to elevated water temperature. Year long use could also affect streambank stability that could affect the amount of sediment in the water and reduce water quality. Water sources for wild horses and burros would be managed similar to Alternative B, with similar effects.

Grazing Management. Grazing opportunities would be maximized in both the CMPA and the AMU. Less emphasis could therefore be placed on other resource values, such as water resources.

Wildland Fire Management. As in Alternative A, all wildland fires would be suppressed, with the same effects. A plan to manage wildland fires for resource and economic benefits would be developed, with the same effects as Alternative D.

As in Alternative A, mechanical treatments or prescribed fire would be used to reduce fuel loading, with similar effects.

Recreation. The effects would be the same as in Alternative C.

4.3.4 Summary of Effects

Under all alternatives, the application of BMPs would be the primary mechanism to reduce erosion and disturbance to vegetation, and subsequently maintain, restore, or improve water quality and quantity on public lands. WQRPs or other sufficiently stringent measures would be developed and implemented to restore all impaired water bodies in accordance with established TMDL(s). Riparian areas associated with perennial or intermittent surface water would be managed to attain or maintain PFC. Riparian areas in PFC may not necessarily be sufficient to maintain or restore water quality, depending on the most sensitive beneficial use. However, PFC would establish the initial condition from which to manage activity plan objectives and beneficial use requirements.

Alternatives B, C, and D provide a proactive mechanism to identify stream reaches or sites that provide cold water habitat for aquatic species recognized as the most sensitive beneficial use; this process would assist the state in delineation and protection of ecologically important cold water refuges. This approach may facilitate recognition of specific habitat areas for species such as trout to seek refuge from summer stream temperatures in systems that would be recovering or would not be capable of achieving state water quality temperature standards.

Alternatives B, C, D, and E recognize prioritization of streams or watersheds for developing and implementing WQRPs to address waters listed as impaired pursuant to the CWA, section 303(d). This would facilitate recognizing or implementing management in areas most likely to respond to management efforts; toward areas associated with special status species, WSR or wilderness; and coordination with other resource management efforts. In addition, Alternative D further prioritizes these streams and watersheds based on cooperative management opportunities such as private land management actions.

Alternatives B, C, and D provide recognition and opportunities for passive and active restoration of riparian and upland communities to progress toward ecological conditions to meet water quality objectives. However, Alternative B emphasizes passive management that may delay or preclude restoration of ecological conditions necessary to meet water quality objectives, such as riparian and/or upland vegetation communities.

4.3.5 Cumulative Effects

Past management practices such as historic livestock grazing, coupled with natural events of drought, flood, and wildland fire, have and may continue to affect water quantity and quality across the Planning Area. Landform patterns further define potential susceptibility or resilience to perturbations that affect water quantity and quality, such as stream channel morphology and riparian vegetation condition. For example, high to moderate gradient stream channels found in confined canyons have evolved under conditions of hydraulic disturbance and provide natural resilience to erosion. These areas often have less exposure to public land uses such as livestock grazing and recreation. Less confined valleys would be generally comprised of alluvial sediments with stream channels that would be more reliant on riparian vegetation for stability and more susceptible to disturbance. These areas have generally been more accessible and susceptible to potential disturbance from livestock grazing, wild horses, and recreational uses. Hydraulic disturbance from moderate to high stream flow events following natural or human-induced disturbances to vegetation (e.g., wildland or human-caused fire or livestock grazing) altered some of these channels through excessive vertical and/or lateral channel erosion that may have resulted in lowering the local ground water table. Entrenched channels and a lowered water table reduce recruitment and recovery of riparian vegetation until channel adjustment occurs, such as channel widening and reestablishment of floodplain area to reduce erosive forces. Riparian vegetation succession would be interrelated with floodplain development, and likely proceeds in a nonlinear fashion. Therefore, the rate of recovery would be a matter of speculation.

The majority of perennial and intermittent stream reaches in the Planning Area subjected to past channel degradation has progressed along the channel adjustment phase as indicated by PFC assessments. Stream channels that would be properly functioning, or functioning at risk contain the primary attributes to progress toward achieving water quantity and quality objectives. Present and future management of water resources on public lands in the Planning Area incorporates BMPs to reasonably prevent degradation of water quality. WQRPs and activity plan level objectives at a site, reach, or watershed scale would be developed and implemented to maintain, improve, or restore water quantity and quality relative to beneficial uses and TMDL requirements.

4.4 Soils and Biological Soil Crusts

4.4.1 Goals and Objectives

Goal 1 - Manage soils on public land to maintain, restore, or improve soil erosion class, watershed health, and areas of fragile soils.

Objective 1. Manage mineral soil to limit accelerated erosion on critical sites, protect soil characteristics on noncritical sites, and maintain or improve existing infiltration and permeability.

Goal 2 - Increase the understanding of the management of northern Great Basin biological soil crusts.

Objective 1. Collect biological soil crust data within the Planning Area

4.4.2 Assumptions

Soil productivity varies widely and reflects site-specific natural conditions and past management practices. Management actions affect soils productivity. Since natural processes would be slow to restore soil productivity in this semi-arid region, prevention of soil degradation would be the most time- and cost-effective remedy. Soil erosion rates would be highly dependent on the proportion of the soil surface that would be protected from raindrop impact by vegetation cover. Soil resources would be dependent on the condition of other resources, primarily upland and riparian vegetation. Management actions that affect the condition of these resources would also affect soils and biological soil crusts. Erosion rates increase exponentially as plant cover decreases.

BMPs would be acknowledged as the best way to maintain and restore soils where management activities affect soil resources. BMPs would be designed for specific actions at individual sites and in overall management actions designed to reduce soil resource effects due to other uses and activities such as grazing and recreation. The effectiveness of BMPs

would be dependent upon the use of adequate measures, appropriate implementation, and performance in protecting soil resources. These assumptions include: 1) BMPs are selected and implemented appropriately; 2) monitoring of BMP implementation and effectiveness would be conducted; and 3) monitoring data would be used in an adaptive management framework to promote effective BMPs for protecting soil resources.

Several management actions in the sections describing environmental effects on these resources, particularly rangeland/vegetation, would be specifically designed to maintain or restore soil resources. These management actions would be analyzed under indirect effects in the following discussion.

Portions of the Planning Area would not be public lands, and BLM management actions alone may not sufficiently protect soil resources. In mixed ownership watersheds, the BLM would be assumed to work in cooperation with surrounding landowners to develop activity plans that would protect soil and other resource values.

4.4.3 Analysis of Alternatives

4.4.3.1 Effects Common to All Alternatives

Direct Effects

BMPs would be prescribed and implemented at the activity plan level to prevent degradation of soil resources. Activity plans that could affect soils and biological soil crusts include site-specific projects such as transportation plans and recreation management plans. During the development of the activity plan, specific BMPs designed to protect soil resources would be selected. The application of BMPs would be an effective means of reducing erosion, protecting water quality, increasing desirable vegetation cover, and preventing noxious weeds or undesirable plant introductions.

Due to the fragility of biological soil crust communities, damage to biological soil crusts would occur through any management activities that disturb soils where soil crust communities have developed. Damage to biological soil crusts could result in erosion and noxious weed or other invasive plant introductions. The effects would be the same under all of the alternatives.

Indirect Effects

Retaining current road use and closing other roads and trails could affect the stability of soils over all the alternatives if there would be an unusual weather event with flooding. Soil movement would be accelerated on sites with exposed soils.

Wild Horses and Burros. Current AMLs and wild horse forage allocation levels would be maintained in all HMAs. Increases and decreases in AML and forage allocations would be considered under all the alternatives except Alternative A. Therefore, Alternative A has the greatest potential for effects on soil resources, including erosion, compaction, and changes in vegetation communities by wild horse and burro use.

4.4.3.2 Alternative A

Direct Effects

Current management practices would continue, and would continue to reduce soil erosion. BMPs would be implemented on all potential surface disturbing activities affecting soils. These activities could occur from the construction or maintenance of roads, range improvements, or other surface disturbing projects. Effects would be primarily caused by compaction from vehicle, recreation, livestock, or wild horse use; loss of soil off-site by water and wind erosion; and damage to biological soil crusts.

Indirect Effects

Woodlands. Mechanical removal of younger western juniper trees would be implemented to maintain late-seral stage western juniper woodlands. Although this management activity may increase erosion through surface effects, these effects would be expected to be localized and minimal. Western juniper and associated woody species would be removed by mechanical methods or prescribed fire in quaking aspen and mountain mahogany stands. Over the short term, vegetation removal and manipulation treatments could result in soil compaction and increased erosion in both upland

and riparian/wetland habitats. Over the long term, these practices could restore historic soil and vegetation characteristics, and watershed function.

Rangelands. Rangeland community plant cover and density would be maintained or increased, meeting the S&Gs, and resulting in decreased compaction and erosion. Desirable nonnative seedings would be managed to maintain vegetation composition and to meet S&Gs.

Prescribed fire and mechanical vegetation removal would be implemented to promote ecologically desirable traits such as a mosaic of successional stages in rangeland vegetation. These activities would result in initial soil disturbance, compaction, erosion, and runoff. The application of BMPs and restoration or rehabilitation of these areas could reduce these short-term effects.

Long-term effects of these vegetation manipulation practices would reduce dominant woody vegetation and would release desirable plant species, resulting in reduced erosion and increased ground cover. Biological soil crusts may be affected by any actions that disturb soils where soil crust communities have developed.

Energy and Mineral Development. Soils could be affected by mineral exploration and development on lands currently open to locatable mineral activity. Soils would be affected by these activities due to surface disturbance, compaction, and erosion caused by wind and water. Additional mining would affect soils and vegetation throughout a greater area. Currently, soils would be normally protected by stockpiling and seeding to reduce wind- and water-caused erosion.

Leasing and development of oil, gas, geothermal, and solid leasable mineral resources as well as renewable energy would continue in open areas under the current management framework. Depending on the size, nature, and location of any new development, effects on soil resources could include increased erosion due to road development, vegetation disturbance, and damage to biological soil crusts.

The development of saleable minerals would be permitted on a case-by-case basis under this alternative. Depending on the size, nature, and location of the development, effects on soil resources could include increased erosion due to road development, vegetation disturbance, and damage to biological soil crusts.

Grazing Management. Livestock grazing use would continue to be authorized in the existing allotments in the AMU and the CMPA. Livestock grazing increases soil compaction, particularly along trails and at waterholes. Current management practices, including proper stocking rates for livestock, rotation of grazing, and periodic rest from grazing, have reduced soil effects and erosion.

Wildland Fire Management. Burned areas would be evaluated for the necessity of seeding and rehabilitation to protect soils. Evaluations would lead to the rehabilitation of burned areas to provide vegetation cover and reduce soil erosion, particularly in those areas where natural recovery would be limited. All wildland fires would be suppressed using appropriate management actions, which may provide beneficial short-term effects due to reduced erosion and maintenance of vegetation communities. The long-term effects may increase erosion and vegetation disturbance due to the potential for larger, hotter fires.

Fire suppression activities could disturb soils and cause erosion in the short term. A combination of mechanized and nonmechanized equipment would be utilized to rehabilitate areas altered by fire suppression activities to protect soil and other resources. A mixture of native and desirable nonnative plant species would be used to rehabilitate burned areas where natural recovery would be limited.

Prescribed fire and mechanical treatments would be used to reduce fuel loading, resulting in short-term effects such as soil compaction, increased erosion, and damage to biological soil crusts. These effects could be reduced through the application of BMPs. The reduction of fuels would reduce the risk for catastrophic fire and also reduce the potential disturbance, erosion, and sediment delivery of soils, while reducing the effects on vegetation community structure.

Any activities that disturb soils where soil crust communities have developed could deplete soil productivity and increase the potential for noxious weed establishment or accelerated erosion.

Off-Highway Vehicles. Approximately 675,900 acres would be designated as open to OHV and mechanized vehicle use within the Planning Area, potentially resulting in surface disturbance, soil compaction, erosion, and damage to biological soil crusts.

Recreation. Expansion of existing developed and undeveloped recreation sites would be considered, potentially increasing surface disturbance and soil erosion and damaging soil crusts, particularly in concentrated use areas.

4.4.3.3 Alternative B

Direct Effects

There are no direct effects.

Indirect Effects

Woodlands. Under this alternative, no mechanical removal of younger western juniper trees would be implemented, reducing the short-term effects of disturbance. The historic fire regime could be restored by allowing fires to burn in old growth juniper stands. Short-term effects on soils may include an increase in erosion. Long-term effects on soil resources would probably reduce erosion, since the size and intensity of fires would likely be reduced as the historic fire regime becomes reestablished.

Western juniper and associated woody species would not be removed by mechanical methods or prescribed fire in quaking aspen and mountain mahogany stands, reducing the short-term and long-term effects on soils.

Grazing Management. With the removal of livestock grazing in the AMU, the condition of areas previously affected should recover, limited only by the opportunity for noxious weed establishment. Deposition of plant litter and incorporation of organic material into the soil would increase across the landscape, resulting in increased productivity, decreased erosion, and progression toward the DRC. The rate of water, nutrient, and energy cycling and soil movement would be restored on sites dominated by native species, affecting soils. Biological soil crusts would recover in areas previously damaged by livestock, resulting in increased vegetation cover, improved infiltration rates, and less erosion.

Short-term indirect effects on soil resources would occur as existing rangeland projects would be abandoned and removed. In the long term, areas disturbed during project removal would revegetate naturally in areas of heavy use.

Wildland Fire Management. A combination of mechanized and nonmechanized equipment would be utilized to rehabilitate areas altered by fire suppression activities, thereby increasing the disturbance on soils in the short term and decreasing the erosion rate in the long term.

Transportation and Roads. Road areas designated as closed would be maximized, reducing the effects on soils throughout the Planning Area Road closures would help to reduce soil compaction and potential erosion. All other areas would be designated as limited to designated roads and trails with a minimum number of roads and trails identified. Only designated roads would remain open and would be maintained on an as-needed basis. Limited maintenance of existing roads could increase effects on soils as a result of normal erosion of roadbeds, wet weather rutting by vehicles, and channeling of runoff. No new roads would be developed, thereby eliminating additional sources of soil erosion.

OHV and mechanized vehicle activity would be limited to designated roads and trails and closure of many portions of the Planning Area would greatly reduce soil compaction, erosion potential, and effects on soil crusts, particularly on a watershed basis. Snowmobiles would not be allowed to operate in the CMPA, thereby reducing the potential effects from fuel spills and soil compaction.

Recreation. Closing areas to camping would greatly reduce the effects to soils. Restricting camping in the CMPA to developed campgrounds would eliminate the effects to soils from dispersed camping and could require hardening of soils in concentrated use areas. Effects to soils would be reduced through the closing or rehabilitation of dispersed sites where natural processes would be jeopardized. Limiting visitor use and group sizes would help maximize natural processes and minimize effects on soils.

4.4.3.4 Alternative C

Direct Effects

There would be no direct effects associated with Alternative C.

Indirect Effects

Within the AMU, this alternative would have management emphasis on nonconsumptive uses, while providing for minimal sustainable livestock grazing, having similar effects on soil resources as Alternative A, but lower in magnitude. Livestock use in the CMPA would continue and the effects would be the same as Alternative A. Emphasis for this alternative would be to meet soil and other resource management objectives by implementing (or removing) rangeland projects and/or livestock management practices to enhance resource values.

Permitted use could be discontinued in vacant allotments having resource conflicts. This action could decrease the number of acres where soils would be affected by livestock grazing, and increase vegetation cover on upland and in riparian/wetland plant communities in those areas.

Many areas would be recommended for mineral withdrawal, and closed to leasing within the Planning Area, resulting in no effect on soils or biological soil crusts. Mineral exploration and development activities would be reduced and more restrictive under this alternative than Alternatives A, D, and E; therefore, direct effects on soils from mineral activity would be minimal in comparison to those alternatives. Soils would be protected by soil stockpiling and seeding to reduce wind erosion, the same as Alternative A.

Woodlands. Wildland fire would be used to remove younger western juniper trees to maintain late-seral stage western juniper woodlands. Although this management activity may increase erosion through surface effects, these effects would be expected to be localized and minimal. Western juniper and associated woody species would be removed by mechanical methods, prescribed fire, and wildland fire in quaking aspen and mountain mahogany stands. Treated areas would be fenced where recovery may be limited by browsing of livestock and/or wildlife.

Over the short term, vegetation removal and manipulation treatments could result in soil compaction and increased erosion in both upland and riparian/wetland habitats. Over the long term, these practices could restore historic soil and vegetation characteristics, and watershed function.

Rangelands. Native rangeland plant communities would be maintained or improved with emphasis toward attaining ecological status and minimizing commodity production. Rangeland plant communities would be more widespread and variable, resulting in decreased compaction and erosion. Reestablishment of native plants in areas currently in poor condition from nonnative plantings would improve plant cover and reduce erosion.

Desirable nonnative seeding would be managed to diversify composition and structure of selected nonnative seedings, with emphasis on natural values and other resource objectives.

Only wildland fire would be used to promote the DRC in the range plant communities. Short- and long-term effects would be similar to Alternative A.

Prescribed fire and mechanical vegetation removal would be implemented to promote ecologically desirable traits such as a mosaic of successional stages in rangeland vegetation, similar to Alternative A, though only on selected sites. These activities would result in the same effects as described for Alternative A, only lesser in magnitude.

Any activities that disturb soils where soil crust communities have developed could deplete soil productivity and increase the potential for noxious weeds and other invasive species to degrade the site.

Wildland Fire Management. All fires that threaten human life, private property, or areas that possess significant resource value would be suppressed. Fires that do not threaten human life, private property, or important areas would be evaluated and managed using minimal suppression actions.

A mixture of native plant species to rehabilitate soils in burned areas would be utilized where natural recovery would be limited, thereby reducing the potential soil erosion. A combination of mechanized and nonmechanized equipment would be utilized to rehabilitate soils in areas altered by fire suppression activities.

Short-term effects on soils may include erosion and compaction. These effects would be expected to be minimal and could be mitigated with the implementation of BMPs. Long-term effects on soils would increase vegetation cover and decrease erosion.

Any activities that disturb soils where soil crust communities have developed could deplete soil productivity and increase potential for noxious weeds and other invasive species to degrade the site.

Transportation and Roads. Road maintenance and seasonal road closures would be implemented to protect and enhance soils and natural resource values and to reduce road damage. In specific, 30 miles of roads would be permanently closed. Additional roads would be closed during winter, which would reduce soil compaction and erosion potential, particularly on a watershed basis. Existing roads and transportation routes would have the same effects on soil resources as Alternative A.

Off-Highway Vehicles. OHV and mechanized vehicles would be managed to minimize use in accordance with limited and closed OHV designations. Most of the Planning Area would be designated as limited to designated roads, ways, and trails. This could protect soils and soil crusts and prevent soil erosion in many areas throughout the Planning Area. Snowmobiles would not be allowed on the Steens Loop Road, reducing the potential fuel contamination of soils.

Recreation. New campgrounds would be developed, reducing the potential disturbance of soils from construction activities and recreation use. Limiting camping to developed campgrounds and designated sites in the CMPA would reduce the area of disturbance. Effects to soils would be reduced through the closing or rehabilitation of dispersed sites where resource values would be affected beyond acceptable levels. Visitor use, including group size and trail development, would be managed with emphasis on resource values, including soils.

4.4.3.5 Alternative D

Direct Effects

Balancing the increase in projects to improve soil condition through rehabilitation/restoration with the increase in recreation and commodity uses would be greatest under this alternative. Effects on soils from increases in disturbances would be greater than Alternatives A, B, or C, and less than Alternative E. Management emphasis to rehabilitate soils and other resources would be greater than alternatives A, B, and E. BMPs would be implemented on all potential surface disturbing activities effecting soils. Any activities that remove the vegetation cover would increase the erosion rate, requiring BMPs and soil protection.

Biological soil crust monitoring data would be utilized to inform decisions and encourage cooperative management practices. A standard monitoring protocol would be developed the same as in all of the alternatives. An increase in new projects where activities disturb or compact biological soil crusts would cause an effect on soils.

Indirect Effects

Woodlands. With the same effects on soils as described in Alternative A, 90 percent of western juniper would be removed from old growth stands. Fires in old growth western juniper would have the same effects as Alternative C.

Mechanical removal of juniper in aspen, mountain mahogany, riparian, and sagebrush plant communities would have the same effects as Alternative A. Fire would be allowed in quaking aspen and mountain mahogany stands and riparian habitats with the same effects as described in Alternative B.

Rangelands. The ecological status of native plant communities would be maintained or improved as in Alternative A, with the same effects on soil resources.

Desirable nonnative seedings would be managed to diversify composition and structure of selected seedings, consistent with other resource objectives.

Both prescribed and wildland fires would be allowed to promote ecologically desirable traits in rangeland plant communities. Short- and long-term effects would be similar to Alternative A, though greater in magnitude and more widespread across the Planning Area.

Any activities that disturb soils where soil crust communities have developed could deplete soil productivity and increase the potential for noxious weeds and other invasive species to degrade the site.

The mechanical removal of woody vegetation to create a mosaic of successional stages would have the same effects on soils as Alternative A.

Energy and Minerals. Many areas would be recommended for locatable mineral entry withdrawal within the Planning Area. This action would reduce the potential effects on soils in those areas. These areas include ACECs, WSAs, WSRs, the Steens Mountain Wilderness, the CMPA, BLM recreation sites (existing and potential), listed cultural sites, important paleontological localities, RNAs, areas with special status species and habitat, and within 0.6 mile of sage-grouse leks. No new areas would be closed to leasing for energy development, which could potentially cause more surface disturbances affecting soils. Areas of NSO would be designated in ACECs, listed cultural sites, and important paleontological localities, which would reduce the amount of surface area that could potentially be affected. Permitting of saleable mineral development would occur throughout the Planning Area, except in all ACECs, BLM administrative sites, potential BLM recreation sites, National Register eligible cultural sites, important paleontological sites, RCAs, areas with federally listed species and their designated habitat, and within 0.6 mile of sage-grouse leks. Areas where mineral development occurs would affect soils and biological soil crusts with surface disturbance and related erosion/compaction. The WSRs, Steens Mountain Wilderness, and 165,055 acres of public lands would be designated renewable energy exclusion areas. All WSAs and ACECs would be designated as renewable energy avoidance areas. Exclusion and avoidance areas would provide protection for soils and other resources in those areas. The remainder of the Planning Area would be processed for consideration of renewable energy development, which could degrade soil resources.

In site development planning, soils would be protected by soil stockpiling and seeding to reduce wind erosion, the same as Alternative A.

Grazing Management. Soil effects would be monitored by providing for sustainable livestock grazing in the AMU and the CMPA. Effects would be the same as Alternative A.

Permitted use could be discontinued in all or portions of allotments with high resource conflicts. In these areas, this management would have the same effects as Alternative C.

Wildland Fire Management. As in Alternative B, all fires that threaten human life, private property, or significant resource values would be suppressed. A mixture of desired nonnative and native plant species would be used to rehabilitate burned areas to protect soils from erosion. A combination of mechanized and nonmechanized equipment would be utilized to rehabilitate areas where soils and other resources have been altered by fire suppression activities, which could affect soils in the short term with ground disturbance, and affect soils in the long term with site rehabilitation resulting in increases in plant cover and reduced erosion.

Opening the Planning Area to harvesting fuel by-products would increase short-term effects on soils and biological soil crusts by surface disturbance, compaction, and erosion. These effects would be expected to be localized and minimal. In the long term, fuel load reductions and reduced potential for catastrophic fire would have an effect on soils.

Any activities that disturb soils where soil crust communities have developed could deplete soil productivity and increase the potential for noxious weeds and other invasive species to degrade the site.

Transportation and Roads. Roads would be managed primarily the same as under Alternative A, with additional improvements and developments in high recreation use areas to accommodate an increase in visitor use. This would increase the potential for soil erosion, degradation of biological soil crusts, and other effects.

Off-Highway Vehicles. Soils could be affected by fuel spills, vegetation damage and/or removal, and compaction from OHV use. OHV and mechanized vehicle use would be managed through cooperative agreements with clubs in accordance with OHV designations. Organized events would be allowed, potentially increasing the effect on soils. OHV and mechanized vehicle use on approximately 1,476,371 acres of the Planning Area would affect soil resources in areas where use could cause compaction, surface disturbance, and erosion.

Recreation. Increased visitor use and recreation demands would increase the level of effects to soils. Soil compaction and erosion would occur in high recreation use areas, especially developed campgrounds and dispersed sites. Increased dispersed recreation would increase the area and degree of soil compaction and erosion. Any new construction would

degrade soils. In areas where recreation use increases, soil and soil crusts would become degraded, nonproductive and eroded, and susceptible to noxious weed introductions. Management and rehabilitation efforts would be necessary.

4.4.3.6 Alternative E

Direct Effects

BMPs would be implemented on all potential surface disturbing activities affecting soils. More activities that affect soils would occur under this alternative from the construction or maintenance of roads, increases in OHV use and open areas, increases in grazing and range improvement projects, or other surface disturbing projects. Any activities that remove the vegetation cover and increase the erosion rate would affect soils and other resource values.

Biological soil crust monitoring data would be utilized to inform decisions concerning natural resources and additional commodity production in areas containing biological soil crusts. A standard monitoring protocol would be developed the same as all of the alternatives. The greatest effect on biological soil crusts would be under this alternative to promote commodity uses, with its potential increase in grazing, mining, roads, OHVs, and recreation.

Indirect Effects

Woodlands. Ninety percent of western juniper would be removed from old growth stands with the same effects as described under Alternative A. Fires would be allowed to burn in old growth juniper stands with the same effects as Alternative C.

Mechanical removal of western juniper in quaking aspen, mountain mahogany, riparian, and sagebrush communities would have the same effects as described in Alternative A. Fire would be allowed in quaking aspen and mountain mahogany stands to reduce juniper dominance with the same effects as Alternative B.

Rangelands. The ecological status of native plant communities would be maintained or improved with the same effects as in Alternative A.

Desirable nonnative seedings would be managed to support grazing, while emphasizing diversity of composition and structure of nonnative seedings consistent with other resource objectives.

Prescribed and wildland fire would be implemented to promote ecologically desirable traits in rangeland vegetation communities. Short- and long-term effects would be similar to Alternative A, though greater in magnitude and more widespread.

The mechanical removal of woody vegetation to create a mosaic of successional stages in rangeland vegetation would have the same effects as Alternative A.

Energy and Minerals. Opening the majority of the AMU to mining could potentially degrade soils and soil crust communities. The maximum amount of land within the AMU would be available for locatable mineral exploration and development under this alternative. All areas not restricted by current laws or restrictions would be available for surface occupancy. All WSRs and the Steens Mountain Wilderness would be designated as exclusion areas, and all WSAs and ACECs would be designated as avoidance areas for renewable energy authorization.

No special seasonal or other stipulations would be applied for protection of soil or other resource values. The effect on soils and biological soil crusts from mining and/or energy production would be greatest under this alternative, including surface disturbances, dust, additional roads and road construction effects, erosion, and compaction.

At the project development sites, soils would normally be protected by soil stockpiling and seeding to reduce wind erosion, the same as Alternative A.

Grazing Management. Opportunities to maximize grazing in the AMU and the CMPA would be pursued under this alternative. Maximizing livestock grazing would have an effect on soils and biological soil crusts due to increased compaction, erosion, and resulting noxious weed introductions.

Allotments with relinquished permits would be re-allocated to new permittees, which would increase grazing pressure and its effects on soils over the landscape.

Wildland Fire Management. All wildland fires and wildland fire management activities would have the same effects as Alternative B. Mechanical treatments or prescribed fire would be implemented to reduce fuel loading, with the same effects as Alternative A.

Any activities that disturb soils where soil crust communities have developed could deplete soil productivity and increase the potential for noxious weeds and other invasive species to degrade the site.

Transportation and Roads. New roads would be constructed to encourage tourism, visitor use, and commodity production, which would have an effect on soils. New roads would increase soil compaction and erosion.

Road maintenance would be prioritized to meet commodity needs, and soil resource values could degrade. Road closures would occur only to protect the most critical resource values, and seasonal road closures would be implemented to reduce road damage.

Soil and biological soil crusts would become degraded, nonproductive, and eroded where road densities and resulting surface disturbances increase in the AMU. Disturbed soils would provide sites for increases in noxious weed introductions.

Off-Highway Vehicles. Designating areas of the AMU open to OHV and mechanized vehicle use could degrade soils and biological soil crusts, particularly in those areas where vehicles would be able to travel cross-country. Organized OHV events would compact and degrade soils in concentrated use areas. The greatest effects from OHV and mechanized vehicle use on soils and biological soil crusts would occur under this alternative. OHV and mechanized vehicle use would result in soil compaction, erosion, dust, and in some areas damage to biological soil crusts. Soils would be potentially contaminated by fuel spills, vegetation damage and/or removal and compaction from OHV and snowmobile use.

Recreation. Soil compaction and erosion would occur in high recreation use areas, especially developed campgrounds and dispersed sites. Increased dispersed recreation would increase the area and degree of soil compaction and erosion. All new construction would degrade soils. Undeveloped recreation sites would be expanded to increase tourism opportunities. In areas where recreation use increases, soil and soil crusts would become degraded, nonproductive and eroded, and susceptible to noxious weed introductions. Intensive management and rehabilitation efforts would be necessary.

4.4.4 Summary of Effects

Implementation of BMPs would be the primary mechanism under all of the alternatives to protect and manage soil, and to reduce erosion and disturbance to vegetation and water bodies. Activity-level management planning would be developed to restore areas where soils would be eroding, particularly areas with impaired water bodies.

The collection of biological soil crust data and the development of standard monitoring protocol would be used as indicators for rangeland and riparian/wetland health, which may provide additional protection of soil resources. Any activities that disturb soils where soil crust communities have developed could deplete soil productivity, and increase the potential for noxious weeds and other invasive species to degrade the site.

Under Alternative A, absence of prioritization at the watershed level for vegetation prescriptions could allow the degradation of soil resources in specific locations. Grazing management would not be directed toward advanced ecological status, particularly in riparian/wetland habitats or for the restoration of roads outside of special designation areas. Soil resource improvements in these areas would be slower than Alternatives B, C, and D.

Under Alternative B, potential activities that degrade soil resources would be eliminated throughout most of the Planning Area. Grazing would still have effects on soils in the CMPA. Management emphasis toward an advanced ecological status would likely improve or maintain soil resources. The elimination of management actions that effect soil resources would likely outweigh the potential consequences of less intensive management of noxious weeds and wildfire. Over the short term, this alternative may lead to localized declines in soil productivity. In the long term, this alternative would be likely to maintain or improve soils and biological soil crusts.

Short-term effects on soils would be less under Alternative C, primarily due to closures and land access and/or use restrictions. Management goals and objectives for soils could be met under Alternatives A, B, C, and D. The long-term effects from management emphasis under Alternatives E would likely not meet the management goals and objectives for soils and biological soil crusts. Due to the high level of potential disturbance over the greatest number of acres, effects on soils include but would not be limited to increases in undesirable vegetation (cheatgrass and invasive species), increased fire frequency, and lower soil productivity.

The greatest effect on soils would be from OHV and mechanized vehicle use in open areas, mineral development, new recreation construction, and livestock grazing. Most of these activities would be limited or restricted under Alternative B, having the least overall effect on soils than other resource uses. The likelihood of new mineral or energy development would be low under all the alternatives, and not permitted under Alternative B. The potential for new development would be greatest under Alternatives A, D, and E. OHV use would have the greatest effect on soils under Alternatives E, A, and D, respectively. New road construction and road maintenance would have the greatest effect on soils under Alternatives E and D. New recreational sites and trails construction would have the greatest effect on soils under Alternatives D and E. Grazing effects on soils would be greatest under Alternative E. The greatest emphasis to restore and rehabilitate soils and other natural resource values would be under Alternatives C and D. Due to the decrease in use and new development combined with the increase in restoration, Alternative C provides the greatest opportunity to meet the DRC for soils within the RMP time frame.

4.4.5 Cumulative Effects

Since the late 1800s, watershed health on public lands, including the soil component, has improved. This improvement would be anticipated to continue through the implementation of BMPs as standard operating procedures under all of the alternatives. This overall improvement would be anticipated to continue under these alternatives.

Alternative A would result in continuing the slow process of soil improvements and overall improvement to watershed health.

Alternative B could result in areas with short-term degradation of soils, but with long-term natural rehabilitation of soil resources and watershed health. Alternative C would provide the most resource protection and active restoration of soils and watershed health. Alternative D would emphasize more use, while providing active restoration of soils and watershed health to mitigate higher use. Alternative E would have the greatest short-term and long-term effects on soils and watershed health by increasing the emphasis on commodity uses and restoration to support those increases.

4.5 Vegetation

4.5.1 Riparian and Wetlands

4.5.1.1 Goals and Objectives

Goal 1 - Maintain, restore, or improve riparian vegetation, habitat diversity, and geomorphic stability to achieve healthy, productive riparian areas and wetlands and associated structure, function, process, and products that provide public lands values such as forage, water, cover, structure and security necessary to meet the life history requirements of fish and wildlife; public recreation and aesthetics; water quality and quantity; and livestock forage and water.

Objective 1. Achieve and/or maintain a rating of PFC of perennial and intermittent flowing and standing water bodies relative to site capability, site potential, and BLM management jurisdictions.

Objective 2. Maintain and/or improve riparian vegetation communities relative to ecological status, site potential and capability, and/or specific management objectives.

Objective 3. Manage riparian areas to maintain or restore soil moisture content and retention of ground water to augment base flow conditions during the warmer summer months.

4.5.1.2 Assumptions

Water bodies that do not meet Oregon's water quality standards would be managed with appropriate management actions developed for water quality limited or impaired streams, lakes, or other bodies of water in the Planning Area.

BMPs would be recognized as the best way to maintain and restore water quality and riparian/wetland community structure, and to prevent or reduce erosion. The effectiveness of BMPs requires the use of appropriate measures and adequate implementation, as well as monitoring of the implementation and effectiveness. Where BMPs would be required, it would be assumed that the selections and implementations would be appropriate, monitoring would be conducted, and monitoring data would be used in an adaptive management framework so that BMPs would be effective.

Riparian zones serve as a primary indicator of watershed health and would be a priority for management. The extent, continuity, and function of riparian/wetland areas have improved within the project area as a result of protection and management. Riparian/wetland vegetation would be dependent on the condition of other resources throughout the watershed, including soils, upland vegetation, and water availability. Accomplishment of site/reach-specific objectives would be dependent upon existing condition (ecological status), and subsequent environmental factors such as drought and flood cycles.

Since portions of the riparian/wetland vegetation throughout the Planning Area would not be administered by the BLM, actions taken by the BLM alone may not be sufficient to restore riparian/wetland communities along their entire courses within the watershed. In order to restore riparian/wetland vegetation and associated water bodies, it would be assumed that DEQ Water Quality Management Plans would be developed in coordination and cooperation with surrounding agencies and private landowners.

4.5.1.3 Analysis of Alternatives

4.5.1.3.1 Effects Common to All Alternatives

Direct Effects

The alternatives have the potential to affect riparian and wetland resources in terms of vegetation species diversity, cover, structure, distribution, and seral stage development of vegetation, and overall functioning condition of the riparian/wetland systems. BMPs would be continued, or prescribed and implemented at the activity plan level to promote the maintenance or improvement of riparian/wetland vegetation to maintain or progress toward PFC.

Based on surveys conducted between 1997 and 2000, 33 percent of the riparian areas assessed within the AMU and 25 percent of the riparian areas in the CMPA were not in PFC. Management directed to progress toward PFC for those streams not currently in PFC would likely increase the distribution and composition of riparian vegetation and facilitate opportunities to define and progress toward site/reach specific riparian vegetation ecological status objectives.

Sources of local riparian trees and shrubs (cottonwood, willow) would continue to be established and maintained to assist in riparian restoration efforts and to preserve genetic material.

Since the ODFW has the management responsibility for wildlife populations, the BLM would coordinate with the ODFW on the management of beaver populations throughout the Planning Area.

Indirect Effects

Water Resources. Management goals, objectives, and actions to maintain, restore, or improve water quality and quantity would promote the objectives for riparian/wetland vegetation and would be addressed in the alternatives identified under Water Resources. These effects would be the same under all of the alternatives.

BMPs would be prescribed and implemented at the activity plan level to maintain, restore, or improve floodplain function and process, and to progress toward PFC across all alternatives. Although riparian/wetland communities in PFC would not necessarily be at site or ecological potential, PFC represents a condition where adequate riparian vegetation would be present to maintain functional stability, and facilitate progress toward site/reach specific ecological status objectives.

Noxious Weeds. Inventories would be conducted to detect new introductions and to determine changes in distribution of known introductions for all the alternatives. Control of the introduction and proliferation of noxious weeds would be a priority in all of the alternatives.

Noxious weeds invade native plant communities, including riparian/wetland communities, resulting in degraded plant community structure, cover, and diversity; loss of soil productivity and nutrient cycling; decreased water holding capacity; and increased soil erosion rates.

The consistent application of BMPs on surface disturbance projects would reduce the effects from potential introduction of noxious weeds.

Special Status Species. Goals and objectives for the management of special status species promote the objectives for riparian/wetland vegetation. The presence of special status species could direct specific riparian vegetation management objectives, such as ecological status, beyond a level of PFC.

Grazing Management. Appropriate management actions would be implemented to meet other resource objectives if it would be determined that existing grazing management practices would be contributing to nonattainment of resource objectives, such as riparian/wetland function, water quality and/or special status species habitat. The potential effects of livestock grazing on riparian/wetland vegetation, such as reduced composition and distribution, may continue pending site-specific assessment, which would lead to the development and implementation of appropriate management. These effects may also be observed after implementation due to a lag in natural recovery processes.

Wildland Fire Management. Suppression of wildland fires would reduce the threat of burning riparian/wetland vegetation. Suppression action may result in temporary disturbance of riparian/wetland areas from trampling vegetation, compacting soil, and/or exposing soil to erosion. However, these effects may not be any greater or more likely than from the fire itself.

Lands and Realty. Acquisitions through exchange or purchase of riparian/wetland areas would provide opportunities to increase public land acreage of these important and specialized habitats. ROWs for access or utility corridors that affect riparian areas would be mitigated on a case-by-case basis.

Transportation and Roads. (CMPA only) Although road inventory and density estimates would not be available, existing roads in the CMPA would be assumed to be having limited impact on riparian areas. Where road crossings occur in riparian/wetland areas, reduction of riparian vegetation would be localized and generally confined in area. Elimination and reduction of road use associated to wilderness road closures further reduces potential effects, as well as facilitating necessary restoration. Inventory and subsequent analysis of existing roads would facilitate necessary opportunities to minimize or mitigate effects to riparian/wetland vegetation. Application of BMPs for road construction, maintenance and general management would prevent, reduce or mitigate potential effects to riparian/wetland vegetation such as reduced density, erosion or soil compaction.

4.5.1.3.2 Alternative A

Direct Effects

BMPs would be continued, or prescribed and implemented at the activity plan level to promote the maintenance or improvement of riparian/wetland vegetation to maintain or progress toward PFC. Depending on site/reach specific objectives, such as those developed and implemented to support WQRPs, riparian vegetation may be managed for a range of ecological status.

Beaver populations would be allowed to expand naturally under this alternative. Beaver expansion into riparian and wetland areas where riparian vegetation condition could not sustain increased utilization by beaver populations could result in reduced bank stability and shade, as well as subsequent increases in sediment input and water temperature. Beaver expansion into riparian communities where condition allows for sustainable increases in vegetation utilization by beaver could result in riparian/wetland vegetation expansion.

Indirect Effects

Woodlands. Juniper and other vegetation removal using prescribed fire and mechanical removal in the uplands and in riparian habitats could affect riparian/wetland vegetation by improving ground cover (e.g., increasing grass, forb, and shrub cover), increasing plant diversity, decreasing nondesirable species dominance, allowing greater infiltration and soil moisture storage, and improving watershed conditions. Initial effects on riparian/wetland habitats may include temporary reductions of riparian vegetation. These practices would restore riparian/wetland vegetation characteristics and improve watershed function.

Rangelands. Native rangeland plant communities would be maintained or improved with emphasis toward attaining ecological status. Rangeland community plant cover and density would be maintained or increased, thereby reducing erosion and improving conditions for streams and riparian/wetland habitats.

Prescribed fire and mechanical vegetation removal would be implemented to promote ecologically desirable traits such as a mosaic of successional stages in rangeland and riparian vegetation. The effects of these activities would be the same as described above in the Woodlands section.

Noxious Weeds. Continued public education and cooperative partnerships for the control of noxious weeds could maintain or improve riparian/wetland conditions resulting in effects to riparian/wetland vegetation, and bank protection. Reducing competition for water and nutrients would improve the ground cover by favoring perennial species with better soil-stabilizing capabilities than noxious weeds and other invasive species.

Currently, there are noxious weeds in riparian habitats being treated with biological controls that have limited effectiveness. The effects of noxious weed introductions on riparian/wetland habitats include degradation of vegetation community structure, cover, and diversity; soil degradation and increased erosion; and increased sedimentation and degradation of water quality.

Fish and Wildlife. Opportunities to improve and/or restore fish and wildlife habitat may affect riparian areas through vegetation manipulation such as juniper removal by mechanical means or by prescribed fire. The effects of these actions would be to decrease the amount of undesirable vegetation in riparian areas and increase the amount and diversity of riparian vegetation. In addition, the effects of these actions would increase bank stability, shade, and bank structure for aquatic species. Effects would be analyzed on a case-by-case basis when site-specific activity plans were developed.

Energy and Minerals. The effects of energy and mineral exploration, location, development, and production would vary, depending on the location and degree of disturbance, the proximity to riparian/wetland resources, and the need to develop roads that would disturb riparian/wetland sites. The effects would be similar for oil and gas leasing, geothermal energy, and mineral sales causing ground disturbance that could increase erosion, remove riparian/wetland vegetation, release contaminants that could affect riparian/wetland vegetation, and alter drainage patterns by site and road development. Dewatering of streams and ground water for mineral extraction/production could degrade riparian/wetland vegetation and reduce stream flows.

Wild Horses and Burros. Maintenance of water for wild horses could have effects on riparian/wetland areas by reducing horse concentrations in riparian areas. Exclosure fences around springs would prevent grazing and trampling of vegetation at those sites.

Wild horses affect riparian/wetland sites through compaction and vegetation removal in some areas. Managing horses in HMAs reduces the effects on riparian/wetland areas outside these areas. Even though the boundaries for the South Steens and Kiger HMAs would remain the same, the effective area used by these horse herds has been reduced due to the Steens land exchanges and fencing of private land that followed. In the South Steens HMA, most riparian areas would be in PFC. Retaining the same AML on a smaller land base might increase the effects of horse use to riparian areas at springs and along sections of the Donner and Blitzen River system. As interior fences would be removed in the No Livestock Grazing Area, that portion of the HMA could be more accessible to horses. This would distribute horse use throughout more of the HMA and reduce riparian area use in other parts of the HMA. The Kiger horse herd has not used the portion of the HMA that was exchanged for approximately 15 years. Effects of horse use on riparian areas within the Kiger HMA would be the same as that which occurred before the Steens land exchange.

Grazing Management. Existing livestock grazing management has led to improved riparian/wetland conditions. Grazing and rangeland project implementation effects on riparian/wetland areas would be site specific, and has been adjusted to improve riparian/wetland resources in many portions of the Planning Area by managing vegetation and stream channel improvement. Other sites may still require management adjustments, and grazing could continue to have an effect on riparian/wetland areas. Grazing can reduce ground cover, litter development, watershed condition, and riparian/wetland vegetation.

Wildland Fire Management. Management actions to reduce fuels and/or restore historic fire regimes would increase watershed function and reduce the occurrence of wildland fire through riparian/wetland areas. This would facilitate maintenance and persistence of riparian/wetland vegetation. Prescribed fires could temporarily reduce riparian/wetland vegetation if burned; however, this event would be avoided or mitigated as necessary. Rehabilitation of wildland fire areas would promote soil stability and infiltration adjacent to riparian areas. Where natural riparian regeneration would

be expected to be limited, restoration could promote establishment of riparian/wetland vegetation. Temporary effects to riparian/wetland areas from mechanized fuels treatment or rehabilitation efforts may include soil compaction and vegetation disturbance. However, these effects would be expected to be of short duration, and minimized or mitigated.

Transportation and Roads. Road and ROW development in, near, or across riparian/wetland areas would affect riparian function and would be developed on a case-by-case basis. Most effects on riparian/wetland vegetation would be long term, resulting in the removal of vegetation, disruption or restriction of channel form, disruption of drainage patterns, surface and subsurface flows, and the loss or constriction of floodplains. The degree of effect would depend on the extent of the project within the riparian/wetland system. After surface disturbance, rehabilitation would concentrate on restoring riparian/wetlands to PFC.

Off-Highway Vehicles. Seasonal as well as permanent road, trail, and area closures for OHV and mechanized vehicle use would affect riparian/wetland vegetation by limiting off-road travel during the time soils would be saturated and have the greatest erosion potential. Current OHV and mechanized vehicle use could continue to affect riparian/wetland resources on a site-specific and a watershed basis, resulting in soil disturbance, compaction, erosion, and vegetation removal. Organized events would only be authorized if they would have no direct effects on riparian/wetland resources and would be consistent with other resource values.

Recreation. Recreational use could result in localized disturbance to riparian and wetland vegetation and soil compaction, thereby causing erosion and sediment production and reducing shade. Intensive management of some areas could provide greater protection for water resources through more immediate identification and resolution of conflicts between recreation and other resources.

4.5.1.3.3 Alternative B

Direct Effects

Natural processes would be emphasized in the maintenance and restoration of riparian/wetland areas to achieve or progress toward attainment of an advanced ecological status. Active restoration would be limited to reaches/sites that would not likely achieve or progress toward attainment of advanced ecological status within the RMP goal timeframe of 20 to 50 years.

Beaver populations would be managed as in Alternative A, with the same effects.

Indirect Effects

Woodlands. Reliance on naturally ignited fire to reduce juniper in riparian/wetland areas could result in continued and increased suppression of riparian vegetation distribution and abundance, decreasing opportunities for maintaining or restoring riparian/wetland vegetation resources. Reduced emphasis on juniper and other vegetation removal and prescribed fire in the uplands could affect riparian/wetland vegetation by modifying watershed capabilities to capture and store precipitation. This may result in increased runoff and reduced ground water contributions to riparian vegetation.

Rangelands. Natural processes would be allowed to determine rangeland vegetation communities. Where existing or future rangeland vegetation communities adjacent to riparian/wetland areas would be dominated by annual species (e.g. cheatgrass), which alter community stability and fire cycles, the density and distribution of riparian vegetation may be suppressed by fire.

Noxious Weeds. Noxious weed management would be limited to treating only high priority areas. The lack of emphasis on protection of riparian/wetland resources in areas that would not be high priority BLM administered lands, or on adjacent private property, could affect riparian/wetland vegetation, bank protection, and flood control where noxious weed introductions occur. Emphasis on manual and biological controls would be preferred, which may limit the effectiveness of control treatments of noxious weeds in riparian/wetland habitats.

Fish and Wildlife. The effects of the action to improve/restore fish and wildlife habitat would be similar to Alternative A except that progress toward improvement may be at a slower rate due to use of mainly passive methods.

Energy and Minerals. The effects of energy and mineral exploration, location, development, and production would be least under this alternative, as the entire Planning Area would be recommended for withdrawal from locatable mineral entry and designated as closed to energy leasing.

Wild Horses and Burros. Wild horse use would affect riparian/wetland sites the same as Alternative A. New spring/water developments would be implemented as necessary to sustain healthy viable herds, which could affect riparian/wetland vegetation by trampling and vegetation removal at those sites.

The effect of reducing the acreage in the Kiger HMA would be the same as described in Alternative A. The effects of reducing the acreage in the South Steens HMA by eliminating that part of the current HMA in the No Livestock Grazing Area while retaining the same AML would increase horse use in riparian areas and increase the possibility of reduction of riparian vegetation, decreased bank stability, and loss of PFC.

Management activities that restore riparian/wetland areas may require fencing to prevent trampling and grazing of planted materials.

Grazing Management. Elimination of grazing in the AMU and emphasis on nonconsumptive use in the CMPA would promote maintenance and restoration of riparian/wetland vegetation.

Wildland Fire Management. The same as Alternative A.

Off-Highway Vehicles. OHV and mechanized vehicle use would have little effect on riparian/wetland resources. Maximizing both seasonal and permanent road, trail, and area closures to OHV and mechanized vehicle use would affect riparian/wetland vegetation by limiting off-road travel in uplands and riparian/wetland areas, particularly when soils would be saturated and have the greatest erosion potential. Overall, the limitations and closures throughout the Planning Area would reduce the effects of OHV and mechanized vehicle use on riparian/wetland vegetation and resources.

Recreation. Minimal recreation management could reduce recreation opportunities and use through much of the Planning Area. Reduced use could result in less localized disturbance to riparian and wetland vegetation, thereby increasing aquatic habitat cover and shade. Minimal recreational management may provide less protection for water resources, as conflicts between recreation and resources may be less likely to be identified and resolved.

4.5.1.3.4 Alternative C

Direct Effects

Riparian/wetland vegetation would be maintained or restored to an advanced ecological status through active and/or passive control of uses, such as livestock grazing and recreation, and development and implementation of restoration measures.

Beaver populations would be allowed to expand naturally as in Alternatives A and B, with the same effects. In addition, beaver would be reintroduced into suitable habitat. Since reintroduction areas would have suitable habitat for beaver, increases in vegetative utilization would be sustainable. The effects of reintroduction would therefore tend to include expansion of riparian vegetation, improved streambank stability, and increased cover and habitat complexity.

Indirect Effects

Woodlands. Juniper and other vegetation removal using prescribed fire and mechanical removal in the uplands and in riparian habitats would affect riparian/wetland vegetation the same as Alternative A.

Rangelands. Native rangeland plant communities would be maintained or improved with emphasis toward attaining ecological status and minimizing commodity production. Native plant communities would increase in range and distribution, thereby reducing erosion and improving conditions for streams and riparian/wetland habitats.

Wildland fire would be implemented to promote ecologically desirable traits in rangeland and riparian/wetland communities. The effects would be the same as Alternative A.

Mechanical removal of woody vegetation to create a mosaic of successional stages in rangeland and riparian vegetation would have effects similar to Alternative A, though lower in magnitude, since emphasis would only be on selected sites

Noxious Weeds. Continued public education and cooperative partnerships for the control of noxious weeds would improve riparian/wetland conditions, resulting in bank protection and flood control. Reducing the competition for water and nutrients would improve the ground cover, promoting perennial species with better soil-holding capabilities than noxious weeds and other invasive species. Noxious weed management under this alternative emphasizes and prioritizes the eradication of a greater number of noxious weeds sites within the Planning Area, potentially reducing competition and habitat degradation in riparian/wetland habitats.

Fish and Wildlife. The effects of the action to improve and/or restore fish and wildlife habitat would be similar to Alternative A except that progress toward improvement could be quicker with the emphasis on protection of natural values.

Energy and Minerals. The effects of energy and mineral exploration, location, development, and production would be limited to areas where natural values would not be impaired by surface disturbance. The limitations would be similar for oil and gas leasing, and geothermal energy. Permits would be considered on a case-by-case basis, with no permits allowed in ACECs, BLM administrative sites, recreational sites, potential recreational sites, listed cultural sites, important paleontological sites, areas containing special status species and their habitat, and within 0.6 mile of sage-grouse leks. The limitations and restrictions to mining in these areas reduce the number of acres open to surface disturbances and the potential for effects to riparian/wetland vegetation under this alternative.

Wild Horses and Burros. Spring development and maintenance of water for wild horses would have the same effects as Alternative A.

The effects of decreases in the acreage of the Kiger HMA on riparian areas would be as described in Alternative A. The effects of the decrease in acreage of the South Steens HMA would be the same as described in Alternative B.

Grazing Management. Grazing and rangeland project implementation effects on riparian/wetland areas would be site-specific, and would be adjusted to improve riparian/wetland resources in many portions of the Planning Area by managing vegetation and stream channel improvements. Emphasis for grazing management under this alternative would be on nonconsumptive uses in the AMU and the CMPA, potentially reducing the effects on riparian/wetland resources from the current uses (Alternative A). Removal of projects and rehabilitation of project sites that do not function, would be emphasized to enhance resource values, including riparian/wetland resources. Permitted use in vacant allotments with resource conflicts could be discontinued, reducing the potential for effects on riparian/wetlands within or adjacent to those allotments.

Wildland Fire Management. Same as Alternative A.

Off-Highway Vehicles. OHV and mechanized vehicle use would be managed for minimal use in accordance with limited and closed OHV designations, thereby reducing the effects on riparian/wetland vegetation. OHV and mechanized vehicle use could degrade riparian/wetland resources on a site-specific basis, resulting in compaction, erosion, and vegetation removal. Organized events would be authorized only on designated routes in areas designated as limited to designated roads, ways and trails, thereby reducing the potential effects on riparian/wetland resources.

Recreation. Recreational use could result in increased localized disturbance to riparian and wetland vegetation and soil compaction, thereby increasing erosion and sediment production and reducing shade. Intensive management of some areas could provide greater protection for water resources through more immediate identification and resolution of conflicts between recreation and other resources, while conflicts between recreation and resources may be less likely to be identified and resolved in other, less intensively managed areas.

4.5.1.3.5 Alternative D

Direct Effects

Riparian/wetland vegetation would be maintained or restored at a range of ecological conditions depending on site/reach specific objectives, such as those prescribed for special status species habitat and/or water quality requirements. Riparian/wetland vegetation would be maintained or restored at least to a level adequate to maintain or progress toward PFC. However, the majority of perennial streams in the Planning Area on public lands would be associated with special status fish, CWA 303(d) listed waters, wilderness and/or WSRs, and would be maintained or restored to a late or advanced ecological status through active and/or passive management.

Beaver populations would be managed as in Alternative C. However, this alternative would also allow for the removal of beaver if suitable habitat would not be available or if economic harm or ecological damage would be occurring. In areas, where natural expansion of beaver into unsuitable riparian habitat (i.e., incapable of sustaining increased utilization) occurs, removal of beaver through recommendations to the ODFW, could result in increased riparian vegetation density, with resulting improvements in aquatic habitat. In areas where natural expansion of beaver into suitable riparian habitat (i.e., capable of sustaining increased utilization) occurs but beaver would be removed to reduce economic harm, changes to riparian vegetation and aquatic habitat associated with beaver would not occur.

Indirect Effects

Woodlands. Juniper and other vegetation removal using prescribed fire and mechanical removal in the uplands and in riparian habitats would affect riparian/wetland vegetation the same as Alternatives A and C.

Rangelands. Native rangeland plant communities would be maintained or improved as in Alternative A with the same effects, with emphasis toward attaining ecological status and minimizing commodity production.

Both prescribed and wildland fire would be implemented to promote ecologically desirable traits in rangeland and riparian/wetland communities. The effects would be similar to Alternative A, though distributed through a greater portion of the Planning Area.

Mechanical removal of woody vegetation to create a mosaic of successional stages in rangeland and riparian vegetation would have the same effects as Alternative A.

Noxious Weeds. Continued public education and cooperative partnerships for the control of noxious weeds would have the same effects as Alternative A, with management emphasis on treating areas with high quality natural resource values.

Fish and Wildlife. The effects of the action to improve and/or restore fish and wildlife habitat would be similar to Alternative A.

Energy and Minerals. The effects of energy and mineral exploration, location, development, and production would vary, depending on the location and degree of disturbance, the proximity to riparian/wetland resources, and the need to develop roads that would disturb riparian/wetland sites. Permits would be considered on a case-by-case basis, with no permits allowed in ACECs, BLM administrative sites, recreational sites, potential recreational sites, listed cultural sites, important paleontological sites, areas containing federally listed species and their habitat, and within 0.6 mile of sage grouse leks. No new areas would be closed to oil and gas leasing and geothermal energy development, which could potentially cause ground disturbances and indirectly or directly affect riparian/wetland vegetation. Effects caused by ground disturbance and other related site effects for mineral and energy development activities could increase erosion, remove riparian/wetland vegetation, potentially release contaminants that would affect riparian/wetland vegetation and resources (invertebrate and fish habitat), and alter drainage patterns by site and road development. Dewatering of streams and ground water for mineral extraction and/or production would degrade riparian/wetland vegetation and reduce stream flows.

Wild Horses and Burros. Spring development and maintenance would have the same effects on riparian/wetland areas as Alternative A, with management emphasis on riparian/wetland resource objectives.

The effect of reducing the acreages in the Kiger and South Steens HMAs would be the same as described in Alternative A.

Grazing Management. Grazing management would continue toward improved riparian/wetland conditions while providing sustainable livestock grazing. Grazing and rangeland project implementation effects on riparian/wetland areas would be adjusted to improve riparian/wetland resources in many portions of the Planning Area, based on evaluations and rangeland health assessments that would determine allowable AUMs and plant community management.

Wildland Fire Management. Same as Alternative A.

Off-Highway Vehicles. OHV and mechanized vehicle use would be cooperatively managed in accordance with OHV designations. Seasonal, and permanent, road, trail, and area closures for OHV and mechanized vehicle use would affect riparian/wetland vegetation by limiting off-road travel during the time soils would be saturated and have the greatest erosion potential. OHV and mechanized vehicle use (including all-terrain vehicles and snowmobiles) within designated

areas would be encouraged, which would affect riparian/wetland resources on a site-specific basis, and the watershed due to soil compaction, erosion, and vegetation removal in the uplands. There would be less effect to the Alvord Desert under this alternative than Alternative A, but greater effect to the Planning Area than Alternatives B and C.

Recreation. The effects would be the same as in Alternative C.

4.5.1.3.6 Alternative E

Direct Effects

Same as Alternative D.

Indirect Effects

Woodlands. Management emphasis for juniper and other vegetation removal, and prescribed fire in the uplands would be actively prescribed under this alternative, which would have the same effects on riparian/wetland vegetation as Alternative C. Maximizing juniper removal for fuel by-products would increase both short-term and long-term effects to riparian/wetland vegetation as described under Alternative A. As in Alternative B, fire would be allowed in quaking aspen and mountain mahogany stands and in riparian/wetland habitats, with the same effects.

Juniper and other woody vegetation removal using prescribed fire and mechanical removal in the uplands and in riparian habitat would affect riparian/wetland vegetation the same as Alternative A.

Rangelands. Maintenance of native rangeland plant communities would not be emphasized under this alternative. Many native plant communities would be converted to nonnative, potentially degrading riparian/wetland vegetation, community structure, diversity, and health.

Both prescribed and wildland fire would be implemented to promote ecologically desirable traits in rangeland and riparian/wetland communities with the same effects as Alternative D.

Mechanical removal of woody vegetation would be implemented to release suppressed, desirable herbaceous vegetation, but the effects would be similar to Alternative A.

Noxious Weeds. Management of noxious weeds would be similar to Alternative A, with emphasis on treatment of high quality natural resource areas. Riparian/wetland effects would be similar to Alternative A.

Fish and Wildlife. The effects of the action to improve and/or restore fish and wildlife habitat would be similar to Alternative A except that progress toward improvement may be slower or remain static due to the emphasis on commodity production. In the long term, improvements to fish and wildlife habitat would be observed, but the time frame for those improvements may be longer than the life of this RMP.

Energy and Minerals. The maximum amount of land would be available for locatable mineral exploration and development, and would have the greatest potential for degradation of riparian/wetland resources under all of the alternatives. The need to develop roads and production facilities would potentially disturb riparian/wetland vegetation, and increase erosion and sediment deposition into water bodies. All areas would be considered for surface occupancy, unless restricted by current laws or regulations, including ACECs, BLM administrative sites, recreational sites, potential recreational sites, listed cultural sites, important paleontological sites, areas containing special status species, and within 0.6 mile of sage-grouse leks. No seasonal stipulations to protect wildlife or maintain roads would be implemented, which would potentially degrade riparian/wetland vegetation and other natural resource values. Saleable minerals development would be permitted throughout the Planning Area on a case-by-case basis, except where closed by Congressional act. No areas would be closed to oil and gas leasing or geothermal energy development, which could potentially increase ground disturbances, and indirectly or directly affect riparian/wetland vegetation. Actions resulting in ground disturbance for mining and energy development activities (e.g., site and road development) would increase erosion, remove riparian/wetland vegetation, potentially release contaminants that could affect riparian/wetland vegetation, wildlife, and water quality, and alter drainage patterns. Dewatering of streams and ground water for mineral extraction and/or production would degrade riparian/wetland vegetation and reduce stream flows. This alternative has the greatest potential for degrading riparian/wetland and other resources from mineral and energy development.

Wild Horses and Burros. Spring development and maintenance would have the same effects on riparian/wetland areas as Alternative A, with management emphasis on commodity production such as livestock grazing while meeting other natural resource objectives. Wild horse use could increase at these sites, potentially increasing the effect on riparian/wetland vegetation and resources, including compaction, soil disturbance, vegetation community degradation, increased erosion, and bank deterioration. This would be the case if the South Steens HMA would be expanded to include the Dry Creek and Big Springs pastures of the Fish Creek-Big Indian Allotment, Serrano Point and Carlson Creek Allotments and the Bone Creek and Miners Field pastures of the Alvord Peak Allotment. Although wild horse use could be reduced on riparian areas in other parts of the HMA, many riparian areas in these allotments would be in PFC or FAR with a static or upward trend while some would be nonfunctional. Year long use by wild horses in this area would make achievement or maintenance of PFC in riparian areas and a thriving ecological balance an unrealistic goal. Existing fences on the north end of this area would not be substantial enough to keep wild horses from roaming to the north into Wild Horse Canyon and further north on the east side of the Steens to Mann Lake Ranch. This could affect riparian areas along streams that contain Lahontan cutthroat trout. The effect of reducing the acreage in the Kiger HMA would be the same as described in Alternative A.

Grazing Management. Grazing and rangeland project implementation effects on riparian/wetland areas would be managed by accepted livestock management practices in order to meet riparian/wetland resource and other resource objectives. The greatest potential for effects to riparian/wetland vegetation and resources would result from this alternative, which emphasizes livestock grazing; however, this would likely result in additional mitigating infrastructure such as fencing and off-channel water developments to control livestock access to riparian areas.

Wildland Fire Management. The same as Alternative A.

Off-Highway Vehicles. OHV and mechanized vehicle use would be managed for maximum use except in areas designated as closed or limited to designated or existing roads, ways, or trails, in compliance with existing laws, regulations, and policies. OHV and mechanized vehicle use organized events would be encouraged, which could affect riparian/wetland vegetation and soil resources on a site-specific and watershed basis, resulting in soil compaction, erosion, and vegetation removal.

Recreation. The effects would be the same as in Alternative C.

4.5.1.4 Summary of Effects

Riparian/wetland vegetation and associated wildlife habitats would continue to improve under Alternative A at a relatively slow rate while allowing for the continuation of commodity uses including livestock, transportation, and recreation. Management would continue on a case-by-case basis on a site-specific level with less emphasis on watershed scale effects. The major effects on riparian/wetland vegetation result from wildland fire (short-term effect), lack of aggressive juniper and vegetation removal (long-term effect), and noxious weed introductions. The management goals would not be achieved under this alternative within the timeframe of the RMP unless management prioritizes the restoration of riparian/wetland areas to restore PFC on streams that are currently functionally at risk, nonfunctioning, and in poor condition.

Alternative B would likely affect riparian/wetland vegetation by allowing natural processes to determine the outcome of habitat conditions, thereby resulting in currently nonfunctioning riparian systems possibly not reaching PFC during the life of this plan. Without active restoration, functionally at risk and nonfunctioning streams and riparian/wetland systems could potentially stay static, thereby not improving to PFC or achieving an advanced ecological state. Watershed scale effects would progress toward natural recovery in the uplands, but increased noxious weeds, invasive species, juniper, and other competing or decadent vegetation could continue to affect riparian/wetland vegetation in some locations due to a reduction of prescribed fire and mechanical removal of vegetation, and due to emphasis on allowing natural processes to determine resource conditions. The management goals for riparian/wetland vegetation may be achieved on many sites by allowing natural processes to determine the habitat conditions under this alternative.

Alternative C would have fewer effects on riparian/wetland vegetation condition than Alternatives A and B, with more management emphasis on watershed restoration of degraded systems and maintenance of those systems functioning at a high level of condition. Watershed scale restoration would result in more stable conditions over time. Recovery rates for riparian/wetland vegetation would require more time to achieve the DRC than Alternative D. Slower recovery rates for the restoration of watershed function and processes would result in a reduction in the improvements to riparian/wetland vegetation in the short term. Active management emphasis for prescribed fire and juniper removal

would be implemented to restore natural conditions to uplands and riparian/wetland habitats. The management goals and objectives for riparian/wetland vegetation would likely be achieved under this alternative.

Under Alternative D, which emphasis protection and restoration of natural values while providing for multiple resource management, recovery rates would be accelerated and would result in improved riparian/wetland vegetation condition. Watershed scale restoration would result in more stable conditions. Prescribed fire management strategies for weeds, juniper, and other vegetation would be the most aggressive under this alternative. With a more aggressive fire rehabilitation program than Alternatives A, B, and C, the long-term benefits from wildland and prescribed fire activities could be used to restore nonfunctioning riparian/wetland sites. The increase in commodity uses, including livestock, transportation, and recreation would have more effects on riparian/wetland vegetation than Alternatives B and C. However, the management emphasis to protect and restore natural values would allow for more opportunities to mitigate, restore, and enhance riparian/wetland vegetation where a project affects those resources.

Effects from Alternative E would be similar to Alternative A, with an increase in commodity uses resulting in a greater effect on riparian/wetland vegetation. Minimally acceptable conditions would be required and mitigation would occur on a case-by-case basis rather than on a watershed scale. While improvements would occur, they would be prioritized to emphasize commodity uses and not natural resource values, and improvements would take longer and be less extensive than Alternatives A or D. Noxious weed management would emphasize protection of commodity resources rather than watershed resources, which could affect riparian/wetland vegetation. Juniper and other vegetation removal would be more aggressive under this alternative than Alternatives A, and B, which could have a beneficial effect on riparian/wetland vegetation. The management goals and objectives for riparian/wetland vegetation would not likely be achieved under this alternative, and would occur at a slower rate than Alternatives A, C, and D due to the emphasis on commodity production and public uses.

4.5.1.5 Cumulative Effects

Cumulative effects to riparian/wetland vegetation would be habitat loss, destruction, conversion, and loss of habitat connectivity. This loss of habitat has resulted from upstream effects, channel alterations, road construction, flooding, noxious weed introductions, upland vegetation degradation, and eroded soils. Effects caused from activities implemented on private lands adjacent and/or upstream create additional cumulative effects to BLM-authorized actions.

OHV use, grazing or other activities that create soil disturbance and compaction can increase runoff, erosion, and sediment transport, resulting in degradation of riparian/wetland vegetation.

The loss of habitat due to noxious weed introductions could cause severe effects to riparian/wetland vegetation, special status species, and wildlife species using these habitats. Integrated weed management would be essential in protecting these habitats from noxious weeds and undesirable plant introductions and establishment.

Any actions that cumulatively affect watershed function would ultimately affect riparian/wetland vegetation. The cumulative effects that have created the current conditions would be reversed as rangeland health improvement projects have been, and would continue to be implemented. The cumulative effect of these projects over time would be returning riparian/wetland systems to improved fish, wildlife, and aquatic habitat conditions.

4.5.2 Woodlands

4.5.2.1 Goals and Objectives

Goal 1 - Maintain and improve integrity of old-growth juniper woodlands.

Objective 1. Maintain or improve characteristics of old-growth juniper woodlands. Reduce the influence of post-settlement western juniper trees in old-growth western juniper woodlands.

4.5.2.2 Assumptions

Old growth western juniper woodlands would be defined by a set of characteristics related to the individual tree and the group of trees in the stand. The trees generally have a nonsymmetrical appearance, with rounded, spreading canopies. Individual branches or entire portions of the canopy may senesce, giving the canopy a sparse, open appearance. Trunks become irregular in shape, with severe taper. Deep furrows develop in the trunk and bark begins to take on a fibrous

appearance. Bright green lichen can be found on the branches and upper portions of the trunks. Historically, these stands were found on rocky ridge tops and areas where soil development was minimal. Therefore, these areas burned at a lower frequency than adjacent plant communities. Fires were limited to individual trees or small patches following lightning strikes.

Cutting in old-growth western juniper stands would be done primarily by chainsaws. The rocky soils and steep slopes common to these stands makes the use of large mechanized equipment unlikely.

4.5.2.3 Analysis of Alternatives

4.5.2.3.1 Effects Common to All Alternatives

Direct Effects

Cutting with chainsaws would have the lowest soil disturbance of all treatment methods. However, the amount of soil disturbance caused by mechanized equipment would be minimal due to the rocky surface soil conditions. Disturbance could be further reduced by working larger equipment over dry or frozen soils.

Indirect Effects

Air Quality. The BLM would work cooperatively with other federal, state and local governments to manage air quality. Dust and smoke from woodland management and wildland fire activities could have detrimental short-term effects on air quality. However, long-term impacts would be negligible to nonexistent.

Soils and Biological Soil Crusts. BMPs would be followed to prevent degradation of the soil biological crust community. Soil biological crusts would be monitored to evaluate the impacts of treatment. Identification of soil biological crusts within a project area could require that tree removal occur when soils were dry, minimizing impacts.

Special Status Species. Manage special status plant and animal species and their habitats so management actions do not contribute to their decline or listing as T&E species. Prior to treatment, the proposed treatment area would be surveyed for special status plant and animal species. Identification of special status species could alter the treatment method, or timing in order to reduce the effect of treatment on special status species.

Paleontological Resources. Identify significant localities where paleontological resources may be in conflict with other resource uses. Prior to treatment, the potential for paleontological resources would be evaluated. If paleontological resources would be found, treatment actions would be designed to protect these resources from damage.

Cultural Resources. Identify significant localities where cultural resources may be in conflict with other resource uses. Prior to treatment, the potential for cultural resources would be evaluated. If cultural resources were found, treatment actions would be designed to protect these resources from damage.

Native American Traditional Practices. Consult with the Burns Paiute Tribe on all management actions. The Burns Paiute Tribe would be informed of treatment areas. Project objectives would consider tribal and other interests.

Visual Resources. Designation of the Wilderness, WSAs, and other areas as VRM Class I would limit the type and pattern of any cutting that could be done in these areas.

4.5.2.3.2 Alternative A

Direct Effects

Fires are a rare event in old growth western juniper stands. However, the relatively recent increase in post-settlement western juniper has increased the risk of wildfire in these older stands. Increases in western juniper stand density and cover would also reduce the understory cover of herbaceous and woody plants. Suppression of fires in these stands would allow the continued establishment of younger trees at the expense of the understory vegetation. Tree density and cover would continue to increase, further reducing understory vegetation. The increase would continue until tree intraspecific competition would be severe enough to limit additional western juniper growth and establishment. Stands in this condition would be at an elevated risk of wildfire and post-fire response would be limited due to the loss of understory plant species. Wildfire intensity and severity would be greater than historic conditions because of the increase in tree

cover and density. A larger number of older trees would be lost due to the potential for larger fires in these old growth stands. In areas targeted for cutting, removal of all post-settlement western juniper from old growth stands would limit replacement of ancient trees that senesce or individuals killed by lightning or fire.

Indirect Effects

Noxious Weeds. Identification and control of noxious and other invasive species. Control of noxious and other invasive species could help native plant restoration following cutting of younger trees. However, bare ground may be maintained for a longer period than if weeds were allowed to establish.

Wildlife and Wildlife Habitat. Maintenance, restoration, or improvement of wildlife habitat in old growth western juniper stands may retain a greater cover and density of western juniper in these stands than the site would be capable of sustaining. Maintaining cover for big game could increase mortality of trees established prior to 1870. Especially susceptible to greater levels of competition would be the very old trees with partially live canopies. Loss of these trees could reduce the number of cavity nesting sites affecting birds and mammals that utilize those sites.

Wildland Fire Management. All wildland fires would be suppressed with the appropriate management response. Continued suppression of fires would permit young western juniper to establish and increase in old growth. Shrubs and herbaceous understory plants would be replaced by younger western juniper. Bare ground would be increased by the reduction in understory plants. Rehabilitation following wildfire would utilize native and desirable introduced plant species. However, the small size of these old growth stands and inherently shallow, rocky surface conditions limit the fire rehabilitation options.

Social and Economic Values. Contracts to cut younger western juniper trees from the old growth stands would be made available to local residents. Partnerships would be sought with adjoining private land owners. This would allow treatment areas to be designed based on biophysical boundaries and not geopolitical boundaries.

4.5.2.3.3 Alternative B

Direct Effects

Post-settlement western juniper trees would continue to establish and grow in the old growth stands. Cover and density of western juniper would increase as the younger trees grow. Risk of wildfire would increase with the increasing tree cover. Wildfire intensity and severity would be greater than historic levels in these stands. Prior to establishment of post-settlement trees, fire was limited to single trees or small areas within the stand.

Mortality rates of ancient trees would increase due to intraspecific competition. The amount of standing and dead woody material would increase.

Fires would not be suppressed in these stands. Where post-settlement trees have established and dominate the stand, fires would burn at greater intensity and severity. Acreage burned and number of ancient trees lost to fire would be greatest in this alternative.

Increased tree cover and density of post-settlement trees would occur at the expense of the associated understory vegetation. As understory vegetation cover declines, the amount of bare ground and risk of soil erosion increase. This effect would be exacerbated by burning.

Indirect Effects

Noxious Weeds. Identification and control of noxious and other invasive species would occur. Only high priority areas would be treated. Manual and/or biological control methods would be utilized. Bare ground may be maintained for the period of time between weeds reduction/removal and native plant establishment.

Wildlife and Wildlife Habitat. Maintenance, restoration, or improvement of wildlife habitat in old growth western juniper stands may retain a greater cover and density of western juniper in these stands than the site would be capable of sustaining. Maintaining cover for big game could increase mortality of trees established prior to 1870. Especially susceptible to greater levels of competition would be the very old trees with partially live canopies. Loss of these trees could reduce the number of cavity nesting sites affecting birds and mammals that utilize those sites.

Wildland Fire Management. Naturally ignited wildland fires that do not threaten human life, private property or significant resource values would be evaluated and managed for resource benefits. Shrubs and herbaceous understory plants would be replaced by younger western juniper. Bare ground would be increased by the reduction in understory plants. Fire suppression actions would utilize Minimum Suppression Tactics, and a minimum tool analysis would be conducted on suppression actions. Rehabilitation following wildfire would utilize native and desirable introduced plant species. However, the small size of these old growth stands and inherently shallow, rocky surface conditions limit the fire rehabilitation options.

4.5.2.3.4 Alternative C

Direct Effects

Post-settlement western juniper trees would be cut in old growth stands, but up to ten percent of these trees would be left to replace dead and dying trees. The exact number of trees left uncut would be based on site-specific stand characteristics and mortality. Disturbance to soils and the associated understory plant community in this alternative would be lower than Alternatives A and E.

Removal of the majority of the post-settlement trees would help to reallocate resources to the understory plant community. Cover and density of understory plants would increase, reducing the size and extent of bare ground patches. Reduction in post-settlement western juniper would also help to reduce live fuel loading and the potential for stand-replacement fires in the old growth stands.

Indirect Effects

Noxious Weeds. Same as Alternative A.

Wildlife and Wildlife Habitat. Same as Alternative A.

Wildland Fire Management. Similar to Alternative A except; leaving younger trees in the plant community could increase the fuel available to burn and provide fire a ladder to reach the canopy of older trees. Fires that occur within these stands could be larger than in Alternative A where all younger trees would be removed.

Social and Economic Values. Contracts to cut younger western juniper trees from the old growth stands would be made available to local residents. Partnerships would be sought with adjoining private land owners. This would allow treatment areas to be designed based on biophysical boundaries and not geopolitical boundaries.

4.5.2.3.5 Alternative D

Direct Effects

Direct effects of Alternative D would be similar to Alternative C with the following exceptions.

Development of markets for by-products of mechanical treatments would help boost the economy of Harney County. The amount of material generated from the old-growth stands would be minimal, but when added to other areas, could help to create jobs and increase economic activity in the county.

Indirect Effects

Noxious Weeds. Same as Alternative A.

Wildlife and Wildlife Habitat. Same as Alternative A.

Wildland Fire Management. Wildland fires in western juniper woodlands within the WUI would be suppressed with the appropriate management response. Suppression actions would also be initiated on fires that threaten human life, private property or significant resource values. Continued suppression in these areas would permit young western juniper to establish and increase in old growth. Shrubs and herbaceous understory plants would be replaced by younger western juniper. Young western juniper would continue to increase density and cover in the understory of older trees. Bare ground would be increased by the reduction in understory plants. The more dense woodland structure would increase the risk of stand-replacing fire in the old growth stands. Rehabilitation following wildfire would utilize native and

desirable introduced plant species. However, the small size of these old growth stands and inherently shallow, rocky surface conditions limit the fire rehabilitation options.

Social and Economic Values. Same as Alternative A.

4.5.2.3.6 Alternative E

Direct Effects

Direct effects of mechanical treatments in Alternative E would be the same as in Alternative A.

Direct effects of fire management in Alternative E would be similar to Alternative C with the following exceptions. Areas burned in old-growth stands would be seeded to plant species that maximize forage production.

Direct and indirect effects of market development of by-products from mechanical treatments would be the same as Alternative D.

Indirect Effects

Noxious Weeds. Same as Alternative A.

Wildlife and Wildlife Habitat. Same as Alternative A.

Wildland Fire Management. Wildland fires in western juniper woodlands within the WUI would be suppressed with the appropriate management response. Suppression actions would also be initiated on fires that threaten human life, private property or significant resource values. Continued suppression in these areas would permit young western juniper to establish and increase in old growth. Shrubs and herbaceous understory plants would be replaced by younger western juniper. Young western juniper would continue to increase density and cover in the understory of older trees. Bare ground would be increased by the reduction in understory plants. The more dense woodland structure would increase the risk of stand replacing fire in the old growth stands. Rehabilitation following wildfire would utilize desirable forage species to maximize forage production. Recovery of native grasses and forbs would be slowed by the seeding of forage species. However, the small size of these old growth stands and inherently shallow, rocky surface conditions limit the fire rehabilitation options.

Social and Economic Values. Provide for commodity production to the maximum extent allowed under the Steens Act. Cut western juniper would be made available for use by industry and the public. Removal of this material would increase the travel into theses stands.

4.5.2.4 Goals and Objectives

Goal 2 - Maintain, restore, or improve the integrity of quaking aspen and mountain mahogany stands/groves.

Objective 2. Reduce the influence of western juniper and other associated woody plant species in quaking aspen and mountain mahogany stands/groves.

4.5.2.5 Assumptions

Western juniper has encroached into the majority of the quaking aspen stands below 7,500 feet in elevation. The encroachment would be most severe within the CMPA. Encroachment of western juniper has amplified the reduction in quaking aspen stands that would be occurring across the western United States. Quaking aspen stands comprise less than one percent of the total landscape in the Andrews RA, but they would be critically important to numerous wildlife species and contain many unique plant species and assemblages. Encroachment of western juniper into quaking aspen stands has not been observed to the same degree above 7,500 feet or in the Pueblo or Trout Creek Mountains. However, the stands in those areas reflect a general decline in quaking aspen common across the western United States. Fire suppression and subtle climatic shifts would be identified as the major causal factors.

Mountain mahogany stands occupy a small area within the Andrews RA, but would be important for many wildlife species, similar to quaking aspen. However, these woodlands would be commonly found on rocky ridge tops and shallow

soil areas. Reduction in fire frequency and past management has allowed western juniper to establish in these stands. Western juniper would eventually overtop the mountain mahogany and eliminate it from the community. Mountain mahogany does not sprout following top removal.

4.5.2.6 Analysis of Alternatives

4.5.2.6.1 Effects Common to All Alternatives

Air Quality. Manage wildland fires to avoid degradation of the airshed. The BLM would work cooperatively with other federal, state and local governments to manage air quality. Dust and smoke from woodland management and wildland fire activities could have detrimental short-term effects on air quality. However, long-term impacts would be negligible to nonexistent.

Noxious Weeds. Treat noxious weeds and inventory new introductions using the most effective means available. Prior to mechanical treatment or application of fire to an area, the presence or absence of noxious weeds would be noted and the appropriate weed control treatment applied. Monitoring for the persistence of identified noxious weeds would continue for up to five years following treatment. Areas where there would be a large population of noxious weeds would not be treated until effective weed control could occur or other resources issues were decided to be more severe (e.g., soil loss).

Special Status Species. Manage special status plant and animal species so management actions do not contribute to their decline or listing as T&E species. Presence or absence of special status species would be noted in proposed project areas. Timing and/or method of management action would be prescribed that does not contribute to decline or listing of identified special status species.

Paleontological Resources. Identify significant localities where paleontological resources may be in conflict with other resource uses. Prior to treatment, the potential for paleontological resources would be evaluated. If paleontological resources were found, treatment actions would be designed to protect these resources from damage.

Cultural Resources. Identify significant localities where cultural resources may be in conflict with other resource uses. Prior to treatment, the potential for cultural resources would be evaluated. If cultural resources were found, treatment actions would be designed to protect these resources from damage.

Native American Traditional Practices. Consult with the Burns Paiute Tribe on all management actions. The Burns Paiute Tribe would be informed of treatment areas. Project objectives would consider tribal and other interests.

Social and Economic Values. Work cooperatively with public land users consistent with resource objectives. Cooperative projects would be sought with adjacent private land owners. Management decisions would be based on watershed and subwatershed boundaries and not ownership boundaries. This would help to make management action more economical for public and private land managers.

Visual Resources. Designation of the Wilderness, WSAs, and other areas as VRM Class I would limit the type and pattern of any cutting that could be done in these areas. VRM class designations would not affect the use of wildfire or prescribed fire. Any other actions associated with aspen and mahogany management would be designed to meet the appropriate VRM class of the area to be treated.

4.5.2.6.2 Alternative A

Direct Effects

Removal of western juniper from lower elevation quaking aspen and mountain mahogany stands would release resources for quaking aspen and mountain mahogany growth. Trees cut and left in place would provide some physical protection for new and existing plants. However, many western juniper less than three feet tall would remain in the plant community. Uncut western juniper would also benefit from removal of overstory trees. Minor soil surface disturbance would occur during the cutting if chainsaws were used. Limited suckering would occur following cutting, especially if quaking aspen would be also cut. Seedling establishment of mountain mahogany would be encouraged, with some degree of soil disturbance. Falling of western juniper may damage quaking aspen and mountain mahogany plants. Herbaceous and other woody understory vegetation cover would increase following cutting.

In stands where many western juniper saplings and seedlings exist, prescribed fire would kill these individuals. Quaking aspen suckering would be greatly favored by burning. However, areas with large accumulations of cutting slash may generate enough heat at the soil surface to reduce suckering. Burning when soil moisture would be high and/or over frozen soils would reduce the effects of burning, but also reduce consumption of slash.

Burning in mountain mahogany stands would also kill mature mahogany. Slash could be removed from the site or burned during periods of high soil moisture. Cool temperatures would reduce the loss of mountain mahogany, similar to quaking aspen stands.

Burning would increase the amount of bare ground exposed. Increased bare ground may favor establishment of mountain mahogany. Establishment of mountain mahogany would be increased in areas where bare ground would be present because of a hygroscopic awn attached to the seed that helps to drill the seed into the ground.

Suppression of fires in quaking aspen and mountain mahogany stands would permit western juniper to continue to increase density and cover. Sapling and smaller sized western juniper in the understory of quaking aspen and mountain mahogany stands provides ladder fuels for fire to spread into the canopies of the woodlands. Western juniper also contains a higher concentration of volatile oils that increases the flammability of the stand. Fires that do occur would burn with a greater intensity and result in a more severe fire than those of the past. In the absence of fire, existing quaking aspen and mountain mahogany would continue to be out-competed by western juniper, and stand dominance would shift to juniper.

Fencing of stands would protect new seedlings from grazing by large herbivores. Fences would be constructed to limit access by domestic and wild herbivores. Removal of the fence would occur when quaking aspen or mountain mahogany seedlings have grown to the point where browsing by large herbivores would not affect survival.

Indirect Effects

Noxious Weeds. Integrated management for control of noxious weeds would continue with emphasis on disturbed areas such as road ROWs, and recreational sites. Weeds could continue to establish in isolated quaking aspen and mountain mahogany stands because of the concentration on disturbed areas. Many quaking aspen and mountain mahogany stands were located outside of the road ROW and would not be classified as heavily disturbed. Noxious weeds could establish in these isolated stands and not be treated because of the lower priority.

Social and Economic Values. Make contacts for services and sale of products available to local residents. Cut woody material from quaking aspen and mountain mahogany stands could be made available to local residents. Removal of this material could reduce the fuel loading and the effectiveness of prescribed fires. If all woody material would be removed western juniper trees less than 3 feet tall would need to be cut in these stands in addition to the larger trees. These smaller trees would have been killed by the prescribed fire.

Wildland Fire Management. Suppress all fires using the appropriate management actions. Suppression of all fires within the Planning Unit would allow the continued dominance of western juniper in quaking aspen and mountain mahogany stands. Prescribed fire and mechanical treatments would be the only method available to reduce the influence of western juniper in quaking aspen and mountain mahogany stands.

4.5.2.6.3 Alternative B

Direct Effects

Western juniper would continue to increase cover and density in the lower elevation quaking aspen and mountain mahogany stands. Quaking aspen and mountain mahogany would decline at the lower elevation due to increases in western juniper. Associated understory plants would also decline in response to the increases in western juniper. Once western juniper forms a closed woodland in these plant communities, return to pre-encroachment plant communities would require planting of quaking aspen, mahogany, and many of the associated understory species.

Total number of acres burned would decrease in the short term and potentially increase in the long term. Encroachment of western juniper in the understory of quaking aspen and mountain mahogany provides ladder fuels. The flammability of western juniper would also be greater than quaking aspen. Fires that may have had limited potential for spread would

have a greater chance of expanding. Response of quaking aspen to burning would be reduced because of the low vigor of the quaking aspen and mountain mahogany that would be competing with western juniper.

Burned areas would not be fenced for protection from grazing animals. Livestock grazing would continue in part of the CMPA, but would be eliminated from the remainder of the Andrews RA. Large herbivores, domestic or wild, would be drawn to areas where quaking aspen responds to fire. Concentration of these animals in the burned area would slow recovery of quaking aspen and mountain mahogany. Effects could be reduced if quaking aspen or mountain mahogany communities would be part of a larger burn.

Indirect Effects

Noxious Weeds. Treat only high priority areas of noxious weeds to protect natural resource land and adjacent private lands. Manual and biological methods would be the preferred method. High priority quaking aspen and mountain mahogany stands would be treated. The preference of mechanical and biologic control methods could reduce the effectiveness of treatment. Fewer acres could be treated mechanically because of the high labor costs for that method. Biological methods of control have been developed for only a few of the weed species.

Fish and Wildlife. Identify opportunities for improvement/restoration of fish and wildlife habitat through use of wildland fire, and other mainly passive methods. Under this management western juniper would continue to increase and dominate these stands. Habitat for large and small animals would shift from a hardwood woodland to a conifer woodland.

Special Status Species. Let natural processes determine habitat for special status plant species except for management of critical habitat identified in recovery plans for federally listed species. Reliance on natural processes would permit western juniper to increase density and cover in quaking aspen and mountain mahogany stands not burned in wildfire events. Increases in western juniper would favor a small number of neotropical migrant birds, but would discourage a larger number of others. Birds that require cavities to nest would be the most dramatically affected. Quaking aspen provides the only location for cavity nesting species in these areas.

Wildland Fire Management. Suppress fires that threaten human life, private property, or areas of significant resource value. Fires that do not threaten the above factors would be managed for resource benefits. Threats to human life and private property would be for the most part small in quaking aspen and mountain mahogany stands. Historic fire return intervals (average number of years between fire events) for quaking aspen stands would be between 60 and 90 years, and greater than 100 years for most mountain mahogany stands. Natural fire starts would be insufficient to reduce the influence of western juniper in these stands. Increases in western juniper also changes the fuel structure of the stand.

4.5.2.6.4 Alternative C

Direct and Indirect Effects

Direct effects of Alternative C would be similar to Alternative A, with the following exceptions. All wildland fires would be evaluated for resource benefits. Wildfires that do not threaten firefighter or public safety and private property would be managed for resource benefits.

Noxious Weeds. Same as Alternative B.

Fish and Wildlife. Same as Alternative B.

Wildland Fire Management. Same as Alternative B.

4.5.2.6.5 Alternative D

Direct Effects

Direct effects of western juniper cutting and prescribed burning would be similar to Alternative A and the effects of utilizing wildfire for resource benefits would be similar to Alternative B.

Utilization of cut western juniper would reduce the fuel loading in quaking aspen and mountain mahogany. Fire intensity and severity would be lower in wildfires than if slash was left on site.

The most number of acres of quaking aspen and mountain mahogany would be restored in this alternative.

Indirect Effects

Noxious Weeds. Integrated management for control of noxious weeds would continue with emphasis on disturbed areas such as road right of ways, and recreational sites. Priority would be given to high quality natural resource areas. Noxious weed populations would be identified prior to, and after, woodland treatments. Treatments would not occur in areas where noxious weeds would dominate the plant community following treatment

Social and Economic Values. Make contracts for services and sale of products available to local residents. Cut woody material from quaking aspen and mountain mahogany stands could be made available to local residents or private industry. Removal of cut material would reduce the short-term threat of wildfire between the time of cutting and burning in prescribed fire.

Wildland Fire Management. Wildfires outside of the WUI would be evaluated for resource benefits and appropriate management actions would be taken. Wildland fires that do not threaten human life or private property would be managed for resource benefits. The average size of smaller fires would increase in the quaking aspen and mountain mahogany stands. The number of acres mechanically treated to remove western juniper would decrease because wildfires would be managed for resource benefits, reducing the reliance on mechanical methods.

4.5.2.6.6 Alternative E

Direct Effect

Direct effects of Alternative E would be similar to Alternative A with the following exceptions. Seeding of forage species following burning in quaking aspen stands would slow the recovery of native herbaceous and woody plants. No fencing following burning would also slow recovery. Wild and domestic larger herbivores would have ready access to the sites. Use of desirable forage species could help to defray some grazing on new quaking aspen and mountain mahogany shoots.

Indirect Effects

Noxious Weeds. Same as Alternative D.

Social and Economic Values. Make contacts for services and sale of products available to local residence. Cut woody material from quaking aspen and mountain mahogany stands could be made available to local residents or private industry. Removal of cut material would reduce the short-term threat of wildfire between the time of cutting and burning in prescribed fire. Emphasis on commercial products would increase mechanized travel on cut units. Increases in soil compaction and erosion could occur, further slowing recovery of native vegetation.

Wildland Fire Management. Same as Alternative A, except; rehabilitation of burned areas would utilize forage grasses. Recovery of native grasses, forbs and shrubs would be slowed by the seeded forage species.

4.5.2.7 Goals and Objectives

Goal 3 - Manage woodland habitats so the forage, water, cover, structure, and security necessary to meet life history requirements of wildlife would be available on public lands.

Objective 1. Reduce juniper woodlands to help restore riparian and sagebrush habitats.

4.5.2.8 Assumptions

Ninety percent of present-day western juniper woodlands are less than 120 years old. Most of the plant communities where western juniper currently exists are altered plant communities. Western juniper would be actively encroaching into mountain big sagebrush plant communities in the northern end of the Planning Area. Western juniper would be rare or uncommon in the southern end of the Planning Area. Western juniper establishes and grows at the expense of the associated understory plants. The degree to which western juniper dominates a site would be dependent on soil type and depth. Understory plants would be most dramatically reduced on shallow south slopes. A fully developed western juniper woodland can reduce the understory to the point that herbaceous plants cover less than one percent of the soil surface.

Shrubs would be most dramatically affected on deeper soils. The herbaceous understory would be capable of utilizing resources closer to the upper soil layers.

Establishment and woodland development in riparian areas would be similar to quaking aspen stands. Western juniper woodland established less than 120 years ago have the greatest cover in quaking aspen and riparian areas. Response to juniper removal in these communities would be dramatic because of the inherent site productivity.

The increase of western juniper in the mountain big sagebrush and riparian plant communities can be attributed to past livestock management, fire suppression, subtle climatic shifts since the end of the 19th century, or a combination of all three factors. Fire can be an effective tool for restoring sagebrush and riparian habitats, but must be applied before the shrubs in the understory would be lost from the community. Once that occurs, a pre-treatment must be applied to build ladder fuels in the understory.

4.5.2.9 Analysis of Alternatives

4.5.2.9.1 Effects Common to All Alternatives

Direct Effects

Removal of western juniper would result in an increase of available resources (soil moisture and soil nutrients). Residual understory plants would be capable of responding to removal of the western juniper overstory. The amount of mineral soil exposed would increase following burning. The risk of soil erosion following the fire would be directly tied to soil type and slope position. In general, the amount of soil movement would be greatest immediately following fire. Once plant cover begins to increase, the amount of erosion would decrease. Soil movement from closed woodlands would likely be similar to that encountered following burning. However, plant cover would increase following burning as compared to western juniper woodlands where the understory plant cover would either stay static or decrease.

Soil disturbance from western juniper cutting would be least following cutting with chainsaws and would increase with the size of the machinery used. A large percent of the Andrews RA has western juniper on slopes that exceed the safe operation limits of larger machinery.

Indirect Effects

Air Quality. Manage wildland fires to avoid degradation of the airshed. The BLM would work cooperatively with other federal, state and local governments to manage air quality. Dust and smoke from woodland management and wildland fire activities could have detrimental short-term effects on air quality. However, long-term impacts would be negligible to nonexistent.

Water Quality. Maintain, restore or improve water quality to sustain the designated beneficial uses on public lands. Cutting and prescribed fire within the riparian area would be done to restore the riparian areas and water quality. Short-term increases in sediment flow into streams could occur following cutting and prescribed fire. Method and timing of treatment would be modified to reduce the effects to water quality.

Noxious Weeds. Treat noxious weeds and inventory new introductions using the most effective means available. Prior to mechanical treatment or application of fire to an area, the presence or absence of noxious weeds would be noted and the appropriate weed control treatment applied. Monitoring for the persistence of identified noxious weeds would continue for up to five years following treatment. Areas where there would be a large population of noxious weeds would not be treated until effective weed control can occur or other resources issues would be decided to be more severe (i.e. soil loss).

Special Status Species. Manage special status plant and animal species so management actions do not contribute to their decline or listing as T&E species. Presence or absence of special status species would be noted in proposed project areas. Timing and/or method of management action would be prescribed that does not contribute to decline or listing of identified special status species.

Paleontological Resources. Identify significant localities where paleontological resources may be in conflict with other resource uses. Prior to treatment, the potential for paleontological resources would be evaluated. If paleontological resources were found, treatment actions would be designed to protect these resources from damage.

Cultural Resources. Identify significant localities where cultural resources may be in conflict with other resource uses. Prior to treatment, the potential for cultural resources would be evaluated. If cultural resources were found, treatment actions would be designed to protect these resources from damage.

Native American Traditional Practices. Consult with the Burns Paiute Tribe on all management actions. The Burns Paiute Tribe would be informed of treatment areas. Project objectives would consider tribal and other interests.

Visual Resources. Treatment of western juniper stands that established after 1870 would be limited to techniques and size that would meet the VRM Class I and II objectives in those areas. Western juniper would continue to encroach into mountain big sagebrush plant communities within WSAs. Over the long term the landscape character of these sites would change from shrublands to woodlands.

Social and Economic Values. Work cooperatively with public land users consistent with resource objectives. Cooperative projects would be sought with adjacent private land owners. Management decisions would be based on watershed and subwatershed boundaries and not ownership boundaries. This would help to make management action more economical for public and private land managers.

4.5.2.9.2 Alternative A

Direct Effects

The presence of western juniper trees established prior to 1870 would be decreased in riparian and sagebrush habitats. Removal of western juniper would shift animal populations to some degree. Habitat for animals that prefer trees would be decreased, and increased for animals that prefer more open habitats. Within five to ten years, animal species that utilize sagebrush would begin to move back into the area as sagebrush reestablishes.

Following burning, tree cover would be reduced. This may have short-term effects in riparian areas. However, the inherent site productivity in the riparian areas would lead to a rapid plant response from herbaceous and broad-leaved plants. Herbaceous plant productivity would increase in response to tree removal in the short term, but would decline as shrubs reestablished on site. Large and small herbivores would benefit from the increase in forage.

Overstory removal of western juniper by chainsaws or other mechanical methods would result in the accumulation of slash on the soil surface. The amount of slash would depend on the number of trees cut. Downed trees would provide physical protection to understory plants during recovery. The slash would also provide cover and protection for smaller animals. Western juniper needles would remain on the cut trees for up to five years. Over that time, the needles would gradually fall off. Whole-tree shredding would result in small pieces of needles, branches, bole and bark scattered in the vicinity of the tree. Treatment by this method would provide a more open post-treatment plant community.

Burning in cut stands would result in the greatest amount of bare ground following treatment. A greater amount of heat would be transferred to the soil surface in burned areas where trees have been cut. Heat transfer can be decreased by burning these cut areas when soils were wet or frozen. However, the amount of slash consumed would be reduced because of higher fuel moisture. The post treatment plant community would most resemble a prescribed or wildfire.

Indirect Effects

Soils and Biological Soil Crusts. Manage soils on public lands to maintain, restore, or improve soil erosion class, watershed health and areas of fragile soils. Reduction of western juniper in the uplands and adjacent riparian areas may result in a short-term increase in soil erosion immediately after treatment. However, removal of western juniper would allow suppressed understory herbaceous and woody plants to colonize bare ground areas and reduce bare ground. Treatment methods would be selected consistent with BMPs.

Noxious Weeds. Weed management for control of noxious weeds would concentrate on disturbed areas such as roads, ROWs, and recreation sites. Utilization of mechanized equipment for juniper removal could introduce noxious weeds to treatment areas. Mechanized equipment would be cleaned prior to transport to designated treatment area.

Fish and Wildlife. Maintain, restore or improve wildlife, fish and other aquatic habitat. Reducing the influence of western juniper in the uplands and adjacent riparian areas may increase the amount of water in the adjacent streams by reducing the evaporative in the adjacent plant communities. The additional soil moisture would be utilized by the understory plants

during recovery. Short-term increases in bare ground may occur following treatment, but post-treatment response of understory plants would reduce the amounts of bare ground and the potential for sediment to move into the streams.

Allocate forage for wildlife at current demand and allow wildlife populations to expand naturally or through limited transport. Removal of western juniper from the uplands and riparian area would allow understory plants to increase, concomitantly increasing forage for wildlife. Wildlife populations may not initially increase, but the increase in forage could distribute grazing and browsing over a larger area reducing impacts on more sensitive areas.

Special Status Species. Manage in accordance with the Migratory Bird Executive Order and Sagebrush Steppe Ecosystem Management Guidelines. Western juniper has replaced Wyoming and mountain big sagebrush over much of its current range. Reductions in western juniper would allow big sagebrush to reestablish and once again become the dominated woody plant in these plant communities. Many special status species require the presence of sagebrush for part or all of their life cycle.

Social and Economic Values. Make contracts available for services and sale of products available to local residents as need and conditions permit. Contracts to cut and possibly remove western juniper from upland and riparian plant communities may be made available to local contractors. Cut western juniper would be made available for firewood use in designated areas.

Wildland Fire Management. Use prescribed fire and mechanical treatments to reduce fuel loads in areas where fire regimes have been altered. Reducing the accumulation of fuels would also reduce the influence of western juniper on upland and riparian plant communities. Understory plants would increase following western tree cutting and/or burning.

4.5.2.9.3 Alternative B

Direct Effects

Ongoing increases in the number of post-settlement western juniper in riparian and sagebrush habitats would continue, creating a general homogenization of the landscape. Increases in western juniper would occur at the expense of the understory vegetation and the amount of mineral soil exposed would increase, especially on south slopes.

Wildfires would be evaluated for resource benefits. Those fires that do not pose a threat to firefighter or public safety and also do not threaten to affect private land would be managed for resource benefits. Wildfires would be high intensity, and stand-replacing instead of the mixed intensity fires experienced by sagebrush prior to western juniper encroachment.

Animal species that prefer open grasslands, and eventually shrublands, would begin to utilize the burned areas. However, in the absence of burning, animal species that utilize grassland and shrubland habitats would continue to decline as more and more of the area would be converted to western juniper woodlands. A similar trend would occur in the riparian habitats. As western juniper replaces herbaceous and woody riparian vegetation, animals that prefer that habitat would move to other areas and a relatively more simplistic western juniper woodland animal community would move into the area.

Threats to firefighter and public safety would be greater because of the change in fire behavior, and fire intensity would be greater in the western juniper woodlands. Flame lengths and subsequently the amount of energy released by the fire would be greater under this alternative than in the other alternatives.

Allowing natural processes to determine the structure and composition of riparian, and sagebrush communities can be expected to result in a continued increase in the importance of western juniper established after 1870, in these communities, with gradual diminishing or loss of at least some of the habitat values that would be unique to those communities. Due to the increased fuel, temperatures would probably be higher when fires inevitably occur in these other communities. For this reason, and because the species that would be dependent upon or characteristic of those habitats were not adapted to low-frequency high-intensity fire, the degree to which the existing vegetation and/or soil seed bank would be consumed would probably be greater.

Indirect Effects

Noxious Weeds. Treat only high priority areas of noxious weeds to protect high quality natural resource lands and adjacent private lands. Manual or biological control methods would be preferentially used. Noxious weeds could increase

in low priority areas that have been disturbed by treatment. Areas where noxious weeds were present may not be treated due to expense of manual weed treatment.

Fish and Wildlife. Identify opportunities for improvement/restoration of fish and wildlife habitat through the use of wildland fire, and other passive methods. Western juniper would continue to increase throughout much of the sagebrush plant communities and riparian areas between 4,000 and 7,000 feet elevation. Western juniper stands would be allowed to attain a density where only large scale catastrophic fires would occur.

Special Status Species. Allow natural processes determine the habitat for special status plant and animal species. Western juniper would continue to increase, replacing big sagebrush and riparian woody vegetation. Associated understory plants would also decrease. Special status species depended on big sagebrush or riparian plant communities would decline and be replaced by species that prefer a closed woodland.

Wildland Fire Management. Suppress fires that threaten human life, private property, or areas that possess significant resource value. Other fires would be evaluated and managed for resource benefits. Many small fires would occur in areas dominated by western juniper. Single trees that were previously extinguished would continue to burn and likely form small, isolated patches of dead western juniper. However, the potential for large catastrophic wildfires increases as the density and cover of western juniper increases. These large, intense fires would result in mortality of western juniper and the associated, desirable understory plant species. Natural recover would be limited under these conditions because of the extensive plant mortality and the consumption of seeds stored in the soil.

4.5.2.9.4 Alternative C

Direct Effects

Direct effects of Alternative C would be similar to Alternative A with the following exceptions. Wildland fires would be evaluated for threats to firefighter safety, public safety, and private lands. Fires that do not pose threats to firefighters, public, or private land would be managed for resource benefits. Post-fire plant community would be similar to Alternative A. Post-fire plant communities would be dominated by herbaceous plants for five to fifteen years. Sagebrush and other shrubs would begin to reassert dominance throughout that period of time. As shrubs increase, herbaceous plant cover and density would decrease.

The direct effects of cutting of western juniper would be similar to Alternative A.

Indirect Effects

Soils and Biological Soil Crusts. Same as Alternative A.

Noxious Weeds. Same as Alternative B.

Fish and Wildlife. Same as Alternative B.

Special Status Species. Same as Alternative A.

Social and Economic Values. Same as Alternative B, with the following exceptions: commodity production would be limited as to protect natural values; contracts for western juniper cutting would be limited; and trees would be left on site and not made available for firewood or biofuels.

Wildland Fire Management. Same as Alternative A, with the following exception. Wildfires would be evaluated for resource benefits. Fires that do not threaten human life, private property, or other significant resource values would be managed for resource benefits.

4.5.2.9.5 Alternative D

Direct Effects

Direct effects of Alternative D would be similar to Alternative A and C. Total number of acres treated would be similar to Alternative C. A greater number of acres may be cut in Alternative D than C.

Indirect Effects

Soils and Biological Soil Crusts. Same as Alternative A.

Noxious Weeds. Same as Alternative A, with the following exception: emphasizing high quality natural areas as well as disturbed areas would help to reduce the likelihood of noxious weed establishment in treated areas.

Fish and Wildlife. Same as Alternative A

Special Status Species. Same as Alternative A.

Social and Economic Values. Contracts and cooperative agreements with local persons of groups would be made available when conditions permit. Contract to mechanically cut western juniper, and remove in some places, would be made available to local contractors. Projects would be developed with cooperation of adjacent landowners (public and private) and other interested parties. Development of local markets for byproducts of vegetation treatments would be facilitated by the BLM.

Wildland Fire Management. Same as Alternative A, with the following exception: wildfires would be evaluated for resource benefits; and fires that do not threaten human life, private property, or other significant resource values would be managed for resource benefits.

4.5.2.9.6 Alternative E

Direct Effects

Same as Alternatives A, C, and D. Burned areas would be seeded with desirable forage species to facilitate forage production following burning. Seeding would slow recovery of native species.

Indirect Effects

Soils and Biological Soil Crusts. Same as Alternative A.

Noxious Weeds. Same as Alternative A,

Fish and Wildlife. Same as Alternative A

Special Status Species. Same as Alternative A.

Social and Economic Values. Same as Alternative C.

Wildland Fire Management. Same as Alternative A.

4.5.2.10 Summary of Effects

Direct and indirect effects would be similar across all alternatives, with the exception of Alternative B. In this alternative site specific biologic and physical processes would govern the stand structure. Without mechanical removal of the young (established prior to 1870) trees, the number of trees on the site would increase at the expense of the associated understory plants. Removal of these younger trees would allow understory vegetation to be self sustaining and support a variety of wildlife. Retention of a small percentage of younger trees, as in Alternatives C and D, would allow for replacement of dead and dying western juniper. The mortality of the older trees occurs at a very slow rate, but retention of the younger trees would allow for their replacement.

Fire is a relatively rare event in these old growth stands, but fires do occur at a frequency of once every 100 to 200 years. These fires were limited in size due to the sparse fuel. Often only one tree was involved. Alternative B would retain the younger trees, allowing the stand to become dense and possibly support more continuous fuel layers and larger fires. This would increase the risk of loss of entire old growth stands in wildfires, especially with the emphasis on minimum suppression tactics.

Alternative E would have the greatest number of acres mechanically treated and Alternative B would most likely have the lowest number of acres mechanically treated. Alternative E would have the greatest impacts of mechanized machinery because of the emphasis on commercial products. Harvested western juniper would be mechanically transported off site utilizing mechanized equipment. Soil disturbance would be greatest in this alternative. However, Alternative E would have the greatest short-term economic gain to the local community. Cutting of western juniper could be done by local contractors, and the small diameter material cut could be utilized by a local industry. The small acreage and remote locations of most quaking aspen and mountain mahogany stands reduces the likelihood of this use under current conditions.

Alternatives B, C and D rely heavily on wildland fire to reduce the influence of western juniper in the quaking aspen and mountain mahogany stands. Air quality would be affected most by Alternatives B, C, and D. In these alternatives, wildland fires that do not threaten human life, private property or significant resource values would be managed with minimum suppression tactics. Smoke produced in Alternative D would be concentrated for the most part in the late summer to early fall when areas were burned under management prescription. Total number of acres burned in B, C and D on average may be similar, but Alternative D would have least variation in the number of acres from year to year. Alternatives C and D rely on natural ignitions that would be dependent on local climatic conditions. Smoke would be produced for a longer period than in Alternatives A and E where suppression would extinguish many of the fires in a shorter period of time. Alternatives A and E would require the greatest level of fire suppression action and have the smallest number of acres burned in either wild or prescribed fire. Full suppression could disturb the soil to a greater extent than in Alternatives B, C, and D.

Western juniper would continue to increase at a quicker rate in quaking aspen and mountain mahogany stands in Alternatives B and C than in the other three alternatives. Continued increases in western juniper would reduce the presence of quaking aspen and mountain mahogany. The number of cavities present for cavity nesting birds would be reduced as western juniper replaces quaking aspen. Increases in western juniper would also suppress the establishment and growth of mountain mahogany, especially on the edge of the stands. Younger mountain mahogany provide grazing animals a forage source periodically throughout the year. Trees in the interior of the stand would become decadent and eventually die. A combination of mechanical and wildland fire would be most effective in reducing the influence of western juniper in these stands. Alternative D would treat the greatest number of acres in these plant communities.

Treatment of at least 10,000 acres a year would be sufficient to restore a fire regime that resembles historic and would be appropriated for current desired vegetation conditions over much of the Planning Areas. Treatments over time would result in a mosaic of multiple successional stages across the landscape. As the number of acres and years since initial treatment increase, there should be an increase in the occurrence of wildland fire use in areas where threats to human life and private property were low. This would indicate that the vegetation and subsequently the fire regime would be approaching the appropriated conditions. Post fire stabilization and rehabilitation efforts should decrease as the vegetation approach this condition. However, there would still need to be some type of treatments in areas where there continues to be threats to human life and private property where no cooperative agreements are in place.

Reduction of western juniper in woodlands established after 1870 would move toward restoration of big sagebrush plant communities in between 4,000 and 7,000 feet across areas of the planning unit. Wildlife and plant species that prefer sagebrush habitats would be benefitted by the reduction in western juniper influence in the communities. Alternative E would convert the largest number of acres from western juniper woodlands to sagebrush plant communities. Alternatives A, C, D and E would utilize a combination of mechanical treatments and prescribed and/or wildfire to reduce the influence of western juniper. Alternative B would rely on naturally ignited wildfires. However, only a small percentage of these fires would be managed for resource benefits because of anticipated threats to human life and private property.

Alternative E would treat the most acres mechanically. Encouraging development of new markets for western juniper would increase the level of mechanical activity due to a greater level of tree removal than the other three alternatives with mechanical treatments.

Alternative D would have the greatest number of acres burned because of the combination of prescribed fire and management of wildfire for resource benefits. Alternative A would not evaluate wildland fires for resource benefits. All fires would be suppressed under that alternative. Alternative C would burn a similar number of acres as alternative D, but without the use of mechanical treatments the total number of acres treated would be lower than alternative D.

Wildlife species that prefer sagebrush habitats would benefit most from alternatives A and D. These alternatives would return a greater area to sagebrush habitats. Alternatives B and C would convert a smaller number of acres to sagebrush

habitats and would overall favor species that prefer dense western juniper woodlands. Alternative E may convert a similar number of acres to sagebrush habitats as Alternatives A and D, but there would be a prolonged grassland stage with the seeding of forage species in treated areas.

Soil erosion would be greatest in the short term in Alternative E because of the reliance on mechanical equipment and harvest of western juniper. As herbaceous species increase following treatment that effect would be reduced. Soil erosion following treatment immediately after treatment would be next highest in Alternatives A, D, C, B, respectively. However, Alternative B would have the greatest soil erosion in the long term. The least number of acres would be converted back to sagebrush habitats in Alternative B. Western juniper would continue to increase in density and cover at the expense of understory plants. The amount of exposed bare ground would increase as the understory plants decrease. Soil would continue to be lost beneath these woodlands compared to treated areas where understory plant response has slowed the loss of soil.

4.5.2.11 Cumulative Effects

The relatively small size and position of the old growth stands limits the implication of treatments across a landscape. Old growth western juniper stands are located on rocky ridgetops and shallow soil areas. They often form islands within mountain big and Wyoming big sagebrush plant communities. However, these stands can be extremely important to some wildlife species that utilize older trees for nesting and brood rearing habitat. The presence of these stands helps to increase the diversity of plants and animals across the landscape. Loss of these sites to wildfire or through replacement by younger western juniper would result in a loss of habitat for small mammals and some neotropical migrant birds.

Quaking aspen and mountain mahogany stands comprise less than two percent of the total land area within the Planning Area. Over the past ten years less than one percent of all quaking aspen stands within the Planning Area have been treated by cutting and/or burning (wildfire or prescribed fire). An unknown acreage of quaking aspen and mountain mahogany have been totally converted to western juniper woodlands. These two woodlands occupy a very small percentage of the total Planning Area, but provide important habitat for many wildlife and plant species. Conversion of quaking aspen to western juniper woodlands has the greatest effect on neotropical migrant birds, small mammals and to some extent wild ungulates. Treatment of these areas would often be in conjunction with larger units of mountain big sagebrush and western juniper. This allows for a more efficient management of these areas. Treatment with larger units in the mountain big sagebrush and western juniper woodlands helps to spread grazing pressure. Some treatment units would be fenced to protect new quaking aspen suckers or mountain mahogany seedlings. These fences would be temporary and only limit access until the suckers and seedings grow to a point where browsing by large ungulates would have minimal impacts.

Western juniper has replaced or would be in the processes of replacing big sagebrush across approximately 350,000 acres of the Planning Area. Alteration of the sagebrush plant communities has had an effect on many plant and animal species that were found in these plant communities. Continued expansion of western juniper would cause a further reduction in sagebrush plant communities and loss of habitat. There would also be an overall increase in the amount of bare ground or exposed mineral soil. This would increase the risk of soil movement. Loss of soil would reduce future site productivity and potential for the site to respond to management actions. Increases in erosion may also have impacts on adjacent stream systems and water quality.

Reduction of the western juniper would help to increase watershed integrity by reducing the total amount of soil eroded and transported into streams. Capture and release of precipitation would also be improved with reductions in western juniper. This would help to improve fish habitat down stream from the treatment areas by improving water quality, quantity and seasonal distribution.

Treatment of western juniper woodlands established after 1870 would help to increase the acreage of sagebrush and riparian habitats in the AMU. Reduction in western juniper would also increase the amount of forage available for grazing animals across the planning unit. The increase in western juniper has forced grazing animals, domestic and wild, to utilize a smaller area. Treatment would help to distribute the use across the area more evenly. Animals that rely on big sagebrush for part or all of their life cycle have also been forced to utilize a smaller area. Treatment of western juniper would create a mosaic of shrub and woodland communities across the AMU. Diversity at the species, plant community and landscape level would be highest under these conditions.

4.5.3 Wildland Juniper Management Area

4.5.3.1 Goals and Objectives

Goal - Manage the WJMA for the purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and native vegetation communities on Steens Mountain.

Objective 1. Establish a series of demonstration areas within the 3,267 acre WJMA for technology transfer and public education.

Objective 2. Evaluate different treatments and management strategies for plant communities dominated by western juniper.

4.5.3.2 Assumptions

All alternatives could result in a temporary reduction in AUMs while some treatments would be evaluated. Every effort would be made to replace the lost forage resource.

4.5.3.3 Analysis of Alternatives

4.5.3.3.1 Effects Common to All Alternatives

Direct Effects

No direct effects common to all alternatives.

Indirect Effects

No indirect effects common to all alternatives.

4.5.3.3.2 Alternative A

Direct Effects

Inventory of biological communities present in the WJMA would help provide information on past, current, and future management actions in the western juniper zone. Data would provide a baseline for future comparison. Signs would be placed adjacent to treatments to help display the type of treatment and the effects. Signs would be an important part of the dissemination of information related to western juniper management.

Indirect Effects

Demonstration areas and signage would be important for disseminating improved scientific understanding of range and juniper management, and would promote improved land management by owners and permittees. Public demonstration of treatment options in a controlled field experiment situation would increase understanding and acceptance of juniper management actions and their effects.

4.5.3.3.3 Alternatives B, C, D, and E

Direct Effects

Effects would be similar to Alternative A.

Indirect Effects

Indirect effects would be similar to Alternative A.

4.5.4 Rangelands

4.5.4.1 Goals and Objectives

Goal 1 - Maintain, restore, or improve the integrity of desirable vegetative communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.

Objective 1. Maintain or restore native vegetation communities through sound landscape management practices.

Objective 2. Manage desirable nonnative seedings to meet resource objectives.

Objective 3. Rehabilitate plant communities that do not have the potential to meet the DRC through management.

Objective 4. Increase species and structural diversity at the plant community and landscape levels in the big sagebrush communities. Provide multiple successional stages within the landscape.

Goal 2 - Manage rangeland habitats so that the forage, water, cover, structure, and security necessary to meet life history requirements of wildlife are available on public lands.

Objective 1. Manage big sagebrush, quaking aspen, and western juniper communities to meet habitat requirements for wildlife.

Objective 2. Manage big sagebrush communities to meet the life history requirements of sagebrush-dependent wildlife.

4.5.4.2 Assumptions

All actions and effects of the different alternatives that are discussed in this section are restricted to areas of public lands other than riparian/wetland, aquatic, woodland, and special-status species habitat areas. Those areas are addressed in other sections.

Changes in vegetation that result either from natural ecological succession or from human-applied treatments include the following:

- increases or decreases in overall or "absolute" cover, namely, the proportion of the ground surface that has live plant material directly above it;
- increases or decreases in the total list of plant species occurring within a discrete area ("species diversity" in this document);
- changes in degree of uniformity or patchiness of occurrence of different species associations or successional stages ("community diversity" in this document; it would be described as being higher when the species compositions of different patches of vegetation are not as similar); and
- changes in "structural diversity," or the degree of patchiness or uniformity of the physical appearance of vegetation.

Generally, vegetation recovers more quickly from disturbances when all aspects of diversity are higher. Also, many environmental parameters that might be included in the general term "habitat values" correlate with the aspects of vegetation described above. For example, increased vegetation cover correlates with increased root density and biomass, which in turn correlates with increased soil stability and reduced erosion. This would be especially true when the vegetation includes a high proportion of herbaceous plants. Increased plant species and community diversity generally correlate with supporting a greater diversity and/or biomass of wildlife species (including nonpest insects, which are an important link in the food chain between plants and vertebrate wildlife). Structural diversity may be advantageous to some wildlife species, but not necessarily to all.

4.5.4.3 Analysis of Alternatives

4.5.4.3.1 Effects Common to All Alternatives

Indirect Effects

Soils and Biological Soil Crusts. The application of BMPs on all surface disturbing activities would help vegetation cover on the limited amount of area involved. The collection of biological soil crust data by means of a standard monitoring method would have minimal effects by itself, but would enable better informed future decisions about management actions and consequences.

4.5.4.3.2 Alternative A

Direct Effects

Nonnative seedings would be managed or manipulated to meet S&Gs. Vegetation characteristics in areas where management or manipulations were applied would probably be altered. Interseeding of only 200 acres would have no appreciable effect on vegetation in the context of the acreage of greater sage-grouse habitat (probably several hundred thousand acres) and deer winter range habitat (537,929 acres) in the Planning Area.

Mechanical methods of decreasing shrub biomass (brush-beating and/or disking) in a mosaic pattern of 50 percent of nonnative seedings where brush cover is high would generally have the effect of increasing the relative cover and biomass of herbaceous species.

Indirect Effects

Woodlands. Active vegetation manipulations and rehabilitation of burned areas would likely result in higher cover and diversity in post-burn early successional communities to a much greater extent than would be likely under AlternativeB.

Similarly, the use of prescribed fire and mechanical treatments to create a mosaic of successional stages and release suppressed desirable plants would create a greater plant community diversity than exists at present, and would facilitate implementation of the S&Gs that pertain to upland habitat areas. These actions would be necessary for enhancing the structural and species diversity of sagebrush, woodland, and other upland habitats.

Noxious Weeds. Under Alternative A, integrated weed management actions would emphasize human-disturbed areas such as roadsides, ROWs, and recreational areas. These actions would result in localized reductions in weed numbers and biomass in such areas. In these areas, weeds can frequently spread and outcompete native species due to their inherent characteristics, the disturbed soil conditions, and increased soil moisture that can result where compacted or impervious surfaces concentrate sheet runoff in the nearby areas. Weed control also tends to protect the integrity and diversity of rangeland vegetation by reducing the spread of weeds into areas further from human influence.

Fish and Wildlife. The seeding of 9,000 acres of deer winter range would result in increased plant numbers and possibly in community diversity in that specific area. Allocation of wildlife forage at current levels would have no effect when compared with the existing condition, but would allow for the persistence of desired wildlife at viable population levels. Monitoring the status of special status species (specifically plants) and allowing for increased populations would not have an effect on rangeland vegetation.

Special Status Species. Limiting the management of big sagebrush habitat for wildlife habitat values to a case-by-case basis would reduce the degree to which these values can be created, enhanced, or restored, due to the staff and calendar time required to review and act on each case. However, any actions taken to implement the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines would probably increase the plant species, community, and structural diversity of rangeland vegetation where those actions occurred.

A determination of existing suitable habitat conditions to support reintroductions of locally extirpated wildlife species and needed improvements could guide habitat enhancement and restoration actions that would be specified under other management actions. These actions would likely increase the structural and/or species diversity of rangeland vegetation. Generally, actions under other issue areas, such as enhancement of quaking aspen and mountain mahogany stands, would

be those that would be important to support reintroductions (e.g., of sharp-tailed grouse and mountain quail, respectively).

Installation of guzzlers in suitable locations would be an important action to enhance the wildlife values of rangelands in the Planning Area. Water would generally be a limiting resource in habitat use by larger mammals and some other species in arid lands such as the Planning Area; if water were not available within relatively short distances, the area would not be suitable for use by larger species of wildlife even where excellent upland habitat conditions exist.
Energy and Minerals. Mineral exploration and development, even if completed with appropriate application of BMPs and site restoration, tends to reduce cover and diversity of rangeland vegetation due to the creation of roads. Even if the roads would be reclaimed and designated as closed, such roads may subsequently be used to access remote areas. Creation and reclamation of roads and exploration sites could encourage the growth of weeds, which in turn reduces native plant species and community diversity both in and adjacent to the road and further away if the weeds spread. These potential effects could be prevented by increased enforcement, which would be required in the approval to operate. Mineral development and production have mixed effects on rangeland vegetation. On one hand, all habitat would be removed from the direct effect areas, which would be a variable percentage of an overall operational area and mineral production operations frequently create migration or movement barriers. On the other, cattle would be routinely excluded from mining operations areas for safety reasons, which can result in increased wildlife use in operations areas other than the direct effect sites.

Wild Horses and Burros. Experience demonstrates that the ongoing management approach to existing wild horse HMAs would be sufficiently compatible with maintenance of the DRC in rangelands that continuation of the current management has little to no effect on rangeland vegetation.

Grazing Management. Livestock grazing provisions under Alternative A, in particular the implementation of the S&Gs, should improve the watershed soil conditions, overall vegetation cover, structural diversity, and species composition of rangelands in the Planning Area.

Off-Highway Vehicles. OHV and mechanized vehicle use can damage vegetation and disrupt the soil surface, leading to the loss of vegetation and biological crusts and thereby to erosion of topsoil. Generally, OHVs used for hunting or sight-seeing cause minimal damage to rangelands because the users tend to remain on or near existing dirt roads, but repeated use of the same routes can result in new two track road.

4.5.4.3.3 Alternative B

Direct Effects

Under Alternative B, native species would colonize rangelands, but weeds or desirable nonnative species could colonize and potentially dominate. Areas burned by natural and human-ignited fires would subsequently support early-successional vegetation communities. Subsequent community development might include or be dominated by native species, desirable nonnative species, and/or weeds. Sagebrush communities could include a greater proportion of late-successional vegetation than exists at present.

Limitations on methods available for management and restoration of rangeland habitat values under Alternative B would limit or preclude the likelihood of achieving Goal 1, Objectives 2 and 3.

Indirect Effects

Woodlands. Under Alternative B, natural processes would be allowed to determine vegetation composition and successional stages; burned areas would be rehabilitated using native species. Burned areas sometimes convert to cheat grass habitat if not rehabilitated. Analogous statements apply to all other similar management actions under Alternative B, which would allow natural processes rather than active management to determine plant community conditions.

Noxious Weeds. Limiting noxious weed treatments to only high priority sites would allow noxious weeds to continue to spread, and to increase the proportion of the current plant community. Preference for manual or biological control methods may result in less effective control than would integrated weed management. The spread and ineffective control of noxious weed species could result in reduction in diversity of rangeland vegetation. Inventories to detect new introductions have no environmental effect without contingent actions to control introductions when found.

Fish and Wildlife. Aerial reseeding of 9,000 acres of deer winter range with sagebrush would have limited effects on rangelands because other species, whether native or desirable nonnative, would not be included in the seed mixture.

Special Status Species. The reintroduction of extirpated animals (e.g., sharp-tailed grouse and mountain quail) would have a negligible effect on rangelands. Allowing bighorn sheep to expand naturally with no control on populations in any given area could eventually deplete forage resources in some areas.

Energy and Minerals. The withdrawal of the entire Planning Area from mineral exploration and development would have the effect of prohibiting development and production. Rangeland vegetation would remain that might otherwise be lost to development activities.

Grazing Management. The grazing provisions of Alternative B would generally result in recovery of natural communities to the DRC, although reliance only on natural processes and not active management could retard this process in degraded areas, particularly those where cheatgrass or other noxious weeds dominate. Such communities do not recover quickly, or at all, in some cases, without active management.

Off-Highway Vehicles. OHV designations use would provide the maximum level of protection and recovery opportunity for rangeland conditions of any of the alternatives.

4.5.4.3.4 Alternative C

Direct Effects

Interseeding of 20,000 acres of nonnative seedings could result in increases of native vegetation diversity and cover. The inclusion of nonnative species could result in competition with native species and thereby may reduce the degree to which an increase in native plant species diversity and cover would be realized.

Generally, the emphasis on use of native species for rehabilitation could result in higher species, community, and structural diversity. Actions to diversify structure and composition of selected nonnative seedings, by interseeding native species on 20,000 acres of nonnative seedings on the north and west side of Steens Mountain, would increase the diversity of rangeland vegetation.

Seeding of native species along with desired nonnative species would increase rangeland vegetation diversity. Provisions for allowing natural processes and naturally ignited wildland fire to create mosaic and release of desired suppressed components of the vegetation would also increase rangeland vegetation community and structural diversity.

Indirect Effects

Interseeding of 20,000 acres of nonnative seedings could result in increases of native vegetation diversity and cover. The inclusion of nonnative species could result in competition with native species and thereby may reduce the degree to which an increase in native plant species diversity and cover would be realized.

Generally, the emphasis on use of native species for rehabilitation could result in higher species, community, and structural diversity. Actions to diversify structure and composition of selected nonnative seedings, by interseeding native species on 20,000 acres of nonnative seedings on the north and west side of Steens Mountain, would increase the diversity of rangeland vegetation.

Seeding of native species along with desired nonnative species would increase rangeland vegetation diversity. Provisions for allowing natural processes and naturally ignited wildland fire to create mosaic and release of desired suppressed components of the vegetation would also increase rangeland vegetation community and structural diversity.

Indirect Effects

Woodlands. By burning and mechanically removing post-settlement western juniper from rangelands, native herbaceous plant species would respond with improved vigor and repopulate the niches formerly occupied by the juniper. Fire tolerant shrub species would also reestablish within the control area. Non-fire tolerant species, such as big sagebrush, would take longer to reestablish unless reseeding would be part of the rehabilitation effort.

Noxious Weeds. Treatment of only high-priority noxious weed infested areas could increase diversity at those sites, but has the potential to allow weed introductions to spread in lower priority areas, with possible loss of community and structural diversity. Inventory to detect new infestations has no environmental effect without contingent actions to control infestations when found.

Fish and Wildlife. Management actions that allow for increasing community and/or structural diversity by prescribed fire, other vegetation manipulations, fence removal, and new water developments would provide for the maximum level of flexibility in increasing existing rangeland diversity.

Allocation of more forage to wildlife would have only limited effects on quantitative aspects of rangeland conditions (e.g., vegetation cover, soil stability, crusts, and erosion) because the same amount of vegetation removal would occur. However, qualitative changes to vegetation structure and composition could occur, resulting from differences in grazing/browsing preferences.

Seeding low vegetative diversity deer winter range with the use of both native and desirable nonnative species would affect rangelands by providing greater diversity and community structure.

Management actions under Alternative C would provide habitat characteristics that would be valuable to game and nongame species in all sagebrush habitats.

Special Status Species. The effects of management actions that improve big sagebrush habitat for the benefit of wildlife, provide for management of bighorn sheep and allow for potential reintroductions of sharp-tail grouse and mountain quail, would be the same as Alternative A.

Installation of up to ten guzzlers under Alternative C would have the same environmental consequences as those discussed under Alternative A.

Energy and Minerals. The withdrawal of a number of special areas from mineral development, as provided under Alternative C, would have environmental consequences similar to those under Alternative B, but to a lesser extent than the withdrawal of the entire Planning Area as provided under Alternative B.

Wild Horses and Burros. The effects of wild horse management on rangelands would be the same as Alternative B.

Grazing Management. The effects of livestock grazing on rangeland vegetation would be reduced from the existing situation, allowing the ecological condition in some areas to improve. A reduction in grazing may also limit the dominance of woody plant species and increase the diversity in most plant communities. Natural functions and watershed stability would also improve with higher ecological condition.

Off-Highway Vehicles. Alternative C OHV designations would protect rangeland vegetation cover nearly to the extent of Alternative B.

4.5.4.3.5 Alternative D

Direct Effects

The effects of management actions under this alternative would be very similar to those under Alternative C

Indirect Effects

Woodlands. The effects of woodlands management on rangelands would be the same as Alternative C.

Noxious Weeds. By applying integrated management, emphasizing prevention of, and increasing inventory in the effort to control noxious weeds, most rangeland sites may stay free from new and existing infestations. By removing all or most of the noxious weed introductions and keeping new introductions from happening, the ecological condition of rangelands would improve or maintain, depending on the site.

Fish and Wildlife. Under Alternative D, management of most big sagebrush habitat for game and nongame species would have the effect of improving the diversity and community structure in degraded deer winter range; however, with the use of nonnative species, native plants may not be as prevalent as if all natives were used.

Special Status Species. The effects of management actions for the benefit of special status species would be the same as Alternative A.

Energy and Minerals. The effects of energy and minerals exploration and development would be the same as Alternative A.

Wild Horses and Burros. The effects of wild horse management on rangelands would be the same as Alternative B.

Grazing Management. Managing for sustainable livestock grazing in both the AMU and the CMPA would not change the present management greatly. New range improvements may change grazing patterns in some areas. By managing to the satisfaction of the S & Gs, rangelands should be protected from impacts caused by grazing.

Off-Highway Vehicles. The Alternative D OHV designations would allow greater OHV and mechanized vehicle use than Alternatives B and C, with potentially greater effects to rangeland vegetation than under Alternatives B and C. However, cooperative management of OHV and mechanized vehicle use under agreements with clubs or groups and other participants could minimize the rangeland effects of OHV and mechanized vehicle use.

4.5.4.3.6 Alternative E

Direct Effects

Vegetation cover would be increased. Compared with the present condition, the emphasis on vegetation biomass and species selection for commodity production would result in lower diversity of native species due to competition with nonnative species, and lower community and structural diversity. Establishment of new nonnative seedings would reduce native species diversity, community diversity, and structural diversity.

Indirect Effects

Woodlands. The effects of management actions under this alternative would be the same as Alternative A except where the development of markets for juniper byproducts may mean removal of more juniper than with fuels reduction treatments alone. The immediate impacts could compact soil and lead to increased erosion, which could affect productivity. In the long term, the removal of juniper would allow for increased herbaceous cover and the reestablishment of sagebrush steppe community.

Noxious Weeds. The effects of noxious weed management in this alternative would be the same as Alternative D except that increasing inventories for detecting new introductions of noxious weeds would allow for increased treatment of existing infestations and reduce the risk of new infestations going undetected.

Fish and Wildlife. The effects of management actions in this alternative would be to provide for some increase in diversity and community structure in nonnative seedings as well as in some deer winter range where vegetative species diversity would be low. In most of the areas with low species diversity remaining and progressing toward restoration of native vegetation, the process would be slow and possibly extend beyond the life of this plan.

Special Status Species. The effects of the management actions in this alternative would be the same as Alternative A.

Energy and Minerals. Areas outside the legislated mineral withdrawal area would be open to leasing and some surface occupancy throughout the entire season, which could affect vegetation in small localized areas. Vegetation could be removed or flattened in those areas to make room for heavy equipment.

Wild Horses and Burros. The effects of the management actions in this alternative would be the same as Alternative A except that wild horses would be reintroduced into part of the South Steens Herd Area along the east side of the Steens from Wild Horse Canyon south to Long Hollow Road. This would affect rangeland vegetation in that area by introducing yearlong use by wild horses on much of the native vegetation, thereby reducing the vegetative cover and productivity of this area.

Grazing Management. Livestock grazing would be maximized, allowing greater forage utilization. This would put more pressure on forage resources in easily accessible areas. Rangeland projects would be constructed for the benefit of the

increased grazing, causing some disturbance to vegetation in small, localized areas from trampling and trails. The overall long-term vigor and health of vegetation communities could be maintained across the landscape.

Off-Highway Vehicles. Alternative E OHV designations would protect rangeland vegetation cover the least when compared to Alternatives B, C, and D. The effects would be comparable to Alternative A.

4.5.4.4 Summary of Effects

In Alternative A, interseeding of only 200 acres would have no effect on vegetation within Greater sage-grouse habitat and deer winter range. Mechanical methods used to decrease shrub biomass, would increase the cover and biomass of herbaceous plant species. The application of prescribed fire in some vegetation communities would create a mosaic of successional stages and release plants that have been suppressed due to lack of fire. Noxious weeds could be successfully managed by using integrated weed management in some of the problem areas such as roadsides, ROWs, and recreational areas. Additional seeding of sagebrush in deer winter ranges could improve habitat and community diversity. Construction of guzzlers in areas where water would not be present could enhance wildlife habitat in those areas. Management of livestock grazing would have a beneficial effect on rangelands by allowing for improved watershed conditions, vegetation cover, structural diversity, and species composition. OHV use can cause minimal damage to rangelands in areas where hunting and sightseeing are popular.

With the reduction of livestock grazing in Alternative B, native rangelands would respond with increases in vigor and plant diversity except in areas where noxious weeds have established. Limited controls on noxious weed spread could allow the weeds to dominate native rangelands and could result in a reduction in plant diversity. Allowing bighorn sheep to expand naturally with no control on populations could eventually result in depleted forage resources in some areas. Wild horses would continue to be managed within the AML to keep the effects on vegetation resources minimal. Designations applied to OHV use would provide the maximum level of protection and recovery opportunities for rangelands.

The interseeding of 20,000 acres within nonnative seedings in Alternative C could result in beneficial increases in diversity and cover for wildlife. Burning and mechanically removing post-settlement western juniper from rangelands would allow herbaceous plant species to respond with improved vigor and repopulate the niches formerly occupied by the juniper. Treating only high priority, noxious weed infested areas could protect some areas while allowing weeds to occupy sites in other areas and spread uncontrolled. Seeding lower seral deer winter range with native and desirable nonnative species would provide greater diversity and community structure. The installation of new improvements for the benefit of extending wildlife habitat would have little or no effect on rangelands and could provide additional wildlife habitat. The effects of wild horse management on rangelands would be the same as Alternative B, but the effects of livestock grazing would be greater. Livestock grazing would still be less than in the existing situation, and ecological condition should improve in most areas.

In Alternative D, a smaller number of acres within nonnative seedings would be seeded with native and desirable nonnative plant species than in Alternative C, reducing the effect on the seeding. The effects of controlling post-settlement juniper would be the same as in Alternative C. The effect of noxious weed control would be greater than any other alternative because the management actions emphasize control on all existing sites and extensive inventory in other areas. The management of most big sagebrush plant communities in degraded deer winter range would also improve the diversity and plant community structure. The effects of management actions for the benefit of special status species would be the same as in Alternative A. The effects of energy and minerals exploration and development would be the same as in Alternative A. The effects of wild horse management on rangelands would be the same as in Alternative B. Management for sustainable livestock grazing in both the AMU and the CMPA would not change the present management greatly.

Vegetation cover would be increased in Alternative E. The establishment of new nonnative seedings could reduce the diversity of rangelands in general. More juniper could be removed in this alternative, which could cause impacts to both soils and plant communities. In the long term, herbaceous vegetation would improve with the removal of the juniper. The effects of noxious weed management on rangelands would be the same as in Alternative D. The areas outside the legislated mineral withdrawal area would be open to leasing and could be occupied, which may affect vegetation on those sites. The effects of wild horse management would be the same as in Alternative D, except that vegetation could be affected if horses would be reintroduced on the east side of the Steens Mountains from Wild Horse Canyon to the Long Hollow Road. Productivity and cover could be reduced from horses grazing yearlong in this area. The maximizing of livestock grazing would allow for greater forage utilization and may affect vegetation in easily accessible areas. New

rangeland improvements would be constructed, possibly causing disturbance to vegetation in small, localized areas. OHV use would be the same as in Alternative A.

4.5.4.5 Cumulative Effects

Many changes have taken place since the introduction 150 years ago of cattle, sheep, and horses. The drastic reduction of wildland fires and the accidental introduction of noxious weeds and other aggressive weed species have also changed the landscape in some areas. The application of grazing management, prescribed burning, and integrated weed management would help to change the direction of conditions on some rangelands. The objective would be to improve the ecological condition in key areas where diversity of vegetation would be lacking and exotic species dominate the community.

4.5.5 Noxious Weeds

4.5.5.1 Goals and Objectives

Goal 1 - Control the introduction and proliferation of noxious weeds and reduce the extent and density of established populations to acceptable levels.

Objective 1. Treat noxious weeds and inventory for new infestations using the most effective means available, as outlined in the Burn's District Integrated Weed management Program EA/Decision Record.

Objective 2. Create public awareness on how to utilize public lands without inadvertently spreading noxious weeds.

Objective 3. Maintain partnerships with local groups and government agencies to combine efforts in the control and prevention of noxious weed infestations.

4.5.5.2 Assumptions

Noxious weeds are currently present throughout the subbasin review area, and have become introduced in the Planning Area primarily where disturbance has occurred. Where early detection and control do not occur, these weeds spread out from the initial introduction site, invading even excellent condition plant communities. An integrated weed management program has been implemented covering approximately 3.7 million acres within three counties, including both the Three Rivers and Andrews RAs.

To date, eighteen different noxious weed species have been discovered in the Planning Area. Noxious weed infestations contribute to the loss of rangeland productivity, increased soil erosion, reduced species and structural diversity, and loss of riparian/wetland and wildlife habitat.

Effective management of noxious weeds includes incorporating prevention measures to avoid weed establishment during the design and implementation of any authorized activities. These include such measures as reducing surface disturbance, cleaning all equipment and vehicles, enhancing public awareness of the noxious weed issue, and monitoring high risk areas (e.g., high recreational use areas, livestock holding, salting and watering areas, heavily traveled roads, materials sites). Early detection would be critical in order to control noxious weeds before they spread from the site of introduction. Inventory and monitoring must occur annually in high risk areas; systematic inventory of all areas should occur as priorities and resources allow.

Since portions of the Planning Area would not be public land, BLM management actions alone may not sufficiently protect resources from noxious weed infestations. In mixed ownership watersheds, the assumption would be that the BLM would continue to work in cooperation with federal, state, county, private interests, and the Harney County Weed Management Partnership to control noxious weeds and other invasive species in order to protect soil and other resource values.

4.5.5.3 Analysis of Alternatives

4.5.5.3.1 Effects Common to All Alternatives

Direct Effects

Any management actions that disturb or compact soils and/or remove vegetation can increase the potential for noxious weed or other invasive species infestations that result in degraded plant community structure, cover, composition, or diversity; low or nonproductive soils; erosion; slow water infiltration; and ultimately, habitat conversion. Once established, noxious weeds could be spread by many vectors including livestock and wild horse grazing; construction of range improvements; building or maintaining roads and trails; energy and mineral development; OHV use; recreation site use and development; rangeland vegetation management; woodland management; fire suppression; and wildland fires. All of these vectors could continue to introduce and spread noxious weeds and other invasive species under all of the alternatives. Risk assessments would be conducted at the project/activity design stage to determine the likelihood of increasing noxious weed opportunities. Based on the assessments, appropriate mitigations would be incorporated into the project/activity. The degree and extent of land use represented under each alternative may determine the potential for noxious weed spread and control.

Under all of the alternatives, noxious weed management would be a priority in order to protect the condition of other resource values. Invasive species would be actively controlled through an integrated weed management program. BMPs would be prescribed and implemented at the activity plan level to prevent weed infestations caused by degradation of soil resources. The application of BMPs would be an effective means of preventing noxious weeds or other invasive plant infestations at the activity plan level, thereby reducing erosion, protecting water quality, and increasing desirable vegetative cover.

Indirect Effects

Wild Horses and Burros. Wild horse grazing in areas infested with noxious weeds could increase the distribution of noxious weeds by directly spreading seed or reproductive parts through hair, hooves, or fecal material. This effect would continue under all of the alternatives. Current AMLs and wild horse forage allocation levels would be maintained in all HMAs. Increases and decreases in AML and forage allocations would be considered under all the alternatives except Alternative A. Alternative A has the greatest potential for the spread and introduction of noxious weeds and other invasive plant species as other resources become degraded through erosion, compaction, and changes in vegetation communities by wild horse and burro use. Alternative A would therefore require a more intensive noxious weed treatment and monitoring program to maintain the current low level of noxious weeds.

4.5.5.3.2 Alternative A

Direct Effects

The effect of implementing integrated management on noxious weeds should effectively eliminate the smaller, more easily eradicated infestations. Larger infestations would be very difficult to eradicate, but could be contained given enough of the most effective tools.

Existing drought conditions play a prominent role in the distribution and number of new infestations of noxious weeds. Invasive species typically tolerate and proliferate in conditions such as drought, while native plant species often could not compete with invasive plants for the necessary resources. Drought conditions may cause an increase in the number of new infestations and the growth rate of existing infestations.

Woodlands. Juniper management could have long-term effects on the rate and spread of noxious weeds by improving desired ground cover. BMPs should include requiring clean equipment, revegetation of treated sites and weed treatment and monitoring as appropriate for each site.

Rangelands. Rangeland vegetation diversity, plant cover and density would be maintained or increased, reducing the potential for noxious weed infestations and distribution. Prescribed fire and mechanical vegetation removal would be implemented to promote ecologically desirable traits such as a mosaic of successional stages in rangeland vegetation. These activities could result in short-term damage to vegetation, soil disturbance, soil compaction, erosion, and increased runoff. The application of BMPs, and restoration or rehabilitation of these areas could reduce these short-term effects, and potentially limit noxious weed establishment.

Energy and Minerals. Energy and mineral development in the Planning Area could continue to disturb soils and increase the potential for noxious weed infestation and spread. Additional mineral and energy development and roads to support such developments could continue to increase noxious weed distribution. BMPs that include annual monitoring and treatment for noxious weeds, as well as consideration of noxious weed issues in overall site management and rehabilitation plans would reduce the likelihood of noxious weed problems.

Grazing Management. Livestock grazing in areas infested with noxious weeds could increase the distribution of noxious weeds by directly spreading seeds or reproductive parts through hair, hooves, or fecal material. Managed livestock grazing can be a useful method to enhance competitive vegetation and reduce noxious weed infestations.

Wildland Fire Management. Suppression of wildland fires could reduce the effects caused by noxious weed infestations by limiting the amount of vegetation and soil disturbance resulting from burns, thereby reducing the amount of area available to noxious weed infestations. Suppression activities could also increase the potential for noxious weed infestations by increasing disturbance when using roads and off-road access to fight fire. Other fire related activities include developing staging areas and fire camps in weed infested areas or by increasing disturbance activities that would disturb soils and remove vegetation, opening up disturbed sites to potential new infestations. Prescribed fire and vegetation manipulation projects could potentially reduce noxious weed infestations by using vegetation management practices and BMPs that reduce bare or disturbed soils. Seeding and rehabilitating areas after wildland and prescribed fire would reduce the chances of new noxious weed infestations by providing vegetation cover.

Transportation and Roads. Existing roads, particularly high use roads, would continue to affect vectors for noxious weed establishment in the Planning Area. Public education efforts could reduce the spread of noxious weeds by informing area users to stay on existing roads and trails and identifying and reporting infestations.

Off-Highway Vehicles. OHV and mechanized vehicle use could continue to contribute to the spread of noxious weeds in the areas designated as open, and along existing and designated routes.

Recreation. Recreation activities in the Planning Area would continue to be a factor in spreading noxious weeds. Vehicle use, horseback riding, pack animals, and hiking could introduce noxious weeds from other areas by carrying and distributing seeds to campsites and along trails and roads. Public education efforts could reduce the frequency of noxious weed infestations by informing recreation users of the need to clean their vehicles and camping gear, to stay on existing roads and trails, and to avoid walking through areas infested with noxious weeds.

4.5.5.3.3 Alternative B

Direct Effects

Public education would be expanded to include the local area and areas outside Harney County, which could reduce the effects caused by noxious weed distribution. The reduction in effects may be realized in the form of observations and mechanical control of small infestations.

Inventories would be increased with emphasis on detecting new infestations, and to determine changes in distribution of known infestations, which could reduce the effects caused by noxious weeds if control efforts also increase. The change of priority to treat high quality resource lands for noxious weeds may allow for the establishment and spread of noxious weeds in other parts of the Planning Area. Limiting treatment of noxious weeds to only biological or mechanical methods means there would be no treatment of weed species or infestation situations that do not respond positively to those particular methods.

Indirect Effects

Woodlands. Juniper management could have long-term effects on establishment and rate of spread of noxious weeds, with the same effects as Alternative A, though lower in magnitude.

Rangelands. Allowing natural processes to determine vegetation species composition, successional stages, and reintroduction rate of native species on rangeland plant communities could allow for increased noxious weed infestations. Minimizing control options to influence desired vegetation trends could increase the distribution and rate of new infestations of noxious weeds. Manual and biological controls would not always be efficient or effective methods for controlling some noxious weed species, and would not effectively reduce the effects from such weed infestations.

Energy and Minerals. The lack of energy and mineral development would reduce opportunities for noxious weed establishment in the Planning Area.

Grazing Management. The elimination of livestock grazing throughout the AMU and in portions of the CMPA would reduce disturbance and thereby reduce opportunities for establishment of new infestations of noxious weeds throughout the Planning Area.

Wildland Fire Management. Fire suppression activities would be minimized, which would reduce the effects of ground disturbances and therefore result in a reduction in the establishment and potential spread of noxious weeds. Minimizing fire suppression activities could increase some noxious weed infestations that already exist in the Planning Area by reducing the opportunity for fire to burn those areas and rejuvenate competitive vegetation, and by reducing the number of acres that could be rehabilitated to prevent noxious weed infestations in the future. Prescribed fire and vegetation manipulation would have the same effects as under Alternative A.

Transportation and Roads. Road closures, both seasonal and permanent, would reduce the establishment and spread of noxious weeds. Limiting travel to designated roads and trails would help reduce the spread of noxious weeds in areas where control would be difficult. Continued motorized vehicle travel on open routes would enable weeds to become established on those sites. Management priorities would shift from control treatments focused on roads and high use recreation areas to areas of high quality resource value, thereby increasing the opportunities for noxious weed introduction and spread along roadsides.

Off-Highway Vehicles. Maximizing the areas designated as closed to OHV and mechanized vehicle use, limiting the number of roads and trails designated for use, and not allowing OHV or mechanized vehicle group events would greatly reduce the possibility for noxious weed establishment in those areas. The rate of noxious weed spread and number of new infestations would be greatly reduced by restricting OHV and mechanized vehicle use.

Recreation. Reduced recreation use associated with area and site closures, lack of new recreational developments, and limits on visitor use and group size would reduce noxious weed spread and establishment. Minimal management of recreation use could increase the distribution of noxious weeds in previously infested areas. Closing and rehabilitating undeveloped sites and other sites where natural processes would be jeopardized would reduce noxious weed distribution and limit new infestations.

4.5.5.3.4 Alternative C

Direct Effects

Treatment and inventory of noxious weeds would be the same as under Alternative B. Education efforts for noxious weeds would be the same as Alternative B. Coordination with local groups, counties, and other agencies would be the same as Alternative B.

Indirect Effects

Woodlands. Juniper removal and prescribed fire would be the same as Alternative A, with the same effects.

Rangelands. Native rangeland plant communities would be maintained or improved, with emphasis toward attaining ecological status. Rangeland community plant cover and density would be maintained or increased, thereby reducing the potential for noxious weed introduction and spread.

Desirable nonnative seeding would be managed to maintain or improve vegetation composition, and opportunities to restore areas with unsuccessful nonnative seedings would be implemented. Many of the seedings of crested wheatgrass that have become infested with cheatgrass or medusahead could be restored to desired vegetation cover, reducing noxious and invasive plant species.

Prescribed fire and mechanical vegetation removal would be implemented to promote ecologically desirable traits such as a mosaic of successional stages in rangeland vegetation. This would have the same effects as Alternative A.

Energy and Minerals. Many areas would be withdrawn from mineral entry and closed to leasing in order to protect natural values, thereby reducing the effects caused by ground disturbances and minimizing the spread of noxious weeds in those areas. Areas open to mineral and energy development would continue to disturb soils and increase the potential

for noxious weed establishment. Additional mineral and energy development, and roads to support those developments, would continue to increase opportunities for noxious weed distribution.

Grazing Management. The effects of livestock management on the distribution and new infestations of noxious weeds would be similar to Alternative A, with emphasis on nonconsumptive uses while providing for minimal grazing. The spread and effect of noxious weeds would be reduced where disturbance would be reduced due to a lower level of livestock grazing than under Alternative A.

Wildland Fire Management. Noxious weed management would have the same effects as Alternative B for fire suppression and prescribed fire; however, there would be an increased emphasis on rehabilitation and restoration of burn areas, thereby decreasing the effects of noxious weed infestations in the long term.

Transportation and Roads. The effects of noxious weed infestation from roads on other resources would be similar to Alternative B; however, more emphasis on control and restoration of noxious weed sites would reduce the negative effects.

Off- Highway Vehicle. Minimizing OHV and mechanized vehicle use would reduce the spread of noxious weeds, thereby limiting the effects of weeds in areas designated as limited to roads, ways, and trails.

Recreation. Recreation use in the Planning Area would continue to spread noxious weeds, thereby affecting other resource values. Control of noxious weeds would continue in high recreation use areas and could reduce the effects by controlling the spread to other areas. Although some recreational development would occur under this alternative, creating more potential for noxious weeds to become established, this alternative emphasizes the protection of natural and cultural values. Closure or rehabilitation of dispersed sites would reduce noxious weed spread by actively treating infested areas. Public education efforts could reduce the effects of noxious weeds by informing recreation users to stay on existing roads and trails and to avoid traveling through noxious weeds infestations.

4.5.5.3.5 Alternative D

Direct Effects

Cooperative management with federal, state, county, and private interests would be applied for the management of noxious weeds. The Harney County Weed Management Partnership would continue to be implemented. Public education would be expanded to include areas outside Harney County. Coordination with local, county, state, and federal interests would help to reduce negative effects on resource values from noxious weed infestations through cooperative management and information sharing activities.

Cooperative activities would emphasize prevention, restoration, research, and expanded efforts to inventory and detect new infestations. Control of the introduction and proliferation of noxious weeds would be emphasized on disturbed areas such as roads, ROWs, mineral materials sites, and recreation sites. BMPs would be implemented to emphasize preventative measures to minimize weed spread.

Noxious weed infestation would continue to have an effect on vegetation resources, including riparian, rangeland, and woodlands (e.g., aspen and juniper) plant communities, and control would be emphasized across the entire Planning Area.

Indirect Effects

Woodlands. Juniper removal and prescribed fire would be the same as under Alternative A, with the same effects.

Rangelands. Native rangeland plant communities would be maintained or improved with the same effects as Alternative C.

Desirable nonnative seeding would be managed to maintain or improve vegetation composition. Opportunities to restore areas having unsuccessful nonnative seedings would be the same as under Alternative C, with the same effects.

Prescribed fire and mechanical vegetation removal would be implemented to promote ecologically desirable traits such as a mosaic of successional stages in rangeland vegetation and would have the same effects as Alternative A.

Energy and Minerals. Energy and mineral development would disturb soils and increase the potential for noxious weed introduction and spread on fewer acres of the Planning Area than Alternative A. Additional mineral and energy development, and roads to support those developments, would continue to increase the number of effects from noxious weed distribution.

Grazing Management. Livestock grazing would have the same effects on noxious weed distribution as Alternative A; however, emphasis for management would be for nonconsumptive uses and multiple resource management, which may decrease the magnitude of effects.

Wildland Fire Management. Fire suppression of wildland fires would reduce the effects on other resources caused by noxious weed infestations the same as Alternative A. More emphasis would be implemented to harvesting byproducts from fuel treatments, which could increase the spread of noxious weeds by increased level of ground disturbance.

Transportation and Roads. Existing roads, particularly the high use roads, would continue to be vectors for weed introduction, affecting soil and vegetation resources. Under this alternative, noxious weed inventory and treatment would be a high priority consideration for road maintenance; therefore, road maintenance and noxious weed control treatments could likely reduce the effects caused by the distribution and new infestations of noxious weeds. New road development could increase the effects caused by noxious weeds.

Off-Highway Vehicles. OHV and mechanized vehicle use would continue to contribute to the spread of noxious weeds on 25,286 acres designated as open; 656,590 acres designated as limited to existing roads, ways, and trails; and 794,496 acres designated as limited to designated roads, ways, and trails. More acres of land in the Planning Area would be designated as closed to OHV and mechanized vehicle use, than under Alternative A, and less than Alternative B. Cooperative management with OHV and mechanized vehicle clubs would be sought, and group events would be allowed. Opportunities to reduce noxious weed infestations and the effects to other resources would be sought through educational efforts with cooperators as well as increased inventory, treatment and monitoring.

Recreation. Recreation management in the Planning Area would emphasize maintenance of existing improvements, establishment of new recreation sites to accommodate increased demand, and allowing tourism opportunities, which could potentially increase the spread of noxious weeds to new areas. Control of noxious weeds would continue in high recreation use areas and in newly developed recreational sites. Public education efforts could reduce effects of noxious weeds by informing recreation users to stay on existing roads and trails and to avoid traveling through noxious weeds infestations.

4.5.5.3.6 Alternative E

Direct Effects

Integrated management would be applied for the control of noxious weeds the same as Alternative D. Inventories would be increased to detect new infestations that may have adverse effects on commodity reserves. Control of introduction and proliferation of noxious weeds would be emphasized on disturbed areas such as roads, ROWs, mineral material sites, and recreation sites.

The distribution of noxious weeds and the effects on other resources in the Planning Area, as well as the implementation of BMPs, would be the same as under Alternative A. Noxious weed infestation would continue to affect vegetation resources, including riparian, rangeland, and forest (e.g., aspen and juniper) plant communities; control would be emphasized to protect commodity resources. Management emphasis for the control/treatment of noxious weeds from natural resource areas to commodity protection would potentially have an adverse effect if the high quality natural resource areas become neglected.

Woodlands. Juniper removal and prescribed fire would be the same as under Alternative A, though effects may be greater with an emphasis on commodity production.

Rangelands. Native rangeland plant communities would be maintained or improved, the same as Alternative A, with greater effects due to the emphasis on commodity uses.

Desirable nonnative seeding would be managed to maintain vegetation composition and increase forage. Many of the seedings of crested wheatgrass infested with noxious weeds and other invasive species would be rehabilitated, which would reduce weeds and additional invasive plant infestations.

Prescribed fire and mechanical vegetation removal would be implemented to promote commodity uses in rangeland vegetation. These activities would result in short-term damage to vegetation, soil disturbance, compaction, erosion, and runoff. The application of BMPs and restoration or rehabilitation of these areas could reduce these short-term effects and prevent noxious weed infestations. Long-term effects of these vegetation manipulation practices in vegetation communities would reduce undesirable dominant woody vegetation and release desirable plant species, increasing native plant diversity and community structure and preventing infestations of noxious weeds and other invasive species.

Energy and Minerals. Energy and mineral development would be maximized under this alternative, increasing the acreage of potential soil disturbances and soil crust degradation, thereby creating increased opportunities for noxious weed introduction. The spread of noxious weeds onto more acres with additional mineral and energy development, and roads to support those developments, could increase the effects of noxious weed distribution on other resource values.

Grazing Management. Maximizing livestock grazing could have a greater effect on other resources by potentially creating more livestock related disturbance, providing enhanced opportunities for new introductions of noxious weeds than under the other alternatives. Additional ground disturbances caused by increased rangeland projects and maximizing livestock use in weed infested areas and throughout the Planning Area would increase effects of noxious weeds and other invasive plant infestations on soils, soil crusts, and vegetative diversity. Noxious weed inventory, treatment, and monitoring would be stepped up in areas of heavy livestock use.

Wildland Fire Management. Suppression of wildland fires and prescribed fire would reduce the effects to other resources caused by noxious weed infestations the same as under Alternative A. More emphasis would be placed on harvesting by-products from fuel treatments, which could increase the spread of noxious weeds through an increase in the level of ground disturbance.

Transportation and Roads. Existing roads and newly developed roads to maximize commodity uses would affect soil and vegetation resources, resulting in an increase of noxious weed introductions to the area. Noxious weed control would be a priority under this alternative for management of road maintenance as in Alternative D. New road development would increase the potential adverse effects to other resources resulting from noxious weed infestations.

Off-Highway Vehicles. OHV and mechanized vehicle use would contribute to the spread of noxious weeds because most of the AMU would be open to OHV and mechanized vehicle use. Designating 681,874 acres as open; 510,504 acres as limited to existing roads, ways, and trails; and 283,992 acres as limited to designated roads, ways, and trails would increase the potential spread of noxious weeds and other invasive plant species. Organized OHV and mechanical vehicle events would be encouraged, increasing the potential introduction and spread of noxious weeds. Noxious weed inventory, treatment, and monitoring would be increased in areas of heavy OHV and mechanized vehicle use.

Recreation. Recreation management in the Planning Area would emphasize improvement of existing developed sites, establishment of new recreation sites, and tourism opportunities, which could spread noxious weeds to new areas. The need to control noxious weeds would be important in high use recreation areas and newly developed recreational sites. The potential would be greatest for new noxious weed infestations and expansion of existing infestations throughout the Planning Area. Noxious weed inventory, treatment, and monitoring would be increased in heavy recreation use areas.

4.5.5.4 Summary of Effects

Under all alternatives, the introduction and spread of noxious weeds would continue. Any resource activity or management action resulting in ground disturbances would increase the chances for weed introduction and spread. The different management emphasis under each alternative would determine the degree to which the introduction and spread of weeds would be controlled.

Under Alternative A, weeds would continue to invade from areas outside the Planning Area, although the size and number of existing infestations would decrease with continued treatment.

The effects of noxious weeds on other resources under Alternative B would be mixed. The exclusion of permitted uses and commodity production would decrease weed introductions and establishment. Increased distribution of current weed

infestations could result from the following: lack of emphasis on treating areas that would not be considered high resource value; lack of restoration; prescribed fire; and potential increases in catastrophic wildland fire with less rehabilitation.

Under Alternative C, increased inventory, control, and education efforts could decrease the spread of noxious weeds. The limitations on commodity and recreation uses would decrease new introductions of noxious weeds.

Under Alternative D, the effect of noxious weeds would be mixed. While an increase in commodity and recreation uses would increase new weed introductions and potentially spread those already existing, the emphasis for increases in inventory, control, and education efforts would decrease the spread of noxious weeds overall.

Under Alternative E, weed introduction and establishment could occur due to increased commodity production, recreation uses, and developments that would attract people and equipment to the Planning Area; such activity could introduce weeds to the area and/or spread existing infestations.

4.5.5.5 Cumulative Effects

The introduction of noxious weeds would be likely to continue for the foreseeable future. Cumulative effects of noxious weed infestations have the potential to result in habitat conversion and/or loss of vegetation and wildlife species. Riparian/wetland habitats would also be at risk with noxious weed establishment. Soil crusts and soil productivity could be lost. Cumulative effects could occur on a watershed scale as a result of untended noxious weed introductions and habitat conversion.

An integrated approach to the problem that includes prevention strategies, inventory and early detection, multiple tools for control; research to determine the most effective, efficient strategies, and follow-up monitoring would enable effective noxious weed management throughout the Planning Area, depending on the alternative chosen for program management. Currently, the ongoing weed management program minimizes weed introductions to the Planning Area from outside sources and encourages a coordinated management approach.

4.6 Fish and Wildlife

4.6.1 Fish and Aquatic Habitat

4.6.1.1 Goals and Objectives

Goal 1 - Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms.

Objective 1. Maintain, restore or improve habitat.

4.6.1.2 Assumptions

The ODFW and/or the USFWS retains jurisdiction over the management of fish and wildlife populations. Maintenance, restoration or improvement of habitat for fish and other aquatic organisms on public lands would be primarily associated with the management of water and riparian vegetation resources. Salmonid and resident fish habitat would be a designated beneficial use in the Planning Area and would be subject to water quality criteria established by the state. Nonpoint source pollution, such as elevated water temperature and sediment input, would be the primary water quality issue regarding public land management.

Most fish species found in the Planning Area require relatively cool, clean water to provide sufficient oxygen and gravel substrates that would be relatively free of fine sediment for spawning. Other aquatic organisms, such as aquatic macroinvertebrates, also require living spaces in gravel and cobble that would be relatively free of fine sediment. Management actions designed to maintain and restore water quality would assist in maintaining and restoring fish and aquatic habitat. Refer to the Water Resources section of this document for analysis of the effects of management actions on water quality, especially sediment and water temperature.

As with water resources, fish and aquatic habitat would be dependent on the condition of resources throughout the watershed, including soils, upland vegetation, and especially riparian vegetation. Maintenance or restoration of both water resources and fish habitat would be primarily attained through maintaining or improving the condition of riparian

and upland vegetation and soils. Management actions to achieve this end would be found in the Water Resources, Soils, and Vegetation sections of this document.

In the Water Resources section, management actions would be reviewed for their effects on water temperature and sediment supplied to water bodies. Temperature and sediment effects occur through changes to riparian and upland vegetation and soils. These changes in vegetation and soils have very similar effects on physical fish habitat as follows:

- Increased riparian vegetation density tends to affect the water resource by reducing erosion, sedimentation, and stream temperature; improving streambank stability; and providing cover for fish in the form of undercut banks and overhanging vegetation.

- Increased riparian vegetation density and structure tends to improve channel function, by stabilizing streambanks, resulting in increased pool density and quality, and increased habitat complexity, all important components of fish and aquatic organism habitat.

- Increased floodplain vegetation density and increased stability of soil on floodplains improve the ability of the floodplain and channel to resist erosion during floods, thereby maintaining physical fish and aquatic organism habitat.

- Increased floodplain vegetation density and increased stability of soil on floodplains increases the ability of the floodplain to store ground water during wet periods. This additional water can be released to the channel during dry periods, resulting in increased flow that benefits fish and other aquatic life during low flow periods.

- Increased riparian and floodplain vegetation density tends to improve the condition of stream gravel and cobble substrate, thereby reducing fine sediment. This allows higher production in aquatic insect and other stream invertebrate communities. Also, reductions in fine sediment in gravel substrate, by reducing erosion and promoting functional channel geomorphic processes, improve fish spawning success.

Due to this strong link between water resources and fish habitat, mediated by the influence of vegetation and soil on both resources, the effects of management actions on water resources would be very similar to effects on fish habitat. Since water quality would be affected by sediment and temperature, these factors would be analyzed in the Water Resources section of this document. This section emphasizes other effects on fish habitat, such as changes in physical habitat structure or direct perturbations of aquatic animals.

Habitat improvement through the implementation of physical structures or channel manipulation would be analyzed at the activity plan level and respective NEPA requirements.

Most of the perennial streams on public lands within the Planning Area and available habitat for fish and other aquatic species would be located within the Steens Mountain Wilderness and designated WSR segments. Management requirements of these areas include "non-degradation" and "protect and enhance ORVs". ORVs include fish habitat and riparian vegetation. These requirements imply managing riparian and stream habitat to maintain or progress toward an advanced ecological status. The interrelated nature of riparian condition to channel stability and complexity, and subsequently aquatic habitat, would facilitate maintaining or restoring fish and aquatic habitat within these areas regardless of resource- specific management actions.

4.6.1.3 Analysis of Alternatives

4.6.1.3.1 Effects Common to All Alternatives

Direct Effects

Aquatic habitat would be formed and maintained by physical processes operating throughout the watershed, especially in riparian vegetation communities. The maintenance, restoration, or improvement of fish and aquatic habitat would, therefore, be primarily accomplished through management actions under Water Resources, Vegetation, and in some cases, the Special Status Species sections.

Indirect Effects

Water Resources. As described in the Water Resources section, BMPs would be prescribed and implemented at the activity plan level to reasonably prevent degradation of water quality. The prevention and reduction of erosion and sediment introduction to water bodies would maintain and restore fish habitat by reducing fine sediment levels in gravel and cobble substrate, thereby increasing invertebrate production and improving spawning success. Increasing riparian vegetation density and structure would increase overhanging cover available to fish, and would also increase the occurrence of undercut banks. Stream channels would be stabilized, increasing habitat complexity and the quality of pools.

BMPs would also be directed toward management practices to facilitate maintenance or improvement of attributes identified through PFC assessment, such as channel geometry or vegetation characteristics. By stabilizing streambanks and increasing vegetation, BMPs designed to reduce channel width-to-depth ratios would tend to increase shade and reduce stream temperature, as well as provide additional overhanging cover. Increases in the density and coverage of riparian vegetation would stabilize streambanks, shorelines and floodplains, resulting in reduced erosion and amount of sediment reaching water bodies. Increased riparian vegetation density would also lead to greater canopy cover, thereby increasing shade and buffering stream temperature.

Waters identified on the 303(d) list would be evaluated to validate impairment or improvement following the listing and where required, WQRPs or other sufficiently stringent measures would be developed to restore water quality. Although the primary objective of WQRPs would be to address the limiting water quality condition such as temperature, this objective would be realized by maintaining or restoring characteristics of riparian and floodplain vegetation communities. These actions would also tend to improve fish habitat characteristics (e.g., increased cover, pool quality, substrate quality, etc.).

Riparian and Wetlands. Prescriptions at the activity plan level would be implemented or continued to manage riparian/wetland vegetation to maintain or progress toward PFC. While vegetation communities in PFC would not be necessarily at site potential or ecological potential, PFC represents a condition where potential erosion, sediment production, and associated effects would be reduced. In streams not currently at PFC, management direction to maintain or progress toward PFC would likely increase the density and coverage of riparian vegetation. This action would stabilize streambanks and floodplains, reducing erosion and sediment delivery to water bodies, thereby reducing fine sediment in gravel and cobble substrates. Increased density of riparian vegetation may also result in greater canopy cover and may narrow stream channels, reducing stream temperature and providing cover. In streams currently at PFC, this management action would promote maintenance of PFC and facilitate managing for site/reach specific values such as fish and aquatic habitat.

Reach/site scale riparian vegetation, hydrology, morphology and soil characteristics (sub-samples) would be assessed to evaluate site potential and capability in the development of activity level plans. Some aspects of fish habitat, such as overhanging cover or pool-riffle complexity, may be improved with riparian communities in or approaching potential ecological condition beyond the base condition level of PFC. This assessment would therefore assist in developing prescriptions for riparian communities to improve fish habitat, such as grazing practices designed to promote stream functional attributes that contribute to habitat complexity.

BMPs would be prescribed and implemented at the activity plan level to maintain, restore, or improve floodplain function and process across all alternatives. These BMPs may include active or passive measures to manage livestock grazing and recreation use in riparian areas. Functioning floodplains store ground water during wet periods and release it slowly to adjacent streams during drier months, providing additional water for fish during low flow periods. Functioning floodplains tend to promote stream channel stability, which increases habitat complexity and the quantity and quality of pools.

Noxious Weeds. Noxious weed prevention and control would continue to be a priority in all alternatives. Noxious weed invasion of native plant communities, including riparian vegetation, results in degraded plant community structure, cover, composition, and diversity. Streambanks may become less stable, or recovery from disturbance may be slower. Fish and aquatic habitat effects include increased sedimentation in gravel and cobble, reduction in cover for fish, and increased temperature. The priority on noxious weed prevention and control would reduce these effects.

Effects to aquatic organisms through the potential introduction of chemicals into water would be assumed to be minimized or avoided through appropriate application techniques according to label restrictions and BLM guidance.

Grazing Management. Whenever existing grazing management practices on public land would be determined to be contributing to nonattainment of resource objectives, appropriate actions would be implemented to meet habitat and other resource objectives (e.g., increases in riparian vegetation density and structure, reduced erosion, increased streambank).

Where grazing occurs along perennial or intermittent streams, physical effects to aquatic habitat may include bank disturbance from hoof action and subsequent reduction of cover and channel complexity. This would be anticipated to be a localized effect, and would be minimized or avoided through grazing management BMPs. Where grazing use occurs during salmonid spawning, livestock could disturb eggs or pre-emergent juveniles through trampling of redds (the spawning area of trout or salmon). However, early season grazing management (spring/early summer) during the salmonid spawning period tends to reduce livestock presence along the stream, thereby reducing the likelihood of effects to salmonid spawning sites. Areas burned by wildland or prescribed fire would be rested for a minimum of two growing seasons, or until monitoring data support resumption of grazing. This would allow increased vegetation density, and would reduce erosion and sediment delivery to water bodies, thereby reducing fine sediment in gravel and cobble substrates.

Special Status Species. Goals and objectives for the management of special status species promote the objectives for fish and aquatic habitat. The management of special status species habitat for conservation and/or recovery, primarily realized through improvements in the riparian vegetation community, would lead to increases in available cover and habitat complexity in water bodies where redband trout and other special status aquatic species were found.

4.6.1.3.2 Alternative A

Indirect Effects

Water Resources. Current management with respect to impaired waters would continue, with management of riparian and adjacent uplands based on site or reach management objectives. Management would be modified where necessary with development and implementation of WQRPs and associated activity plans. The development of WQRPs would be based on the TMDL schedule established by the DEQ, with completion planned for 2007. Fish and aquatic habitat improvements would be expected through the development and implementation of WQRPs as riparian vegetation would be restored and channel and floodplain function improves.

Riparian and Wetlands. Activity plan level management prescriptions and/or WQRP prescriptions would be developed based on reach or site scale assessment, and on site-specific resource management objectives. Management would not be guided by prioritization across the Planning Area, but site-specific management objectives with respect to water quality, and therefore fish habitat, would be developed and implemented through other scheduled assessments or activity planning processes.

Existing grazing and recreation systems and improvements to maintain PFC would continue. Outside of areas affected by WQRPs or other special planning requirements (e.g., WSRs), riparian/wetland areas would not necessarily be managed to attain advanced ecological status; however, management to maintain or promote PFC may also promote advanced ecological status in many areas. In some locations, vegetation communities in PFC may not provide as much shade or resistance to erosion as communities in advanced ecological status. Fish habitat may be less complex, and less cover may be available in areas managed solely for PFC.

Sources of localized tree and shrub source material for restoration would continue to be established and maintained. These sources would assist in restoring riparian vegetation. Restoration of riparian vegetation in disturbed areas may increase streambank stability, the amount of cover available to fish, and aquatic habitat complexity.

Roads within or affecting riparian areas would be maintained and developed in conformance with existing laws and regulations. Although BMPs would be applied to minimize or eliminate the effects of roads, the development and management of roads would be based on all resource management objectives. Where roads disturb riparian vegetation, streambank instability or stream channel changes may cause reductions in aquatic habitat complexity and available cover.

Beaver populations would be allowed to expand naturally under this alternative. Beaver expansion into riparian and wetland areas where riparian vegetation condition could not sustain increased utilization by beaver populations could result in reduced bank stability and shade, and subsequent increases in sediment input and water temperature. Abandoned beaver dams could wash out, resulting in reduced channel stability and increased sediment load, as well as reduced aquatic habitat complexity and quality at the site or stream reach scale. Beaver expansion into riparian communities

where condition allows increased and sustainable vegetation use could result in riparian vegetation expansion and increased in-channel, streambank, and floodplain water storage. Such water storage would moderate summer stream temperatures and trap sediment, thus increasing the complexity of aquatic habitat. Beaver dams could also impede fish migration, particularly during low flow periods.

4.6.1.3.3 Alternative B

Indirect Effects

Water Resources. An assessment component would be added under this alternative to identify and manage stream reaches or sites that provide cold water habitat in streams where temperature seasonally limits the distribution of cold-water fish

species. These cold water areas serve as refuges for fish and other cold water aquatic organisms within streams when temperatures in other areas may be too high. Active identification, assessment, and management of these areas would promote habitat protection, maintenance, or restoration for cold water organisms.

All perennial streams and contributing intermittent streams would be managed for an advanced ecological status. This would emphasize management for riparian resource values such as riparian density, structure, and cover. Improvements in these attributes would provide for maintenance or improvement of cover and complexity in aquatic habitat.

Under this alternative, the development of WQRPs would be generally guided by stream/watershed prioritization (Table 2.1) along with consideration of new circumstances or emerging opportunities. A primary criterion in prioritization would be the presence of special status aquatic organisms, including fish. Prioritization of assessment and activity development would promote maintenance, restoration, or improvement of aquatic habitat for fish and other aquatic organisms.

Riparian and Wetlands. Activity plan management prescriptions or WQRP prescriptions promoting maintenance or restoration of riparian conditions would be developed similar to Alternative A, but would be guided by stream/watershed prioritization. Criteria for prioritization would include the presence of special status aquatic organisms or species of concern, which would promote habitat maintenance or restoration for these organisms.

Similar to Alternative A, this alternative would direct management of existing grazing systems and improvements in the CMPA to maintain PFC. However, an advanced ecological status would be promoted, which could result in increased density and structure in the riparian community. These changes in the riparian community could result in increased aquatic cover and habitat complexity.

Similar to Alternative A, the establishment of sources of localized tree and shrub source material for restoration would assist in restoring riparian vegetation. However, restoration actions would be limited to areas that would not achieve advanced ecological status in the 20 to 50 year timeframe. In other areas where restoration of habitat would be required, restoration would take place more slowly.

Roads within or affecting riparian areas would be inventoried, and alternate routes that affect riparian areas would be eliminated, relocated or reconstructed. Natural recovery of roads would be allowed in areas where erosion potential would be low and recovery potential would be high; active restoration of roads would be pursued in other areas. All of these actions related to roads would decrease disturbances to riparian and wetland vegetation and soils, and maintain or restore aquatic habitat. Road crossings would be evaluated and modified, as necessary, to simulate natural stream function and processes. This action would prevent roads and associated culverts from acting as barriers to migrations of fish or other aquatic organisms.

Beaver populations would be managed as in Alternative A, with the same effects.

4.6.1.3.4 Alternative C

Indirect Effects

Water Resources. As in Alternative B, BMPs would be prescribed and implemented, with an assessment component added to identify and manage stream reaches or sites that provide cold water habitat in streams where temperature seasonally limits the distribution of cold-water fish species, with the same effects.

As in Alternative B, perennial streams and contributing intermittent streams would be managed to progress toward advanced ecological status, with the same effects.

As in Alternative B, WQRPs would be generally guided by stream/watershed prioritization (Table 2.1), with the same effects. However, active restoration may be pursued to initiate or increase the rate of progress toward an advanced ecological status. In disturbed or degraded areas, where natural rates of recovery may be slow, this action would increase vegetative cover and improve riparian community structure, increasing cover and habitat complexity for aquatic organisms.

Riparian and Wetlands. As in Alternative B, activity plan management prescriptions or WQRP prescriptions promoting maintenance or restoration of riparian conditions would be developed; they would be guided by stream/watershed prioritization, with the same effects.

As in Alternative B, this alternative would direct management of existing grazing systems and improvements to maintain PFC, and would promote an advanced ecological status, with the same effects. In addition to Alternative B, both active and passive management and/or restoration of vegetation may be pursued. Some vegetation communities currently in degraded condition would develop coverage and structure more quickly under this alternative than under Alternative A or B, thereby reducing erosion and stream temperature.

The establishment of sources of localized tree and shrub source material for restoration would be the same as for Alternative A, with the same effects.

Management of roads within or affecting riparian areas would be the same as in Alternative B, with the same effects.

Beaver populations would be allowed to expand naturally as in Alternatives A and B, with the same effects. In addition, beaver would be reintroduced into suitable habitat. Since reintroduction areas would have suitable habitat for beaver, increases in vegetative utilization would be sustainable. The effects of reintroduction would therefore tend to include expansion of riparian vegetation, improved streambank stability, and increased cover and habitat complexity.

4.6.1.3.5 Alternative D

Indirect Effects

Water Resources. As in Alternatives B and C, BMPs would be prescribed and implemented. An assessment component would be added to identify and manage stream reaches or sites that provide cold water habitat in streams where temperature seasonally limits the distribution of cold-water fish species, with the same effects.

All perennial waters and contributing intermittent streams identified on the 303(d) list as water quality limited would be managed toward an appropriate ecological status to attain or progress toward attainment of water quality standards or other surrogate measures, with effects to fish and aquatic species similar to Alternatives B and C.

WQRPs would be generally guided by stream/watershed prioritization (Table 2.1) along with consideration of new circumstances or cooperative management opportunities. However, priorities for development of WQRPs would also be based on cooperative management opportunities. Effects would be similar to Alternative C.

As in Alternative C, active restoration may be pursued to initiate or increase the rate of progress toward a desired ecological status, with similar effects.

Riparian and Wetlands. As in Alternatives B and C, activity plan management prescriptions or WQRP prescriptions promoting maintenance or restoration of riparian conditions would be developed and would be guided by stream/watershed prioritization, with the same effects.

This alternative would direct management of existing grazing systems and improvements to maintain PFC and would promote an ecological status dependent on meeting multiple resource objectives. Effects would be similar to Alternative A. Similar to Alternatives B and C, both active and passive management and/or restoration of vegetation may be pursued, with similar effects.

The establishment of sources of localized tree and shrub source material for restoration would be the same as in Alternative C, with the same effects.

Management of roads within or affecting riparian areas would be similar to Alternatives B and C, with the same effects.

Beaver populations would be managed as in Alternative C. However, this alternative would allow for the removal of beaver if suitable habitat would not be available or if economic harm can be demonstrated. In some areas where natural expansion of beaver into unsuitable riparian habitat occurs (i.e., habitat that would be incapable of sustaining increased utilization), removal of beaver could result in increased riparian vegetation density and consequent improvements in aquatic habitat. In some areas where natural expansion of beaver into suitable riparian habitat occurs (i.e., habitat capable of sustaining increased utilization) but beaver would be removed to reduce economic harm, improvements to riparian vegetation and aquatic habitat associated with beaver would not occur.

4.6.1.3.6 Alternative E

Indirect Effects

Water Resources. As in Alternative A, BMPs would be prescribed and implemented to facilitate maintenance or improvement of attributes identified in PFC assessment, and management would consider refuges important to cold water aquatic organisms as delineated by the state. Effects would be the same as Alternative A.

Similar to Alternative A, riparian areas and adjacent uplands of 303(d) listed water bodies would be managed according to site or reach management objectives. However, development and implementation of WQRPs would be guided by stream/watershed prioritization as in Alternatives B, C, and D, with the same effects.

Riparian and Wetlands. As in Alternative B, activity plan management prescriptions or WQRP prescriptions promoting maintenance or restoration of riparian conditions would be developed; they would be guided by stream/watershed prioritization, with the same effects.

Grazing and recreation management would be implemented to provide maximum use while maintaining or progressing toward PFC and/or WQRP objectives. Effects would be similar to Alternative A.

The establishment of sources of localized tree and shrub source material for restoration would be similar to Alternatives C and D, with the same effects.

Management of roads within or affecting riparian areas would be similar to that in Alternative A, with the same effects.

As in Alternative A, beaver populations would be allowed to expand naturally as habitat conditions indicate, unless suitable habitat would not be available or economic harm would be demonstrated, with the same effects. As in Alternative D, the removal of beaver would be allowed if suitable habitat would not be available or if economic harm can be demonstrated, with the same effects.

4.6.1.4 Summary of Effects

Under all alternatives, the management of waters on the 303(d) list would require the eventual development of WQRPs, which would be directed toward maintaining or restoring riparian vegetation density, coverage, and structure, with associated increase in aquatic habitat complexity. Many of the perennial waters in the Planning Area are found within areas with wilderness and/or WSR designation, both of which promote management for maintaining, improving, or restoring aquatic habitat values.

Under all Alternatives except A, the development of WQRPs would be prioritized through watershed assessment. This action would allow for identification of areas that would benefit most from restoration, thus providing the greatest benefit to aquatic species and habitat.

Cold water refuges, an important component of aquatic habitat, would be actively identified and protected by BLM management under Alternatives B, C, and D. Given the greater resources and knowledge of local conditions available to the BLM, identification of these areas would likely be more effective under Alternatives B, C, and D.

Riparian Conservation Areas (RCAs) would be designated under Alternatives B, C, and D for all streams on the 303(d) list. Since WQRPs would be developed for these streams under all alternatives and many of the streams would be in areas with either wilderness or WSR designation, RCA designation may have little effect on specific management actions.

Under Alternatives A and E, riparian and wetland community management would generally be directed toward attaining and maintaining PFC in areas where other management requirements, such as WQRPs or WSR designations, do not apply. Management for PFC would maintain or restore aquatic habitat by reducing or minimizing sediment inputs. However, the lack of emphasis under this alternative on attaining objective-specific ecological status may not provide for increased cover and habitat complexity as under Alternatives B, C, and D.

Active restoration of riparian areas may be pursued to some extent under all Alternatives, although Alternative B has greater limitations. In areas where riparian vegetation is currently degraded, Alternative B may not allow for restoration during the life of this Plan.

Roads in riparian areas would be inventoried under Alternatives B, C, and D, and some roads may be modified or recontoured and revegetated. This action would improve aquatic habitat by removing potential barriers to migration of aquatic animals where roads cross streams. Under Alternatives B and C, road crossings would be modified to simulate natural stream processes and function. This action would improve migration characteristics with respect to Alternative D, where crossings would be modified to reduce erosion.

Under Alternatives A and B, beaver populations would be allowed to expand naturally. In some instances, beaver expansion may conflict with other objectives, such as riparian restoration, or may cause short-term increases in erosion. Under Alternatives C, D, and E, expansion would be limited to areas of suitable habitat, which may restrict beaver expansion into areas where they would conflict with other management objectives or cause short-term increases in erosion. Alternatives C and D allow for active reintroduction into suitable areas. Alternatives D and E allow for beaver to be removed if economic harm or conflicts with other objectives can be demonstrated. Overall, Alternative D limits the potential for beaver populations to conflict with other management objectives (e.g., reduction of erosion or restoration of riparian areas), while providing for increased aquatic habitat complexity that may accrue from expansion of beaver populations. Alternative C maximizes the aquatic habitat benefits of beaver expansion, but may conflict with other resource objectives.

4.6.1.5 Cumulative Effects

Historically, many of the riparian areas throughout the Planning Area may have been heavily utilized for grazing. Decreases in riparian vegetation density and coverage resulted in increased sediment in streams, streambank instability, loss of cover and shade, reduction in instream habitat complexity, and loss of wetland habitat along streams through channel instability or disturbance of wetland vegetation and soils. Recent management to attain and maintain PFC or similar resource objectives through application of grazing management BMPs has resulted in improvement in riparian and wetland vegetation community structure and function, with associated improvements in aquatic habitat.

For many of the streams in the CMPA, management actions would cumulatively promote maintenance of PFC and movement toward an advanced ecological status in riparian and wetland communities. Many of the perennial streams on public land in the CMPA are within the No Livestock Grazing Area, in areas designated as wilderness, or in WSR designation, where protection of ORVs includes protecting aquatic habitat. Also, WQRPs would be developed for many streams in the CMPA, with the objective of improving aquatic habitat values. For most streams in the CMPA, therefore, aquatic habitat conditions would likely improve due to the cumulative effects of management actions under any of the alternatives.

Management actions to promote objective-specific ecological status in riparian and wetland communities apply to most streams outside the CMPA as well, either through WQRPs or because of wilderness or WSR designation. In some locations, however, management may be primarily directed toward maintenance of PFC under Alternatives A and E. In these areas, under Alternatives A and E, aquatic habitat may not reach its structural or functional potential due to the cumulative effects of management for other objectives. Alternatives B and C, and to some extent Alternative D, would reduce cumulative effects on aquatic habitat through emphasis on promoting an advanced ecological status of riparian areas.

4.6.2 Wildlife and Wildlife Habitat

4.6.2.1 Goals and Objectives

Goal – Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms.

Objective 1. Maintain, restore, or improve habitat.

Objective 2. Manage forage production to support wildlife population levels identified by the ODFW.

4.6.2.2 Assumptions

The ODFW and/or the USFWS retains jurisdiction over the management of wildlife populations. The BLM manages the habitat for wildlife species in cooperation with the ODFW and the USFWS through plans for various species. BLM management emphasis of wildlife species indicated in the alternative themes of this plan would be through recommendations to and in coordination with these agencies.

The management actions found in the Water Resources, Riparian/Wetlands, Rangelands, Woodlands, and Special Status Species sections would directly and indirectly maintain, restore, or improve habitat for general wildlife species. As stated above in the Assumptions section of the Fish and Aquatic Habitat analysis, there would be a strong link between the management actions and the effects of these actions on the quality and quantity of wildlife habitat.

References to either mule deer and/or Greater sage-grouse habitat also include habitat for a myriad of species that would be sagebrush dependent such as sage sparrow, Brewer's sparrow, sage thrasher, pygmy rabbit, sagebrush vole, and others. Some of these would also be special status species such as sage-grouse, pygmy rabbit, sage sparrow, and sage thrasher. Through the use of the DRCs for the management of and restoration of sagebrush steppe habitat, it would be anticipated that the effects of these actions would promote habitat improvements not solely for mule deer and Greater sage-grouse, but for many of these other species.

4.6.2.3 Analysis of Alternatives

4.6.2.3.1 Effects Common to All Alternatives.

Direct Effects

Maintenance, restoration, or improvement of habitat to support these resources would be primarily relative to the alternatives identified under Water Resources, and Vegetation.

Fish and wildlife habitat management and monitoring would be coordinated with the ODFW, DEQ, USFWS, and other cooperators, as appropriate. The BLM would coordinate with the ODFW on the management of wildlife populations through the Planning Area.

Indirect Effects

Riparian and Wetlands Vegetation. Prescriptions at the activity plan level would be implemented or continued to manage riparian/wetland vegetation to maintain or progress toward PFC. While vegetation communities in PFC would not be necessarily at site potential, PFC represents a condition where potential erosion and sediment production would be minimized. In streams not currently in PFC, management direction to maintain or progress toward PFC would increase the density and cover of riparian vegetation. These management actions would have the effect of improving wildlife habitat quality and quantity by providing greater structure, diversity, cover and stability.

Noxious Weeds. Noxious weed prevention and control would continue to be a priority in all alternatives. Noxious weeds invade native plant communities resulting in degraded plant community structure, cover, composition and diversity. The priority on noxious weed prevention and control would reduce these effects on wildlife habitat.

Grazing Management. Whenever it would be determined that existing grazing management practices on public lands would be contributing to nonattainment of resource objectives, appropriate actions would be implemented to meet habitat and other resource objectives. In areas where grazing would be determined to be contributing to nonachievement of

objectives, changes in management would be implemented that would result in increased riparian and upland vegetation density and structure.

Wildland Fire Management. Areas burned by wildland or prescribed fire would be rested for a minimum of two growing seasons; grazing would be resumed only when monitoring data support achievement of objectives. This would allow vegetation to increase in density, and would provide increased habitat for wildlife.

4.6.2.3.2 Alternative A

Direct Effects

Single species oriented management would be emphasized in most habitats.

Opportunities would be identified and undertaken for improvement and/or restoration of other fish and wildlife habitat, such as vegetation manipulation and water development. A variety of methods, including seed drilling and aerial reseeding, could be used to reseed approximately 9,000 acres of deer winter range that were in unsatisfactory condition. The timing and methods used could affect the success rate of vegetative establishment and would be determined on a site-specific basis in coordination with the USFWS, ODFW, and permittees. The composition of the seed mix would include sagebrush and/or a mix of other native and nonnative species. Reseeding activities would be conducted so that minimal disturbance to wildlife would occur. This management action would contribute to increased habitat suitability for wildlife adapted to natural rangeland conditions.

Forage for wildlife would be allocated at management objective levels. Forage allocations currently support wildlife population levels identified by the ODFW. Wildlife populations would be allowed to expand naturally or through limited transplants in coordination with the ODFW. Wildlife could establish populations outside their historic range; no efforts would be made to stop expansion, even if expanding populations caused conflicts with other uses. Transplants would be conducted by the ODFW in accordance with current species-specific management plans.

Indirect Effects

Riparian and Wetlands. Improvements to riparian vegetation, including increased vegetative density, structure, and cover, could occur at specific locations with a proportional increase in wildlife habitat quality. In some locations, vegetation communities in PFC may not provide as much structural diversity and suitable wildlife habitat as would communities in advanced ecological status. A different diversity and abundance of wildlife species may be present at different stages along the ecological status continuum.

Existing grazing systems and improvements to maintain PFC would continue. Outside of areas affected by WQRPs or other special planning requirements (e.g., WSRs), riparian/wetland areas may not be managed to attain advanced ecological status, even though management to maintain or promote PFC may also promote advanced ecological status in many areas.

Sources of localized tree and shrub restoration material would continue to be established and maintained. These sources would assist in restoring riparian vegetation and preserving the genetic integrity of riparian plants. This process would contribute to the viability of riparian vegetation, thereby providing essential habitat components for wildlife.

Roads within or affecting riparian areas would be maintained and developed in conformance with existing laws and regulations. The current effects of roads on wildlife would continue, including displacement due to vehicle noise and human disturbance as well as some reduction in forage, cover, and breeding habitat due to the reduction of riparian vegetation density and coverage

Beaver populations would be allowed to expand naturally under this alternative. Beavers would not be actively introduced or transported into other areas. Beaver activities that expand riparian vegetation and result in construction of ponds increase habitat for insectivorous and piscivorous (fish-eating) birds, amphibians, and other types of wildlife.

Woodlands. Late-seral stage ecological characteristics of old-growth western juniper woodlands would be maintained by mechanical removal of younger trees. Old growth junipers provide cavity nesting habitat for a variety of bird species. Removal of younger trees could reduce the risk of catastrophic fire, thereby helping to retain old-growth juniper habitat. Mechanical removal of younger trees may cause temporary displacement to wildlife, with wildlife returning after activity

ceased. To the degree that management actions would be in accordance with the Migratory Bird Executive Order, some disturbance to nesting birds would occur. All lightning- and human-caused fires would continue to be suppressed. This would eliminate short-term potential effects of fire, such as loss of habitat; however, the long-term effects could include more catastrophic fires and increased habitat loss.

Western juniper would be mechanically removed from quaking aspen and mountain mahogany stands. In quaking aspen stands where juniper has the potential to dominate, the stands would be rehabilitated by prescribed burning. Both quaking aspen and mountain mahogany provide important habitat for wildlife. Since juniper invasion could eventually cause decreased effectiveness of these habitat types, management actions that restore these communities would maintain habitat viability for wildlife.

In sagebrush habitats, increasing juniper density causes a decline in herbaceous and shrub plant diversity and cover, and consequently a decline in wildlife species diversity. Mechanical removal and use of prescribed fires would reduce the presence of younger western juniper trees in sagebrush habitats. These management actions would restore and improve habitat for a diversity of wildlife species. Compliance with the Migratory Bird Executive Order would help to minimize disturbances to reproductive wildlife species (e.g., young birds would have fledged and young mammals would be mobile).

Fencing of treated quaking aspen and mountain mahogany stands where recovery could be suppressed by browsing might temporarily affect forage availability for big game species such as elk and mule deer. When plants would be vigorous enough to tolerate browsing, fences would be removed and big game could return to forage in the treated areas. The fencing could allow increases in vegetation structure that would increase habitat quality for wildlife.

Rangelands. The ecological status of native plant communities would be maintained or improved. Plant density and coverage in these communities would be maintained or increased. Desirable nonnative seedings would be managed to maintain vegetation composition and to meet S&Gs. Maintaining nonnative seedings reduces habitat viability for a diversity of wildlife species, but would provide suitable habitat for species dependent on grasslands. In sage-grouse habitat and/or deer winter range, native vegetative species diversity would be maintained or restored through inter-seeding of native species on 200 acres, which would result in a slight increase in winter habitat for deer and habitat connectivity for sage-grouse. On 50 percent of nonnative seedings where brush cover is high, brushbeating and/or disking in a mosaic pattern would be allowed. This activity could reduce habitat for sagebrush-dependent wildlife, but removal of sagebrush canopy could also allow growth of more forbs and grass, thereby providing important habitat components for wildlife.

Both prescribed fire and mechanical removal would be used to create a mosaic of multiple successional stages; reduced dominance of woody vegetation and release of desirable plants would occur, which could result in increased habitat quality for wildlife. Areas burned by wildland fire would be rehabilitated where needed, reducing future effect such as conversion of the burned landscape into one dominated by undesirable nonnative species such as noxious weeds or cheatgrass.

Wildlife would be temporarily displaced during management actions, but could return after activities ceased. Compliance with the Migratory Bird Executive Order would reduce potential effects to reproducing wildlife. Impacts would be further considered on a case-by-case basis, specific to each activity.

Noxious Weeds. The current integrated management of weeds would continue. Control on disturbed areas would be emphasized, as would inventories of new infestations. Noxious weeds displace high-value native vegetation needed by wildlife and consequently decrease habitat value. Management actions to control and eradicate noxious weeds would restore habitat for wildlife and slow the expansion of weeds into currently uninfested areas. Short-term limited disturbance could occur to wildlife during weed control activities. In the long term, improvements in habitat quality and quantity would result from weed control. The habitat improvements from noxious weed control would correspond to the decrease in noxious weeds and the degree of restoration that would occur after weed control actions.

Energy and Minerals. Current management of locatable mineral entry would continue. Depending on the size, nature, and location of the development, effects on wildlife could include loss of habitat, displacement, ongoing disturbance due to human presence, and loss of reproductive output. The extent of these effects would vary depending on the scale of the operations and their proximity to important habitat (e.g., big game winter range) and habitat that supports a diversity of wildlife, such as riparian/wetland areas. Existing laws, regulations, and policies would minimize the effects from energy and mineral activities on wildlife and their habitat through mitigations.

Wild Horses and Burros. Current AMLs and wild horse forage allocation levels would be maintained in all HMAs. Permanent increases or decreases in AMLs and forage allocations would not be considered. Wild horses can reduce forage, cover, and structure in habitats needed by wildlife. Excessive utilization in some areas can remove herbaceous species needed by wildlife and can result in limited plant regrowth. Since forage conditions in each HMA would be monitored annually, wild horse forage use and AMLs could be adjusted through management actions to help maintain a thriving natural ecological balance. New water developments for wild horses could be used by wildlife, and might distribute horses over areas formerly used only lightly or sporadically.

Grazing Management. Existing grazing management would continue within the AMU and the CMPA. Interim adjustments, long-term grazing management, and stocking levels would continue to be adjusted in accordance with the results of monitoring studies, allotment evaluations, and rangeland health assessments. Livestock management practices and administrative solutions would continue to be implemented. These management actions promote livestock use in balance with forage production, thereby assuring that wildlife habitat would not be degraded.

Rangeland improvements such as fences could impede the movement of wildlife and potentially cause mortality due to entanglement. Compliance with BLM fencing requirements would reduce these potential effects. Where livestock would be excluded from streams, springs, riparian habitat, and wetland areas, more forage and cover would be available for wildlife. Detrimental changes in plant communities due to livestock overgrazing would not occur, resulting in improved habitat conditions.

Wildland Fire Management. All wildland fires would be suppressed. Although fire suppression would maintain current wildlife habitat in the short term, larger and hotter fires that would contribute to degradation of wildlife habitat and cause more frequent fire cycles could occur in the long term. Mechanical treatments and/or prescribed fire would be used to reduce fuel loading in areas where the fire regime has been altered. Such actions would help to reduce the potential for increased fire cycles and subsequent conversion of sagebrush habitat into less suitable, weed-infested wildlife habitat. The effects of prescribed and wildland fires depend on the intensity, duration, and timing of the fire activity. Effects from prescribed fire would be analyzed on a case-by-case basis prior to and specific to each project.

Fire rehabilitation would improve habitat value for wildlife in burned areas where vegetation would not be expected to recover naturally. In these areas, a mixture of native and desirable nonnative plant species would be used to restore wildlife habitat and prevent a decline in habitat quality. Disturbances to wildlife from these activities would be unlikely, since suitable habitat would not be present prior to restoration.

Lands and Realty. The management actions associated with authorizations of new ROWs, utilities, and permits for large-scale powerlines, fiberoptic cables, and pipelines would be conducted consistent with existing land use planning, regulations, and laws. ROWs would be located within designated corridors on a case-by-case basis. Siting additional disturbances within previously disturbed sites, such as designated powerline corridors, could reduce effects to wildlife, due to the assumption that this wildlife has already adapted to or been displaced by the developed corridors.
Siting new projects in undisturbed areas could decrease habitat quality for wildlife. Impacts to wildlife from new projects would be analyzed on a case-by-case basis in NEPA documents and would identify any effects that must be minimized through mitigation.

Transportation and Roads. This alternative would maintain the existing transportation and road management, while implementing the provisions of the Steens Act that apply to transportation. Only currently mapped roads would be considered in this section; unmapped roads would be inventoried and managed based on an EA that would include consideration of effects to wildlife. The potential effects of the operation and maintenance of roads on wildlife would vary depending on the road's location and proximity to concentrations of wildlife and their movement corridors.

Off-Highway Vehicles. OHVs would continue to be managed in accordance with the existing open, limited, and closed OHV designations. OHV and mechanized vehicle use can cause short- and long-term disturbances to wildlife. Potential effects due to disturbance include vehicle-caused mortality, poaching, habitat fragmentation, behavior modification, displacement into less suitable habitat, and increased human access into previously undisturbed locations. When OHV or mechanized vehicle use occurs near important breeding habitat, disturbances can lead to a loss or decline in reproduction for wildlife. In certain areas, potential effects due to disturbances would be reduced to the extent that OHV and mechanized vehicle use would be limited to designated roads, ways, and trails, seasonal closures have been implemented, and OHV and mechanized vehicle use would be excluded.

Recreation. Some displacement of wildlife could occur as a result of continuing current recreation management. The numbers of some species that are tolerant of people and recreation activities could increase.

4.6.2.3.3 Alternative B

Direct Effects

The emphasis would be on managing self-sustaining native species.

Aerial reseeding would be used for approximately 9,000 acres of deer winter range. This method would be less invasive and more passive than methods proposed in other alternatives, such as seed drilling. However, limiting reseeding to a single method might not be as successful in restoring sagebrush as having multiple options available, based on site-specific criteria. Only sagebrush would be reseeded. The emphasis on sagebrush could improve winter forage conditions for deer and habitat conditions for other sagebrush dependent species if the locations chosen for reestablishment would otherwise not succeed to sagebrush under natural conditions.

Opportunities would be identified and undertaken for improvement and restoration of fish and wildlife habitat, such as the use of wildland fire, limited fence removal, and other mainly passive methods.

Forage would be allocated for wildlife above management objective levels. Wildlife populations would be allowed to expand naturally. Some wildlife species could establish populations outside their historic range.

Indirect Effects

Riparian and Wetlands. The management goals and objectives for riparian habitat and wetlands would produce effects similar to those described in Alternative A. However, use of passive measures to achieve restoration objectives might result in a longer period of time to improve riparian vegetation communities and consequently, a longer period of time before riparian vegetation improves in condition for wildlife.

Active restoration of upland and riparian communities would be limited to sites that would not attain advanced ecological status in 20 to 50 years. The limited use of active restoration measures and emphasis on passive measures could result in a longer period of time for the development of high quality wildlife habitat. Upland vegetation communities adjacent to riparian areas would be managed to reduce fire frequency and intensity, with an emphasis on native vegetation. This would help retain and protect edge habitat, which has a high value for wildlife.

The management actions for roads could reduce human-caused disturbances to wildlife due to the elimination of alternative routes in riparian/wetland areas and would result in a slight increase in habitat availability. It would also eventually result in an increase in riparian vegetation, which provides important foraging, cover, and breeding habitat for wildlife. Beaver populations would be managed as in Alternative A and the potential effects would be the same.

Woodland. Fires in western juniper stands would be managed for resource benefits. In the long term, the size and intensity of fires would likely be reduced as the historic fire regime becomes established. Short-term effects, such as temporary displacement, may occur to some species of wildlife, but in the long term, allowing the return of the historic fire regime would most likely result in reduced size and intensity of future fires. Management actions associated with the maintenance, restoration, and improvement of quaking aspen and mountain mahogany stands would rely on natural processes and could take a longer period of time to achieve management goals than alternatives that use both active and passive measures.

Mechanical removal of all younger western juniper trees from riparian and sagebrush habitats would result in an increase in habitat quality for wildlife. Relying on natural and human ignited wildland fires to reduce the influence of western juniper in these same habitats would result in a short-term loss of habitat. In the long term, suitable habitat conditions would develop as long as burned areas were not subsequently invaded by noxious weeds or other undesirable nonnative species. Other effects would be the same as those described for Alternative A.

Rangelands. Rangeland management would emphasize passive methods and natural processes to achieve goals and objectives. Such methods would probably take longer to restore degraded and decadent habitat than a combination of both active and passive methods. In some places, management that emphasizes passive methods and natural processes could result in less suitable habitat for wildlife due to noxious weed or cheatgrass invasion. Management actions would not include the rehabilitation of burned areas, which could result in poorer quality wildlife habitat. However, wildland fire sites

with the potential for weed domination would be rehabilitated. As active management and restoration of these areas occurred, improved habitat would be available for sagebrush dependent wildlife.

Noxious Weeds. The management goals and objectives for noxious weeds would produce effects similar to those described in Alternative A. However, the potential for weed invasion might also be greater than in other alternatives because fewer methods of control would be authorized.

Energy and Minerals. None of the potential effects due to energy and mineral exploration and development described in Alternative A would occur because the entire Planning Area would be recommended for withdrawal from locatable mineral entry.

Wild Horses and Burros. The potential effects of wild horses on wildlife would be the same as those described for Alternative A. Management actions would allow for permanent increases or decreases in AMLs and could allow resource managers to implement adaptive management strategies that would minimize conflicts with wildlife. Permanent increases in AMLs would not reduce habitat suitability for wildlife, since wild horses would be maintained at AMLs that ensure a thriving natural ecological balance between wild horse populations and other resource values. The additional methods of population control could decrease the rate of herd growth, thus minimizing potential conflicts with wildlife for longer periods of time.

Grazing Management. No livestock grazing would be authorized in the AMU. The absence of livestock would lead to increased availability of forage for wildlife, which would be consistent with this alternative's management direction to allocate forage for wildlife above current demand. Populations of some wildlife species in the AMU could be expected to increase. Livestock grazing would occur in the CMPA consistent with the Steens Act, but no rangeland projects would be planned or implemented in support of livestock grazing. Nonconsumptive uses would be emphasized in addition to natural resource objectives, and fewer livestock-mediated changes would occur that result in a decline in wildlife habitat suitability.

Wildland Fire Management. Wildland fires that threaten property, human life, or significant resource values would be suppressed. Suppression of other wildland fires would be evaluated and managed with appropriate management actions. In dry years, large wildland fires could change the structure of affected wildlife habitat from sagebrush steppe to annual grassland. If increased fire cycles lead to permanent establishment of grasslands, wildlife species would change to those adapted to grasslands rather than sagebrush. All burned areas would be evaluated for rehabilitation actions. A mixture of native plant species would be used to rehabilitate burned areas where natural recovery would be limited. The lack of flexibility on choice of seed mix might extend the length of time for rehabilitation. An increased period of time to achieve restoration would represent a loss of effective wildlife habitat for that period of time.

Lands and Realty. This alternative would recommend the withdrawal of the entire Planning Area from the public land laws, including the mining laws. All public lands would be retained and public holdings would be increased. Other management actions associated with Alternative B would provide opportunities to maintain, restore, or improve wildlife habitat. The entire Planning Area would be considered a ROW and realty use authorization exclusion area, which would eliminate any of the potential effects to wildlife from lands and realty actions.

Transportation and Roads. Only roads required by law would be constructed and road maintenance would not occur. Road closures would be the most extensive and disturbance to wildlife from transportation and roads would be minimal under this alternative.

Off-Highway Vehicle. Areas designated as closed would be maximized and would include the Alvord Desert playa, Borax Lake, Mickey Hot Springs, Catlow Valley, and all WSAs. All other areas would be designated as limited to designated roads and trails, with a minimum number of roads and trails identified. Organized OHV or mechanized vehicle events would be prohibited. Potential effects from OHVs on wildlife would be limited to those areas along open routes. This would reduce disturbance to wildlife during all seasons of the year.

Recreation. Wildlife would be least disturbed by recreation activities with minimal recreation management and facilities. Some undeveloped recreation sites would be closed or rehabilitated where natural processes would be jeopardized, thus improving wildlife habitat.

4.6.2.3.4 Alternative C

Direct Effects

Throughout the Planning Area, approximately 20,000 acres of nonnative seedings and all native vegetation with low vegetative species diversity in deer winter range would be interseeded to establish native plant species. This action would improve forage productivity and availability for mule deer as well as increase habitat suitability for sage-grouse, migratory birds, and other sagebrush dependent species. A site-by-site analysis would help to determine that plant species would be used in a given location. In areas where sagebrush restoration was a goal, livestock grazing could be used to suppress plant competition and allow establishment of sagebrush. To maximize successful plant establishment and habitat improvement, coordination with the ODFW, USFWS, and permittees would set livestock grazing prescriptions on a site-specific basis in areas to be reseeded. A variety of methods could be used to accomplish the interseeding, allowing the selection of the best method for a given location. Wildlife habitat quality and quantity would be improved across a large expanse of the project area and could contribute to increases in populations of some wildlife species.

Opportunities would be identified to improve and/or restore fish and wildlife habitat through wildland fire, other vegetation manipulations, limited fence removal, water developments, etc. Additional types of projects could include both active and passive methods and would provide more opportunities to improve habitat.

Forage would be allocated for wildlife above management objective levels. In coordination with the ODFW, wildlife populations would be allowed to expand naturally or through limited transplants.

Indirect Effects

Riparian and Wetlands. In this alternative, the rate of progress toward achieving an advanced ecological status for restoration of riparian/wetland areas and upland vegetation would be expected to increase because both active and passive measures would be used. Upland vegetation communities would be manipulated and managed to reduce fire intensity and frequency. Active restoration could include both native and/or desirable nonnative vegetation. Restoration sites would be managed to progress toward native vegetation within the RMP timeframe of 20 to 50 years. Under these management actions, wildlife habitat would be maintained or increased.

Restoration of riparian vegetation would include manipulation of isolated tree and shrub stands to promote regeneration, which could improve cover and forage for wildlife that would be dependent on riparian vegetation.

Roads within or affecting riparian areas would be managed as in Alternative B, and the effects would be similar to those described under Alternative B. In coordination with the ODFW, beaver populations would be managed as in Alternative A. Reintroduction and expansion of beaver into suitable habitat would be allowed, increasing the likelihood of additional wildlife habitat developing as described in Alternatives A and B.

Woodlands. Although the management actions for woodlands would be different under Alternative C than for Alternative A, the potential disturbance effects on wildlife would be the same. The effects on wildlife from mechanical removal of up to 90 percent of the post-settlement western juniper trees in old growth stands would be similar to Alternative A. The effects on wildlife of allowing fires to burn in old growth western juniper stands when no threat to life or significant resource values exists would be similar to the effects described in Alternative B. To the extent that fires might be suppressed, restoration of fire to its historic role in the ecosystem would be delayed.

Using prescribed fire in addition to wildland fire to reduce the influence of western juniper on sagebrush and riparian plant communities would result in short-term habitat loss, but long-term increases in suitable habitat for wildlife. The option of using prescribed fire would allow resource managers an additional method to achieve goals and could result in more rapid development of high-quality wildlife habitat. The effects of the other management actions would be the same as those described for Alternatives A and B.

Rangelands. Emphasis would be on natural values and other resource objectives, such as reestablishment of native species. Actions to diversify the structure and composition of selected nonnative seedings would increase the quality and quantity of habitat available for sagebrush dependent wildlife.

Interseeding would be used on approximately 20,000 acres of nonnative seedings (discussed above) to establish native plants throughout the Planning Area where vegetative diversity would be low. The emphasis would be on reestablishing native species, but other desirable nonnative species could be used in the seeding mix where appropriate. This would increase habitat quality, quantity across a large expanse of the project area and could contribute to increases in sagebrush-dependent wildlife. Livestock grazing could be used to suppress plant competition and allow sagebrush establishment. Seedings on the north and west side of Steens Mountain would be emphasized, improving habitat conditions in these locations for deer and other sagebrush dependent wildlife. Disturbances to wildlife from these activities would be unlikely since suitable habitat would not be present prior to restoration. The pattern of treatment would be mosaic to provide for connectivity between existing sagebrush habitat.

Big sagebrush, quaking aspen, and western juniper communities would be managed for the benefit of all wildlife and to meet the DRC in all habitats. Plant communities that do not meet the DRC due to dominance by annual or invasive species or invasive juniper would be rehabilitated using only native species. The emphasis on native plant species could increase both the quality and quantity of wildlife habitat. Big sagebrush habitat would be managed for the benefit of game and nongame species and would be managed to meet the DRC in all big sagebrush habitats throughout the Planning Area. These management actions would increase the quality and quantity of wildlife habitat.

Noxious Weeds. The effects of management actions for noxious weeds would be similar to those described for Alternative A.

Energy and Minerals. The potential effects of energy and minerals on wildlife as described in Alternative A would be reduced to the extent that big game winter range and areas within 0.6 mile of identified sage grouse leks would be withdrawn from various types of energy and mineral development.

Wild Horses and Burros. The potential effects of management actions associated with wild horses would be the same as those described for Alternative B.

Grazing Management. Protection of natural values would be emphasized in the AMU while providing for minimal sustainable livestock grazing that meets allotment management objectives. Grazing on the CMPA would be allowed consistent with The Steens Act, but natural resource objectives would be emphasized. These management actions would increase the likelihood that wildlife habitat would be maintained or increased. Other management actions to meet natural resource objectives, including discontinued use in vacant allotments that have resource conflicts, could also increase wildlife habitat.

Wildland Fire Management. Wildland fires that threaten property, human life, or significant resource values would be suppressed. In the short term, wildlife habitat would be maintained in these areas. However, it would be possible that over the long term, such activities could contribute to the occurrence of larger, hotter fires, with loss of suitable habitat and increased fire cycle and weed invasion, which would decrease habitat value for wildlife. Suppression of other wildland fires would be evaluated and managed with minimal suppression actions if they would be appropriate for resource benefits. All burned areas would be evaluated for rehabilitation actions. A mixture of native plant species would be used to rehabilitate burned areas where natural recovery would be limited. The effects of this management action would be similar to those described under Alternative B. The effects of other management actions would be similar to those described for Alternatives A and B.

Lands and Realty. Special designations, and all lands within 0.6 mile of sage grouse leks, deer and elk winter range, and bighorn sheep habitat, would be designated as ROW and realty use authorization exclusion and avoidance areas. The feasibility of consolidating existing parallel utility ROW facilities through crucial wildlife habitat would be evaluated. Where deemed feasible, consolidation of facilities would be implemented. This would reduce the number of raptor perches spread throughout portions of the Planning Area and would improve habitat conditions for certain wildlife species. Federal agency requests for new withdrawals would be recommended for approval only if they would protect natural values. These management actions, along with others for Alternative C, would minimize disturbance effects to wildlife.

Transportation and Roads. Transportation systems would be managed to meet resource goals and objectives consistent with emphasizing the protection of natural values. To the extent that this results in road closures, seasonal closures, and

other limitations, disturbance effects to wildlife and their habitat would be minimized and would be similar to those in Alternative B.

Off-Highway Vehicles. Management for minimal OHV and mechanized vehicle use, including limiting OHV and mechanized vehicle use to designated roads, ways, and trails across the Planning Area, would result in reduced disturbance to wildlife. Seasonal area closures and closing unneeded roads would also reduce disturbance to wildlife.

Recreation. Management emphasis for protecting natural values while providing for developed and undeveloped types of recreation could cause less disturbance to wildlife. Some wildlife disturbance and displacement would be expected from existing and proposed recreation projects. The effects of specific projects on wildlife would be analyzed on a case-by-case basis. Concentrated recreation use could result in habitat loss for wildlife sensitive to human disturbances, but species that adapt to humans would be expected to thrive or even concentrate in such areas.

4.6.2.3.5 Alternative D

Direct Effects

Throughout the Planning Area 10,000 acres or more of nonnative seedings and most of the native vegetation with low vegetative species diversity in deer winter range would be interseeded to establish native plant species. This would improve forage productivity and availability because the sites selected for interseeding would have low species diversity. Native species would be used for reseeding, although nonnative species could be used where appropriate. Livestock grazing could be used to suppress competition and allow sagebrush to become established. To the extent that sagebrush were successfully reestablished, suitable habitat for wildlife would improve. As with Alternative C, coordination with the ODFW, USFWS, and permittees would occur to set livestock grazing prescriptions on a site-specific basis in areas to be reseeded.

Opportunities for improvement and restoration of fish and wildlife habitat, such as the use of wildland fire, vegetation manipulation, and water development, would be identified and implemented. However, no fences would be removed due to livestock grazing requirements. Fences could potentially impede the movement of wildlife and cause mortality from entanglement. Continued compliance with BLM fencing requirements would reduce these effects.

As with alternative A, forage for wildlife would be allocated at management objective levels and wildlife populations would be allowed to expand naturally or through limited transplants in coordination with the ODFW.

Indirect Effects

Riparian and Wetlands. The ecological status objectives would be dependent on meeting multiple resource objectives. Similar to Alternative C, management of existing grazing systems and recreation would be directed toward improvements to maintain PFC and promote an advanced ecological status. The rate of progress toward achieving an advanced ecological status through restoration of riparian and upland vegetation would be expected to increase because both active and passive measures would be used.

The effects of the following management actions would be similar to the effects described for Alternatives A and B, respectively: 1) the establishment of sources of localized tree and shrub source material for restoration; and 2) expansion of restoration actions to include isolated stands of riparian vegetation. The effects of roads within or affecting riparian areas would be similar to those described in Alternative B. Beaver populations would be managed as in Alternative C and the effects would be the same as those described in Alternative C.

Woodlands. Although the management actions for woodlands would be different under Alternative D than under Alternatives A, B, and C, the effects on wildlife would be the same as those described under those alternatives. The management action to develop markets for the by-products of juniper removal could result in additional disturbances to wildlife, and would be analyzed on a case-by-case basis.

Rangelands. The ecological status of native plant communities would be maintained or improved. Grazing systems and range improvements designed to improve ecological conditions would have effects similar to those described in Alternative A. Since the emphasis would be on balanced, cooperative management practices, increased forage could be used by wildlife as well as livestock.

Actions would be implemented to diversify the structure and composition of selected nonnative seedings, consistent with resource objectives. These actions would also maintain or improve wildlife habitat. Desirable nonnative seedings would be managed to maintain vegetation composition and meet S&Gs. To the extent that nonnative seedings would be maintained in place of sagebrush habitat, a loss of habitat for sagebrush dependent wildlife would occur.

The following management actions could reduce wildlife habitat in the short term, but in the long term, they would increase the amount and diversity of wildlife habitat: 1) interseeding approximately 10,000 acres or more of nonnative seedings (discussed above) to establish native plants throughout the Planning Area where vegetative diversity would be low. The emphasis would be on reestablishing native species, but other desirable nonnative species could be used in the seeding mix where appropriate; 2) brush beating of sagebrush in a mosaic pattern on 50 percent of seeded areas with high brush cover; 3) plant communities that do not meet the DRC due to dominance by annual or invasive species or invasive juniper would be rehabilitated. Native and nonnative species would be seeded where appropriate; and 4) prescribed fire and wildland fire would be used to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plants. The potential effects of these actions would be the same as those previously described for Alternatives A, B, and C.

Noxious Weeds. Treatment for noxious weeds and treatment sites would be similar to Alternative A. Additional actions such as giving priority to high quality areas and emphasis on prevention, restoration, research, and expanded efforts to inventory and detect new infestations would be more likely to maintain or improve wildlife habitat than Alternatives A.

Energy and Minerals. Many areas would be withdrawn from locatable mineral development, including RCAs and ACECs. Seasonal and/or special stipulations would be implemented for big game winter range, certain riparian areas, areas containing federally listed species and their designated critical habitat, and within 0.6 mile of identified sage grouse leks. Effects to wildlife would be reduced with the implementation of the withdrawals or special stipulations. Other wildlife habitat could be reduced in quality due to possibility for energy and mineral exploration and development.

Wild Horses and Burros. The potential effects of management actions associated with wild horses would be the same as those described for Alternative B.

Grazing Management. Grazing management prescriptions in the AMU and on the CMPA would be developed to meet natural resource objectives. The effects of grazing on wildlife and wildlife habitat such as competition for forage, would be similar to Alternative A.

Wildland Fire Management. Management actions and their effects on wildlife would be similar to Alternative C. However, a mixture of native and introduced species would be used to enhance economic and natural resource values for the rehabilitation of burned areas and areas altered by fire suppression. This practice could allow more options for resource managers, the possibility of more rapid rehabilitation of burned sites, and therefore more rapid restoration of wildlife habitat.

Lands and Realty. The acquisition of land with high public resource values would be emphasized, potentially providing increased wildlife habitat. All large scale facilities would be encouraged to locate in the designated corridors. Failure to do so would increase disturbances to wildlife and contribute to habitat loss. WSRs and designated wilderness would be designated as ROW and realty use authorization exclusion areas. New withdrawals and modifications would be considered on a case-by-case basis. Potential disturbance effects to wildlife would be similar to those under Alternative A.

Transportation and Roads. For existing transportation and roads management, this alternative would result in management that meets resource goals and objectives, but strikes a balance between cultural, economic, ecological, and social values. Effects to wildlife would include disturbance from use on existing routes.

Off-Highway Vehicles. OHV and mechanized vehicle use would be managed in accordance with Alternative D OHV designations. The BLM would seek cooperative agreements with OHV and mechanized vehicle clubs and other participants. Potential disturbance effects to wildlife would be analyzed on a case-by-case basis.

Recreation. Tourism opportunities and recreation developments would be allowed if consistent with meeting other resource objectives, thereby minimizing disturbance to wildlife. Development of new recreation sites would be consistent with the protection of natural values, which would also help to minimize disturbances to wildlife.

4.6.2.3.6 Alternative E

Direct Effects

Throughout the Planning Area, 5,000 acres of nonnative seedings and some native vegetation with low species diversity in deer winter range would be interseeded to establish native and other desirable nonnative plant species. This action would improve forage productivity and availability for wildlife because the sites selected for interseeding would have low species diversity. The nonnative species selected would be those that have value for wildlife and livestock, such as high palatability. A site-by-site analysis would help to determine which plant species would be used in a given location. As with Alternatives C and D, coordination with the ODFW, USFWS, and permittees would occur to set livestock grazing prescriptions on a site-specific basis in areas to be reseeded. Minor effects to game species would occur where increased emphasis on desirable vegetation was compatible with forage that game species would use. If desirable vegetation increased nonnative seedings, habitat for grassland species would be maintained or increased, but habitat for sagebrush dependent wildlife would decrease. The potential effects of this management action would be similar to those described for Alternative D.

As with Alternative D, opportunities to improve and restore fish and wildlife habitat through the use of wildland fire, vegetation manipulations, water developments, etc. would be identified and implemented. However, no fences would be removed due to livestock grazing requirements. In addition to fish and wildlife habitat, the improvements would also benefit livestock, and could thereby increase forage competition between wildlife and livestock. Forage for wildlife would be allocated at management objective levels. Wildlife populations would be allowed to expand naturally or through limited transplants in coordination with the ODFW. Forage allocations for wildlife would be increased concurrent with improved range conditions and other improvements.

Indirect Effects

Riparian and Wetlands. Management of existing grazing systems would be directed toward providing maximum use while maintaining or progressing toward PFC. Active restoration of both upland and riparian communities would be pursued to provide sustainable livestock forage recreation uses and would not emphasize ecological status. These management actions could increase competition between wildlife and livestock and reduce suitable wildlife habitat.

Management of roads within or affecting riparian areas would be similar to Alternative A, with additional emphasis on the development of additional roads to promote commodity production and public uses. This action would increase the likelihood of disturbance effects continuing to affect wildlife. New roads would contribute to habitat loss and frequent use of such roads could indirectly reduce habitat suitability for wildlife. The effects of management actions for beavers would be the same as those described under Alternative A.

Woodlands. The effects of management actions would be similar to those described for all other alternatives. The management action to develop markets for the by-products of juniper removal could result in additional disturbances to special status species in certain locations, and would be analyzed on a case-by-case basis.

Rangelands. Production of native, herbaceous, and shrubby vegetation for commodity uses within the constraints of other resource management objectives would be emphasized. Restoration of existing nonnative seedings in poor or fair condition would maintain or improve habitat conditions for wildlife dependent on this habitat type, but would reduce habitat availability for sagebrush dependent species. The use of interseeding to establish native and other desirable nonnative plant species on approximately 5,000 acres (discussed above) of low diversity, nonnative seedings would minimally increase wildlife habitat. The emphasis on commodity production would mean that rangeland treatments would be less likely to develop habitat conditions suitable for wildlife dependent on sagebrush habitat. Areas dominated by cheatgrass, or an overstory of sagebrush with a few herbaceous plants would be rehabilitated with species that would provide optimal forage and vegetative cover. These actions would improve habitat for wildlife.

Plant communities dominated by undesirable invasive species or invasive juniper would be managed for species that would provide optimal forage and vegetative cover for livestock. This could improve wildlife habitat as long as competition with livestock did not reduce forage availability for wildlife. Other management actions, including reduction of woody vegetation and management of big sagebrush habitat, would also increase habitat availability. Reductions in fuel loading (i.e., reduction of woody vegetation) would decrease the likelihood of catastrophic fire, thereby reducing the potential loss of large portions of habitat. Brush beating or disking of a maximum of 75 percent of nonnative seedings

with high shrub cover would be conducted to release grass species and preserve maximum production. This action would reduce habitat for wildlife dependent on sagebrush, but would increase habitat availability for grassland dependent species

Prescribed fire and wildland fire would be used to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plants. This action would have the same effects as those described in Alternative B. Similar to Alternative A, mechanical removal of woody vegetation would be used to create structural mosaics, but under this alternative it would be used only on selected sites.

Big sagebrush habitat would be managed for the benefit of game and nongame species and would be managed to meet the DRC in all big sagebrush habitats throughout the Planning Area. Big sagebrush would be reestablished where economically important game species would be present. Big sagebrush, quaking aspen, and western juniper habitat types would be managed where economically important wildlife would be present. This could indirectly provide suitable habitat for wildlife that would not be economically important, but limitations on the extent of this habitat management could reduce suitable wildlife habitat.

Noxious Weeds. Effects of noxious weed treatments would be the same as those described for Alternative D.

Energy and Minerals. Energy and mineral development would be based on the current management framework; only areas closed by Congressional action would be excluded from development. No areas with special emphasis would be excluded from leasing or entry. Certain stipulations could be applied by an ID team prior to leasing. Potential effects of such activities on wildlife would be the same as those described for Alternative A. The likelihood of such effects occurring would be much greater under this alternative than all other alternatives because of the emphasis on commodity production and fewer closed locations.

Wild Horses and Burros. Management actions would be the same as those for Alternative B, except that no legal access to critical private water sources would occur. If Alternative E's emphasis on livestock grazing authorization resulted in increased use in HMAs, then long-term trends toward a decline in rangeland condition could occur if monitoring would not be rigorously pursued and if any needed adjustments in AMLs would not be implemented. This situation could reduce the quality of wildlife habitat.

The management action to expand the South Steens HMA in the Steens Wilderness Area to include the Dry Creek and Big Springs Pastures of the Fish Creek-Big Indian Allotment (#06003), and that part of the South Steens Herd Area that includes Serrano Point Allotment (#6019), Carlson Creek Allotment (#6027), and Bone Creek and Miners Field pastures in the Alvord Peak Allotment (#6038), could affect wildlife habitat through competition for forage and water. Some of this area had horses removed back in the late 1970s and has shown some improvement but not all riparian areas would be in PFC. Wild horse use could degrade wildlife habitat through year long use of riparian areas and reduction of suitable habitat.

Grazing Management. Livestock grazing opportunities would be maximized under this alternative.
Increased emphasis on livestock grazing would be more likely to cause some of the potential effects to wildlife, such as increased competition for forage and changes in vegetation structure described in Alternatives A and B. Although S&Gs would be used to guide management, this alternative does not provide the emphasis on other resource objectives in allotment planning that would be provided in other alternatives. Depending on the location of increased use, some decline in habitat suitability for wildlife could occur if the increased use resulted in a decline in rangeland conditions.

Wildland Fire Management. All wildland fires would be suppressed using appropriate management actions. The effects of this management action would be the same as those described under Alternative A. Rehabilitation of all burned areas with a mixture of native and introduced plant species would be used to provide maximum economic production. Following rehabilitation, an increase in the extent of introduced plants compared to pre-fire conditions could result in a decline in sagebrush habitat for wildlife. If native plants would be prevented from reestablishing within the rehabilitated areas, long-term loss of sagebrush habitat could occur. A plan to manage fires for resource and economic benefit would be developed. Although economic benefits would be prioritized under this alternative, other resources such as big game winter habitat would be likely to receive a similar high priority.

Lands and Realty. Acquisition of land with high commodity values would be emphasized to a greater degree than lands with high natural resource values. In the long term, disturbance effects to wildlife could increase if commodity uses increase. The feasibility of consolidating existing parallel utility ROW facilities through crucial wildlife habitat would be evaluated, but no action would be taken to consolidate the facilities. No new protective withdrawals would be considered. This action, along with other management actions under this alternative, would increase the disturbance effects to wildlife.

Transportation and Roads. Transportation and roads would be managed for the benefit of commodity production. Road closures would be the least extensive under this alternative, and maintenance requirements would be greater. New road development would be encouraged. Under this alternative, the operation and maintenance of roads would be more likely to cause disturbance effects to wildlife than would occur under the other alternatives. The extent of the disturbance would vary depending on the proximity of roads to important wildlife habitat (e.g., deer migration corridors).

Off-Highway Vehicles. Management actions would maximize OHV and mechanized vehicle use. The potential for disturbance to wildlife from OHVs and mechanized vehicles would be highest under this alternative.

Recreation. Increased recreation opportunities and use would result in greater disturbances to wildlife. To the extent that new recreational developments or dispersed recreation occurs in or near areas regularly used by wildlife, they could be permanently displaced from important habitat. The potential for disturbance to wildlife from recreation activities would be greatest under this alternative.

4.6.2.4 Summary of Effects

Under Alternative A, habitats for wildlife would remain relatively static over time. Some habitats, such as Wyoming big sagebrush, would continue to decline, but others such as open grasslands would be created. Restoration and management of wildlife habitats would be considered mainly on a case-by-case basis and not on a landscape level. Continued emphasis on single species management and on game species would promote habitat maintenance for game species. The management goal would be met over the life of the RMP. No major increases or decreases in wildlife resources would be expected.

Under Alternative B, potential effects to wildlife could occur if natural processes result in increased fire cycles that prevent the maintenance of sagebrush communities. Over the long term, minimal fire suppression could possibly contribute to the occurrence of larger, hotter fires, a loss of wildlife habitat, increased fire cycle, and weed invasion.

Under Alternative C, a primary focus would be on habitats that would be important to priority wildlife species. Restoration priorities would be given to those areas with important wildlife habitats. Close monitoring of grazing activities would allow enough residual grasses to remain on site to benefit wildlife habitats. Habitats for game species would be maintained. Restoration priorities would be given to those areas with important wildlife habitats. Increased emphasis on restoration and ecosystem health and less emphasis on commodity production would provide increased forage for game species. Direct competition between game species and livestock for forage would be expected to remain minor due to dietary differences between livestock and most game species. Adjustments in timing, duration, and location of livestock grazing would minimize other effects to game species. Equal emphasis would be placed on habitat requirements for game and non-game wildlife. To the extent possible and practical, wildlife community connectivity and interrelationships would be emphasized in most habitats. This approach would stress landscape or ecosystem management and would be distinctly different from single species management emphasis. Alternative C would meet the management goal faster than all other alternatives.

Under Alternative D, effects to wildlife and their habitats would be similar to Alternative C. Habitats that would be important to important wildlife species would be given priority. Restoration would occur at a slower rate compared to Alternative C, but at a faster rate than under Alternatives A and B. Emphasis would be placed on both game and nongame species. Increased restoration efforts in areas that would be important to wildlife species would be a primary area of focus. Restoration priorities would be given to those areas with important wildlife habitats. The management goal would be met under this alternative.

Under Alternative E, effects would be similar to Alternative A except that increased emphasis would be placed on commodity production. Restoration would also be focused primarily in commodity production areas, which would receive fire suppression priorities over other areas. With increased emphasis on commodity production, some wildlife

habitats would continue to decline. Continued emphasis on single species management and on game species would promote maintenance of habitats for game species. The management goal would be met within the life of the RMP, but at a slower rate than under Alternative A.

4.6.2.5 Cumulative Effects

Activities that allow noxious weeds and invasive exotic plant species such as cheatgrass to increase would continue to cause cumulative effects to wildlife habitats. These effects would not be of concern until disturbances such as wildland fires, excessive grazing, etc. created conditions that allow invasive species to increase. Without active emphasis on restoring these degraded habitats, such cumulative effects would continue. Many sites with low ecological integrity and invasive annual grasses would develop into annual grasslands, decreasing the value of these lands for wildlife.

4.7 Special Status Species

4.7.1 Plants

4.7.1.1 Goals and Objectives

Goal 1 - Maintain, restore, or improve special status plant populations; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings.

Objective 1. Manage special status plant species and their habitats so management actions do not contribute to their decline or listing as T&E.

4.7.1.2 Assumptions

Seventy-three special status plant species occur in the Planning Area in a variety of plant associations and on a variety of physical habitats, many with distinctive soil types. No federal or state listed threatened or endangered plant species would be known within the Planning Area.

Neither species conservation agreements nor management guides for individual species management of special status plant species and their habitats would be developed under any of the alternatives. Inventories for new occurrences of special status plants would be completed in areas of any ground disturbance; areas of noxious weed control activities, where public lands would be targeted for disposal; or for other NEPA actions.

4.7.1.3 Analysis of Alternatives

4.7.1.3.1 Effects Common to All Alternatives

Direct Effects

Known populations of special status plant species would be monitored to provide specific information on the condition of individual populations. Special habitat for special status plants would be managed to allow for increases in populations or maintenance of existing populations. Under each alternative, special status plant species and habitat would be protected in order to prevent listing as threatened or endangered.

Indirect Effects

The AML for the three wild horse HMAs would not change throughout the range of alternatives. Wild horse management would have little or no effect on most known populations of special status plants; however, if new populations would be found near concentration areas such as watering sites, special status plants could be affected by wild horses.

4.7.1.3.2 Alternative A

Direct Effects

There would be no effects associated with Alternative A.

Indirect Effects

Noxious Weeds. Integrated weed management would be applied to most areas within the Planning Area, especially in areas containing special resources, such as special status plant habitat. Special status plants and their habitat would be enhanced with the eradication or management of noxious weeds. Special status plant sites currently free from noxious weeds would benefit from intensive inventory efforts.

Grazing Management. Livestock grazing would continue as authorized by the existing land use plan and would be adjusted if monitoring shows that resources would be affected. Concentrated livestock grazing in areas known to contain special status plants could result in soil disturbance, trampling, and grazing of the plants themselves. Current livestock management would not resulting in effects to known populations of special status plants.

Energy and Minerals. Locatable mining activities, leasable mineral/energy activities, and saleable mineral activities have the potential to adversely affect special status plant species and their habitats. The amount of activity, location, number of new roads, and mining techniques would determine the extent of the effects. These effects would include but would not be limited to lower soil productivity, erosion, compaction, noxious weed and other invasive species infestations and competition, and habitat loss. Gene flow patterns could be disrupted by habitat fragmentation, causing long-term effects where sites become unavailable to occupation/colonization.

Recreation. High recreation use in subalpine areas, along trails, and at overlooks could trample special status plants and introduce noxious weeds.

Transportation and Roads. This alternative would maintain transportation and road management. Road use, maintenance, and new construction could affect special status plant species and plant habitat. Effects from surface disturbances that result in erosion, vegetation removal, and new noxious weed infestations could degrade plant habitat and decrease plant occurrences. Maintenance activities such as blading increase soil erosion, and spread noxious weed infestations, potentially degrading plant habitat and occurrence areas.

Off-Highway Vehicles. OHV and mechanized vehicle use, and increase in use, on approximately 1,479,424 (open, limited to existing and limited to designated) acres in the Planning Area and on designated trails and roads could result in long-term effects to special status plant species occurrence areas and their critical habitats, particularly in areas with fragile soils. Effects to special status plants could include destruction of habitat, destruction of individual plants, and weed introductions, resulting in habitat modifications and increased competition for resources.

Wildland Fire Management. Wildland and prescribed fires could have an effect on some species of special status plants by reducing competition and invasive plant species. Some of the special status plant species grow in areas where there would not be enough fuel to carry a fire in the plant community. Maps would be prepared for resource fire advisors showing special status plant species locations, which could reduce effects from fire suppression activity such as line construction, use of heavy equipment, retardant, staging areas, and fire camps. Management for some special status plant species that would not be fire tolerant could constrain the use of prescribed fire.

Rangelands. Native rangeland plant communities would be maintained or improved with emphasis toward attaining higher ecological status, which would reduce the potential for noxious weed infestations and distribution, and increase habitat values where special status plant species occur.

Prescribed fire and mechanical vegetation removal would generally reduce the woody component and increase the vigor of herbaceous plants. This would benefit the special status herbaceous plants but would not necessarily benefit the special status woody species. Long-term effects of vegetation manipulation practices in vegetation communities would reduce competition for special status plant species.

4.7.1.3.3 Alternative B

Direct Effects

The management of special status plant species concerning monitoring and inventories would be the same as Alternative A. Without new project developments and with the elimination of grazing and mining, management emphasizing natural

processes to determine rangeland conditions could benefit special status plant species in the short term under this alternative.

In the long term, emphasis on minimal management under this alternative could potentially increase effects such as habitat degradation for special interest plant species if management activities fail to meet management objectives for this resource.

Indirect Effects

Lands and Realty. Under lands and realty actions, this alternative would recommend the withdrawal of the entire Planning Area from the public land laws, including the mining laws. All public lands would be retained and public holdings would be increased. These actions could potentially help to meet the management goals and objectives for special status species if they result in the acquisition of land important to all or part of the life history of special status species.

Noxious Weeds. The absence of aggressive weed control would have the potential to result in long-term effects to special status plant species, particularly those growing along or near roads and trails where vehicle use increases introductions of invasive species. Special status plant occurrence areas could be displaced by noxious weeds, and normal reproductive processes and water/nutrient competition would result.

Grazing Management. The absence of livestock grazing throughout the AMU would have a beneficial effect on special status plants that are currently grazed, trampled, or disturbed by livestock. Livestock would no longer distribute noxious weeds into new areas, which would further reduce the effects on special status plant species and their habitat. The management emphasis for nonconsumptive use while providing sustainable livestock use in the CMPA would reduce the effects from noxious weed infestations, trampling, and vegetation removal on special status plant species from the current level. In habitats where plant competition would be increased due to the absence of grazing, some species of special status plants could be adversely affected in the long term.

Energy and Minerals. With entire Planning Areas withdrawn from locatable mineral entry, leasing, and saleable minerals development, mining-related effects to special status plants would be eliminated.

Off-Highway Vehicles. With the elimination of all cross-country OHV and mechanized vehicle use, special status plant occurrence areas would be protected from short-term effects (e.g., trampling, soil disturbance, and vegetation removal), and long-term effects (e.g., erosion and noxious weed infestations) caused by OHV and mechanized vehicle use. The designation of the Alvord Desert and other areas as closed to OHV and mechanized vehicle use would increase the potential for native plant and special status plant species to re-occupy areas previously disturbed by OHV and mechanized vehicle use. This alternative would result in the most beneficial effects to special status plant species and their habitats from closures and the restriction of OHV and mechanized vehicle use to designated roads and trails.

Transportation and Roads. Road closures would reduce soil compaction, erosion, and the potential for noxious weed introductions along roadways where some special status plant species exist No new roads would be developed, thereby eliminating additional sources of soil erosion and noxious weed infestations that could compete with special status plant species and degrade critical habitat.

Recreation. Restrictions on the types and amounts of recreation use would reduce any effects to special status plant species. However, in areas where high recreation use continues and management would be minimal, trampling and noxious weed introductions could affect special status plant species and their habitat.

Wildland Fire Management. Fire suppression activities that would be limited to the protection of life and property may result in certain areas burning repeatedly within a short time, which could adversely affect special status plants and other plant communities in early-seral stages.

Rangelands. Under this alternative, native rangeland plant communities would be maintained or improved with emphasis toward attaining ecological status and minimizing commodity production. Rangeland plant communities would be more widespread and variable, with effects on special status plant species from decreased compaction, erosion, and reduced competition with invasive or undesirable vegetation. Reestablishment of native plants in areas currently in poor condition from nonnative plantings would reduce competition with undesirable species, improve plant cover, reduce erosion, and provide healthy habitat conditions for special status plant species.

Only wildland fire would be used to promote the DRC in the range plant communities. Short- and long-term effects would be similar to Alternative A, though lesser in magnitude without prescribed fires.

4.7.1.3.4 Alternative C

Direct Effects

Management would be directed by individual plant species requirements and emphasizes maintenance and enhancement, the same as under Alternative A.

Noxious Weeds. Noxious weed control would have the same potential to result in effects to special status plant species as Alternative A. The emphasis on management for increased rehabilitation/restoration would have positive long-term effects on special status plants and their habitats, reducing erosion and competition from noxious and invasive plant species.

Grazing Management. The management emphasis for nonconsumptive uses while providing sustainable livestock grazing in the AMU and the CMPA would reduce the effects on special status plants from noxious weed infestations, trampling, and vegetation removal. The effects on special status plant species and their habitats from livestock grazing would be reduced with the elimination of relinquished permits that would be held vacant for two years.

Energy and Minerals. Locatable mining activities, leasable mineral activities, and saleable minerals would be the same as Alternative A with the following exception: This alternative has designated closures and seasonal use restrictions to protect natural resource values, which would in turn protect special status plant occurrences in ACECs, administrative sites, potential recreation sites, listed cultural sites, paleontological sites, big game winter range, RCAs containing special status species and their habitats, and within 0.6 mile of sage-grouse leks. The limitations for mining activities in these areas would decrease the level of potential ground disturbances supporting mineral extraction, and decrease the potential for effects on special status plant species occurrences and habitats. All other areas where mining would be permitted would have the potential to affect special status plant species through soil disturbances, erosion, and noxious weed and other invasive plant infestations, which would result in habitat degradation and reduction in individual plant species and/or plant occurrences.

Off-Highway Vehicles. With OHV and mechanized vehicle use restrictions, special status plant occurrence areas would be protected from both short- and long-term effects from OHV and mechanized vehicle use. Areas designated as closed to OHV and mechanized vehicle use would increase the potential for native plant and special status plant species to re-occupy areas previously disturbed by this use. The continuation of OHV and mechanized vehicle use on designated roads and trails would potentially affect special status plants and their habitats, primarily through noxious weed infestation and proliferation, trampling, soil compaction, and habitat degradation. OHV designations for this alternative provide more protection for special status plants than Alternative A, D, and E, but less than Alternative B.

Transportation and Roads. Road maintenance and seasonal road closures would be implemented to protect natural resource values and to reduce road damage, potentially reducing the effects to special status plant species. Existing roads and transportation routes would have the same effects on special status plant species occurrences and habitats as Alternative A.

Recreation. Restrictions on the types and amounts of recreation use would reduce effects to special status plant species. Limited recreation developments and dispersed site rehabilitation would further reduce affects. However, in areas where high recreation use continues, trampling and noxious weed introductions could affect special status plant species and their habitat.

Areas of Critical Environmental Concern. RNAs and ACECs provide suitable habitat and contain special status plant occurrences, providing protection from other resource actions, with the same effects as Alternative A.

Wildland Fire Management. Fire suppression activities and prescribed fire would have the same effects as Alternative B. Additional management emphasis under this alternative would be implemented to rehabilitate burned areas, and to use prescribed fire to restore natural plant communities. There would be more treatments and more acreage treated than under Alternative B, increasing the potential short-term effects and decreasing the potential long-term effects.

Rangelands. Native rangeland plant communities would be maintained or improved with emphasis toward attaining ecological status and minimizing commodity production. Rangeland plant communities would be more widespread and variable, resulting in improved habitat conditions for special status plant species. Reestablishment of native plants in areas currently in poor condition from nonnative seeding would improve plant cover and reduce erosion, resulting in less competition and improved habitat conditions for special status plant species.

Desirable nonnative seedings would be managed to diversify composition and structure of selected nonnative seedings with emphasis on natural values and other resource objectives. This would reduce competition from invasive plant species, and improve habitat conditions for special status plant species.

Wildland fire for resource benefit and prescribed fire would be used to promote the DRC in the range plant communities. Short- and long-term effects would be similar to Alternative A.

4.7.1.3.5 Alternative D

Direct Effects

Management would be directed by the individual plant species requirements and emphasizes maintenance and enhancement under this alternative, the same as Alternative A. This alternative implements additional management emphasis for the development of new projects that would cause more ground disturbance than Alternatives A, B, and C.

Indirect Effects

Grazing Management. Livestock management emphasis for sustainable livestock grazing in the AMU and the CMPA while meeting natural resource management objectives would increase effects of livestock grazing on special status plant species in comparison to Alternatives B and C through increased use and acreage of use. The effects would be less under this alternative than Alternatives A and E, due to the emphasis for adjusting interim and long-term grazing management and stocking levels in accordance with results of monitoring studies, allotment evaluations, and rangeland health assessments to meet natural resource objectives.

Energy and Minerals. Locatable mining activities, leasable mineral activities, and saleable minerals would be the same as Alternative A, with additional restrictions to protect natural resource values, which would provide for the protection of special status plant occurrences in BLM administrative sites, potential recreation sites, listed cultural sites, paleontological sites, big game winter range and their designated critical habitat, some areas within ACECs, and within 0.6 mile of sage grouse leks. The limitations for mining activities in these areas would decrease the level of potential ground disturbances supporting mineral extraction, and would decrease the potential effects on special status plant species. All other areas where mining would be permitted would have the potential to adversely affect special status plant occurrences and their habitats by degrading other resources such as soils and vegetation, eventually resulting in habitat loss.

Off-Highway Vehicles. OHV and mechanized vehicle use would continue to affect special status plant species on 25,286 acres designated as open 656,590 acres designated as limited to existing roads, ways and trails; and 794,496 acres designated as limited to designated roads, ways, and trails. More acres of land in the Planning Area would be closed to OHV and mechanized vehicle use than Alternative A, but less than Alternatives B and C. Cooperative management with OHV and mechanized vehicle clubs would be sought; group events would be allowed, increasing the potential effects to special status plant species from trampling, noxious weed infestations, and increased ground disturbance.

Transportation and Roads. Since roads would be the primary source for noxious weed introductions to the area, existing roads, particularly the high use roads, would affect soils and vegetation resources, including special status plant species. New road development could increase these effects throughout the Planning Area. Erosion, compaction, sedimentation, and vegetation damage resulting from road use, maintenance, and construction could degrade habitat conditions for special status plant species.

Recreation. Overall increased recreation use would increase the effects of trampling and noxious weed introductions on special status plant species and their habitats. Providing additional recreation developments and allowing tourism opportunities would further increase these effects. In areas where high recreation use continues, trampling and noxious weed introductions could affect special status plant species and their habitat. The emphasis to develop recreational

opportunities that would be consistent with other resource objectives may provide more protection for special status plant species through coordination and cooperation.

Areas of Critical Environmental Concern. Many of the RNAs and ACECs provide suitable habitat and contain special status plant occurrences. These areas provide protection from other resource actions, with the same effects as Alternative A.

Wildland Fire Management. Wildland and prescribed fires would have the same effect on special status plants as Alternative A. Fire suppression of wildland fires could reduce or increase the adverse effects to special status plant species, depending on where they occur, the intensity of the fire, the level of disturbance, and the condition of the surrounding plant community. More emphasis would be on harvesting by-products from fuel treatments, which could increase the effects to special status plants due to an increase in ground disturbance and invasion of noxious weeds. Additional management emphasis under this alternative would be implemented to rehabilitate burned areas, and to use prescribed fire to restore natural plant communities. This alternative would provide for more fuel reduction treatments and more acreage treated and affected than under Alternatives A, B, and C.

4.7.1.3.6 Alternative E

Direct Effects

Management would be directed by the individual plant species requirements and emphasizes maintenance and enhancement under this alternative, the same as Alternative A. This alternative implements additional management emphasis for commodity uses and the development of new projects that would cause more ground disturbance than Alternatives A, B, C and D.

Indirect Effects

Noxious Weeds. The emphasis in management for the control/treatment of noxious weeds from natural resource areas to commodity protection could potentially have an adverse effect on special status plant species and habitat areas.

Grazing Management. Maximizing livestock grazing would have a greater effect on special status plant species due to the increase in ground disturbance and resulting noxious weed infestations, increased trampling, and vegetation removal. Additional ground disturbance caused by an increase in rangeland projects, and maximizing livestock use throughout the Planning Area, would cause more effects to special status plant species, soils, biological soil crusts, and vegetation cover. Relinquished permits would be re-allocated to other permittees, opening up more ground to grazing and increasing the effects to special status plant species and their habitat.

Energy and Minerals. Mineral and energy development would be maximized under this alternative, increasing the acreage of potential soil disturbances, thereby increasing the adverse effects on special status plants. Negative effects on special status plant species and other resource values could increase due to the increased level of ground disturbance, spread of noxious weeds, and limitations on protecting natural resource values on more acres because of additional mineral and energy development and roads to support those developments.

Off-Highway Vehicles. OHV and mechanized vehicle use could affect special status plant species, because most of the AMU would be designated as open to OHV and mechanized vehicle use. Maximizing OHV and mechanized vehicle use on 681,874 acres designated as open 510,504 acres designated as limited to of existing roads, ways, and trails; and 283,994 acres designated as limited to of designated routes could increase the adverse effects to special status plant species and their habitat. Organized group events would be encouraged, increasing the potential for effects to special status plant species and their habitat.

Transportation and Roads. Since roads would be the primary source of noxious weed introductions to the area, existing roads and newly developed roads to maximize commodity uses would have an effect on special status plant species and their habitat. New road development would increase the potential effects to special status plant species and their habitat.

Recreation. Recreation management would emphasize improvements, establishment of new recreation sites, and promotion of tourism, which would affect special status plant species and habitat through trampling and introducing noxious weeds.

Wildland Fire Management. Wildland and prescribed fires would have the same effects on special status plants as Alternatives A and D. This alternative would include more fuel reduction treatments with more acreage treated and affected than Alternatives A, B, and C, which could affect special status plant species.

Rangelands. Native rangeland plant communities would be maintained or improved, the same as Alternative A, with the effects greater in magnitude due to the emphasis on commodity uses.

Desirable nonnative seedings would be managed to maintain vegetation composition and increase forage. Many of the seedings of crested wheatgrass infested with invasive and undesirable species would be rehabilitated. This action would reduce weeds and prevent additional invasive plant infestations, and reduce the potential for special status plant species habitat degradation.

Prescribed fire and mechanical vegetation removal would be implemented to promote commodity uses in rangeland vegetation. These activities would result in short-term damage to vegetation, soil disturbance, compaction, erosion, and runoff. With the application of BMPs, restoration or rehabilitation of these areas could reduce these short-term effects, and prevent noxious weed infestations that could degrade habitat conditions of special status plant species. Long-term effects of these vegetation manipulation practices in vegetation communities would reduce undesirable dominant woody vegetation, thereby decreasing competition for other resources, releasing desirable plant species, increasing native plant diversity and community structure, preventing infestations of noxious weeds and other invasive species, and reducing the potential for special status species habitat degradation.

4.7.1.4 Summary of Effects

Under Alternative A, special status plant species and their habitat would likely continue at their current level of individual and occurrence numbers, although commodity uses could allow for a reduction. Mitigation would occur on a case-by-case basis rather than on a watershed or larger scale. The major effects to special status plant species would be from OHV use, wildland fire (usually short term), noxious weed infestations (long term), livestock and wild horse grazing, and recreation uses.

Under Alternative B, natural processes would determine the outcome of habitat conditions for special status plant species. Disturbances from permitted activities would be eliminated, along with restoration and enhancement projects. Wildlife and wild horses effects would continue, while livestock grazing would be minimized or eliminated, reducing effects on special status plant species and their habitats. The major effects on special status plant species would be from noxious weed infestations (long term and adverse), frequency of wildland fires or potential for catastrophic fire, and lack of restoration and rehabilitation of disturbed sites.

The overall effects of Alternative C on special status plant species would be projected to be less than Alternative A, D or E; however, recovery rates for species habitat would be slow. Wildlife and wild horse effects would continue. Livestock grazing would be minimized or eliminated in some areas, reducing effects on special status plant species. The establishment of ACECs and other areas where management actions would be restricted in order to protect natural resource values would have an effect on those special status plant species occurring within those areas. Management areas that protect natural resource values would provide special status plant species adequate boundaries and habitat representation for their continued existence. Emphasis would be to reach a balance for the protection of special status plant species habitats and occurrences with restoration and enhancement.

Under Alternative D, special status plant species and their habitats could be affected by an increase in commodity and recreation uses. The establishment of ACECs and other areas where management actions would be restricted to protect natural resource values would have a beneficial effect on special status plant species. The emphasis on restoration and enhancement would provide additional protection and maintenance measures for special status plant species that occur near project activities. The overall effects of Alternative D on special status plant species could lead to increased protection in the long term, with short-term effects to individuals and habitat.

The overall effects of Alternative E on special status plant species would potentially result in declines or lowered levels of individuals and occurrences that may eventually contribute to federal listing of some plant species. Species protection would be individually prioritized, with little regard for overall habitat and watershed health. The management goal and objective for special status plant species would not be met for species found in heavily affected areas and where general ecological health would be critical to species survival. While this alternative would provide for maintenance of special status plant species, some sites could receive effects on habitat conditions that would require mitigation, and may fall short of meeting management goals and objectives.

4.7.1.5 Cumulative Effects

Cumulative effects to special status plant species would be habitat loss, destruction of individual plants, habitat conversion to less than marginal habitats, and loss of habitat connectivity and variability.

Noxious weed management may have the greatest potential to affect special status plant species and habitat conditions under all of the alternatives.

Cumulative effects resulting from activities implemented on adjacent lands, the elimination of special status species on other lands affecting the potential listing of a species that occurs on public lands, and global warming could have long-term effects on special status plant species. Although the BLM could not change the way other land owners manage special status plant species, the development of conservation agreements and species management plans with other land managers/owners could potentially reduce these off-site effects to special status plant species. The BLM would consider these effects in the analysis of all proposed management activities that affect special status plant species and their habitats.

The use of competitive plant species for restoration and rehabilitation could have a cumulative effect on special status plant species, and these species should not be used in or near plant occurrence areas. Competition for resources and habitat could decrease special status plant numbers and reduce available critical habitat.

Herbicides used to control noxious weeds could have a cumulative and potentially detrimental effect on special status plant species if they were used incorrectly. Any control treatments should be used very cautiously in or near plant occurrence areas.

4.7.2 Animals

4.7.2.1 Goals and Objectives

Goal – Maintain, restore, or improve special status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings.

Objective 2. Conserve T&E fish and wildlife species and the ecosystems on which they depend.

Objective 3. Manage big sagebrush communities to meet the life history requirements of sagebrush dependent, special status species.

Objective 4. Evaluate habitat requirements and conditions for the reintroduction of extirpated species into historic habitat in the Planning Area.

Objective 5. Maintain, restore, or improve bighorn sheep habitat and allow for maintenance or further expansion of bighorn sheep populations as defined by the ODFW in Oregon's Bighorn Sheep Management Plan.

4.7.2.2 Assumptions

No management actions would be undertaken that would be likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat pursuant to section 7(a)(2) of the ESA.

Management of Threatened or Endangered species would be in accordance with recovery plans and consultation with the USFWS.

Identification in the FMP of areas that possess significant natural resource values would assist in reducing effects special status species during fire suppression and rehabilitation activities.

The ODFW and/or USFWS retains jurisdiction over the management of special status species populations. BLM manages the habitat for these species in cooperation with the ODFW and USFWS through plans for various species. BLM management emphasis of special status species indicated in the alternative themes of this plan would be through recommendations to and in coordination with these agencies.

The management actions found in Water Resources, Riparian/Wetlands, Rangelands, and Woodlands sections would directly and indirectly maintain, restore, or improve habitat for special status species. As stated above in the Assumptions section of the Fish and Aquatic Habitat analysis, there would be a strong link between the management actions and the effects of these actions on the quality and quantity of special status species habitat.

References to either mule deer and/or Greater sage-grouse habitat also include habitat for a myriad of species that would be sagebrush dependent such as sage sparrow, Brewer's sparrow, sage thrasher, pygmy rabbit, sagebrush vole, and others. Some of these would also be special status species such as sage-grouse, pygmy rabbit, sage sparrow, and sage thrasher, and many would be on the list of neotropical migratory birds. Through the use of the DRCs for the management of and restoration of sagebrush steppe habitat, it would be anticipated that the effects of these actions would promote habitat improvements not solely for mule deer and sage-grouse but for many of these other species.

The Migratory Bird Executive Order of 2001 calls for federal agencies to support the conservation intent of migratory bird conventions by integrating conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions and to restore and enhance the habitat of migratory birds. The intent of actions described such as reducing juniper encroachment into sagebrush or riparian habitats, would be to restore these habitats and improve habitat for migratory birds that depend on these habitats as well as other species such as sage-grouse. While these actions may have effects on migratory birds by reducing some habitat components in the short term, the anticipated long-term effects would be an overall improvement in habitat quality and quantity as well as reduction of the occurrence and effects of catastrophic fires. Since the list of migratory birds (50 C.F.R. 10.13) would be extensive, management actions could not cover restoration or enhancement of all the migratory birds that would be found in the Planning Area. Actions that have the effect of habitat restoration for one suite of migratory birds (sagebrush dependent) may reduce habitat for another suite (woodland). This may reduce the abundance of those species but does not reduce the overall diversity of bird species found after actions were completed.

4.7.2.3 Analysis of Alternatives

4.7.2.3.1 Effects Common to All Alternatives

Direct Effects

Greater sage-grouse and other special status species use areas would be identified in coordination with the ODFW and/or the USFWS. Habitat management would be coordinated across agency boundaries. Identification of these areas would facilitate management for special status species by reducing or eliminating conflicts with other resources such as energy and mineral development, and would allow for seamless management to improve structure and diversity of habitat across the landscape.

Special status species habitat management and monitoring would be coordinated with the ODFW, USFWS, and other cooperators, as appropriate. The BLM would coordinate with the ODFW and/or USFWS on the management of special status species populations throughout the Planning Area. Recommendations for transplants of special status species onto or removal from public lands would be coordinated with the ODFW and USFWS.

Habitat conditions for reintroduction of locally or regionally extirpated species such as Columbia sharp-tailed grouse and mountain quail, would be evaluated for successful reintroduction. This would enable an assessment of whether these species could be reintroduced to areas in which they historically occurred and have a higher probability of successful reintroductions.

In the Steens Mountain Wilderness Area, all actions such as transplants, trapping, distribution of medicine, emergency situations, and maintenance of existing guzzlers would be authorized in accordance with the Steens Act, the Wilderness Act, and Appendix B of House Report 101-405 of the 101st Congress. Minimum tool analysis would be completed on all actions. Where these same actions occur in WSAs, the WSA IMP would be followed. Depending on minimum tool analysis, actions for population management of special status species in wilderness areas could be restricted to those that do not affect wilderness characteristics or minimize the effects. This could limit the ODFW's ability to manage bighorn sheep populations. Actions in WSAs would be limited to those that would be compatible with the WSA IMP. This could limit improvements that would expand special status species into identified historic habitat.

Indirect Effects

Water Resources. BMPs at the activity plan level would be implemented to reasonably prevent degradation of water quality.

Noxious Weeds. Noxious weed prevention and control would continue to be a priority in all alternatives. Noxious weeds invade native plant communities, including riparian vegetation, resulting in degraded plant community structure, cover, composition, and diversity. Erosion and runoff tend to increase as a result; reduced cover may also result in reduced shade and increased water temperature. The priority on noxious weed prevention and control would reduce these effects on the special status species dependent on them.

Fish and Wildlife. As noted in Chapter 2, maintenance, restoration, or improvement of aquatic habitat to support fish and wildlife would be primarily addressed in the alternatives identified under Water Resources, and Vegetation. The broad objective under Fish and Wildlife to maintain, restore, or improve habitat, generally promotes habitat improvements for special status species. Monitoring special status species and their habitat would increase information about specific habitats used and the direction for habitat improvement or restoration.

Grazing Management. Whenever existing grazing management practices on public land would be determined to be contributing to non-attainment of resource objectives, appropriate actions would be implemented to meet habitat and other resource objectives. In areas where grazing would be determined to be contributing to nonachievement of special status species objectives, changes in management would be implemented.

Areas burned by wildland or prescribed fire would be rested for a minimum of two growing seasons, and grazing would resume only when monitoring data supported achievement of restoration objectives. This would allow vegetation to increase in density, and would reduce erosion and sediment delivery to water bodies. The effect would be improved habitat conditions for special status species.

4.7.2.3.2 Alternative A

Direct Effects

Bat gates would be installed at the entrances to abandoned mines to protect known roost sites from disturbance by recreationists. Priority would be given to mine sites known to contain large numbers of bats (e.g., maternity roosts, hibernacula) and sites most likely to be disturbed by recreationists.

This would protect bat colonies from disturbances that could cause abandonment of maternity roosts and subsequent reduced reproductive success, and from disturbances in winter that could cause hibernating bats to awaken, with subsequent increased risk of mortality. The gates would allow bats egress and ingress to abandoned mine sites while also providing for public safety.

Variable desired conditions of big sagebrush cover would be determined on a site-by-site basis to benefit special status species. This would allow a focused approach to target sites most in need of structural improvement or most likely to increase habitat suitability for sagebrush-dependent special status species.

Management would be in accordance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines. This would result in better survival of fledglings by minimizing the effects of actions that could cause mortality, and would require other resources to be managed so that identified goals and objectives for sage-grouse would be met and long-term range conditions would improve.

Whether habitat improvements, if any, would be needed in order to create suitable habitat for reintroduced Columbia sharp-tailed grouse, mountain quail, and other species would be determined. Implementation of any necessary habitat improvements prior to reintroduction would increase the likelihood of establishing successful self-sustaining populations of these special status species.

Transplants, reintroductions, and natural expansion of bighorn sheep populations would be allowed.
These actions would maintain healthy viable herds of bighorn sheep populations, prevent overuse of resources, and would reduce the likelihood of increased disease and parasite transmission. Poor quality habitat in historic bighorn sheep range would be improved, thereby enabling bighorn sheep that naturally expand into historic habitat to be more successful in establishing viable herds. The ODFW would be authorized to trap bighorn sheep when they determine excess animals would be available. This would protect the range from resource overuse, and enable the ODFW to continue establishing herds in suitable historic habitat and to engage in wildlife trades with other states.

Since water would be an essential requirement of bighorn sheep, up to ten sites would be identified for development of low visual impact, natural water sources or wildlife guzzlers in historic bighorn sheep habitat. In some cases, lack of water may limit distribution and prevent successful reestablishment of bighorn sheep in historic habitat. Development of water sources would increase the likelihood of viable herds becoming established in historic habitat.

Indirect Effects

Soils and Biological Soil Crusts. BMPs would be implemented to protect and manage soil for all ground-disturbing activities. This would provide long-term stability of this habitat type for special status wildlife species dependent on sagebrush habitat.

Riparian and Wetlands. Activity plan level management prescriptions and/or WQRP prescriptions would be developed but would be based on reach or site scale assessment only, and on site-specific resource management objectives. Management would not be guided by prioritization across the Planning Area, but rather by site-specific management goals with respect to water quality. Improvements to riparian vegetation, including increased vegetative structure and cover, could occur at these specific locations, with a proportional increase in habitat value for special status species.

Existing grazing and recreation systems and improvements to maintain PFC would continue. Outside of areas affected by WQRPs or other special planning requirements (e.g., WSRs), riparian/wetland areas would not be managed to attain advanced ecological status, although in many areas management to maintain or promote PFC may also promote advanced ecological status. In some locations, vegetation communities in PFC may not provide as much structural diversity and suitable habitat for special status species as communities in advanced ecological status.

Sources of localized tree and shrub source material for restoration would continue to be established and maintained. These sources would assist in restoring riparian vegetation and in preserving genetic integrity of riparian plants. This would contribute to the viability of riparian habitat, which provides essential habitat components for special status wildlife species.

Roads within or affecting riparian areas would be maintained, and developed in riparian areas in conformance with existing laws and regulations. Although roads could be designed to minimize effects on special status wildlife species, development and management of roads would be based on all resource management objectives. The current effects of roads on special status wildlife species would continue, including displacement due to vehicle noise and human disturbance, and forage, cover, and breeding habitat due to the reduction of riparian vegetation density and coverage.

Beaver populations would be allowed to expand naturally under this alternative. The effects on special status wildlife species from beaver expansion and subsequent beaver pond development could include increased invertebrate prey and water sources for special status bat species, and increased breeding sites for special status amphibian species.

Woodlands. Late-seral stage ecological characteristics of old growth western juniper woodlands would be maintained by mechanical removal of younger trees. Although this management action would promote the retention of old-growth western juniper woodlands, none of the special status wildlife species that could occur in the project area would be dependent on this habitat type for successful reproduction. Some special status bat species and cavity nesting birds might use cavities in old trees; these trees would not be removed. Mechanical removal of younger trees may cause temporary displacement to any special status wildlife species that would be present. After activity ceased, however, these species could return to the areas. To the degree that management actions were in accordance with the Migratory Bird Executive Order, minimal disturbance

to nesting special status bird species could be expected. Removal of younger trees could reduce the risk of catastrophic fire, which would help to retain this habitat type for special status wildlife species.

All lightning- and human-caused fires would continue to be suppressed. This would eliminate short-term potential effects of fire, such as loss of habitat; however, the long-term effects could include more catastrophic fires and increased habitat loss.

Western juniper would be mechanically removed from quaking aspen and mountain mahogany stands. In quaking aspen stands where juniper has the potential to dominate, the stands would be rehabilitated by prescribed burning. Both quaking aspen and mountain mahogany provide important habitat components (e.g., forage, cover, nesting) for numerous special status species. Since juniper invasion could eventually cause decreased effectiveness of these habitat types, management actions that maintain and restore these communities would maintain habitat viability for special status wildlife.

In sagebrush habitats, increased juniper cover prevents the growth of grasses, forbs, and eventually sagebrush. Younger western juniper trees would be mechanically removed from sagebrush habitats and prescribed fire would be used to reduce the influence of younger western juniper in sagebrush habitats. This would prevent the eventual loss of habitat required by sagebrush-dependent special status species due to juniper invasion. Potential effects from these management actions would be the same as those described above. Compliance with the Migratory Bird Executive Order would help to reduce disturbances to any reproductive special status species (i.e., young birds would have fledged and young mammals would be mobile).

Rangelands. The ecological status of native plant communities would be maintained or improved. Plant density and coverage in these communities would be maintained or increased. These management actions would contribute to the maintenance of viable communities for special status species.

Desirable nonnative seedings would be managed to maintain vegetation composition and meet S&Gs. Maintenance of nonnative seedings can contribute to the loss of suitable habitat for sagebrush-dependent special status wildlife species. Compliance with Standard 5 of the S&Gs would promote spatial distribution of suitable habitat for these species across the landscape with a density and frequency of species that would promote reproductive capability and sustainability. To the extent that nonnative seedings provide rest and deferment for the adjacent native vegetation communities, competition between livestock and sagebrush dependent species would be minimized.

In sage-grouse habitat and/or deer winter range, native vegetative species diversity would be maintained or restored through interseeding of native species on 200 acres. This would result in a slight increase in suitable habitat for sagebrush dependent species. The effectiveness of this effort would depend on the location of the interseeding in relation to existing suitable habitat.

On 50 percent of nonnative seedings where brush cover is high, brush beating and/or disking in a mosaic pattern would be allowed. The natural reestablishment of sagebrush in nonnative seedings provides suitable habitat for sagebrush-dependent special status wildlife species. Management actions that reduce the presence of sagebrush could contribute to the loss of habitat for these species. When conducted in sage-grouse winter habitat, brush treatments could cause loss of sagebrush for cover and forage, and could result in lower winter survival for sage-grouse. Coordination with wildlife resource specialists could help to incorporate known areas of sage-grouse occupancy and high value habitat areas into the design of the management action, thereby minimizing these effects. Loss of reproductive output for special status species could be reduced to the extent that management actions would be implemented in accordance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines. Effects would be further analyzed on a case-by-case basis specific to each activity.

Areas burned by wildland fire would be rehabilitated to protect soil, water, and vegetation resources, which could reduce future effects, such as the conversion of the burned landscape into one dominated by cheatgrass. This would constitute a loss of habitat for sagebrush dependent special status species. The inclusion of sagebrush in rangeland fire rehabilitation seeding mixtures could promote a more rapid return to conditions required by sagebrush dependent wildlife species.

Both prescribed fire and mechanical removal would be used to create a mosaic of multiple successional stages, reduced dominance of woody vegetation, and release of desirable plants. Current and historic suppression of wildland fires, along with other factors, has contributed to an increase in the density of sagebrush stands and a decrease in grasses and forbs within those stands. A reduction in grasses and forbs has resulted in less suitable habitat for sagebrush dependent wildlife. Wildlife would be temporarily displaced during management actions, but could return after activities ceased. Depending

on where these management actions were performed, they could result in the short-term loss of suitable habitat, and a long-term progression of habitat into more suitable conditions for sagebrush-dependent species.

Avoiding the treatment of critical habitat components for sage-grouse such as winter habitat and brood-rearing habitat, would mitigate potential effects. As restoration of these areas occurred, better habitat for sagebrush-dependent species could develop. Long-term effects of this practice would be reduced dominance of woody vegetation and release of desirable plants, which could result in increased growth of grasses and forbs, thereby providing forage for sage-grouse. As with brush beating, compliance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush-Steppe Ecosystem Management Guidelines would reduce potential effects to reproducing wildlife. Effects would be further analyzed on a case-by-case basis specific to each activity.

Noxious Weeds. The current integrated management of weeds would continue. Control on disturbed areas would be emphasized, as would inventories of new infestations. Noxious weeds displace high-value native vegetation needed by special status wildlife and consequently decrease available habitat. Management actions to control and eradicate noxious weeds would restore suitable habitat for wildlife and slow the expansion of weeds into currently unoccupied areas. Short-term limited disturbance could occur to special status wildlife species during weed control activities. In the long term, however, improvements in habitat quality and quantity would result from weed control. The habitat improvements from noxious weed control would correspond to the decrease in noxious weeds and the degree of restoration that occurs after weed control actions.

Fish and Wildlife. Approximately 9,000 acres of deer winter range, which would be in unsatisfactory condition would be reseeded with sagebrush and a mix of other native and nonnative species in coordination with the USFWS, ODFW, and permittees. This management action could contribute to an increase in suitable habitat for sagebrush-dependent special status species. Available habitat would increase to the extent that the reseeding occurs near habitat occupied by species or creates conditions that could eventually be used by special status species.

Opportunities for the improvement and/or restoration of fish and wildlife habitat through vegetation manipulation, water developments, and other measures would be identified and implemented. When these improvements occur in habitat occupied by special status species or in potentially suitable habitat, it would be assumed that they would also increase the habitat available for these species. Environmental reviews completed for the projects would help to identify and mitigate any conflicts.

Energy and Minerals. Current management of locatable mineral entry would continue. Locatable mineral development could occur in some locations within the Planning Area where not restricted by other regulations. Depending on the size, nature, and location of the development, effects on special status wildlife species could include loss of habitat, displacement, ongoing disturbance due to human presence, and loss of reproductive output. The extent of these effects would vary depending on the scale of the operations, nature, and proximity to habitats (e.g., sage-grouse lek sites and brood-rearing habitat, bighorn sheep range, raptor nest sites, and maternity roosts and winter hibernacula for bats) of special status species.

Leasing and development of oil and gas, geothermal, and solid leasable mineral resources would continue under the current management framework. NSO or other seasonal or special stipulations would be applied and identified by an ID team immediately prior to leasing. Effects to special status wildlife species would be similar to those described for locatable minerals. Special stipulations developed by the ID team would partially or fully mitigate these effects.

Saleable minerals development would be permitted under this alternative on a case-by-case basis. Renewable energy authorization would be managed under current planning framework, with no exclusion or avoidance areas except where current law or regulations require. Effects to special status wildlife species from saleable minerals and renewable energy development would be similar to those described for locatable minerals.

Existing laws, regulations, and policies would minimize the effects from energy and mineral activities on special status wildlife species and their habitat. Measures to reduce effects include avoiding areas, limiting surface disturbance, limiting travel off existing roads, implementing seasonal closures, and reclamation after mine closure. Some effects, such as habitat loss, would require a lengthy time for recovery. Following mine closure and reclamation, special status wildlife species could reoccupy the site if suitable habitat would be present.

Wild Horses and Burros. Current AMLs and wild horse forage allocation levels would be maintained in all HMAs. Permanent increases or decreases in AML and forage allocations would not be considered. Due to differences in habitat use, wild horse management produces few effects on the availability of forage for bighorn sheep. Overlapping resource use can occur during droughts, when bighorn sheep would be more likely to move farther away from rimrock areas in search of water.

During severe droughts, wild horses can be gathered under emergency conditions, thereby reducing any conflicts with bighorn sheep.

If forage availability decreased to a large extent, such as through extensive wildfire, emergency gathers would reduce the likelihood of any conflicts with bighorn sheep. Current wild horse numbers would not be considered to limit bighorn sheep populations. If this situation were to change during the life of the Plan, changes in wild horse numbers would be addressed on a case-by-case basis and adjustments could be made accordingly.

Excessive grazing by wild horses can contribute to a decline in sage-grouse habitat. In some areas, grazing by wild horses has contributed to long-term changes in plant communities and has reduced certain habitat components. As with bighorn sheep, increased competition between wild horses and sage-grouse could occur during droughts. Failure to conduct emergency gathers, if necessary, could result in limited plant regrowth. Less available forage, in conjunction with drought, could result in lowered reproduction for special status wildlife species. Promoting proper gate management by livestock permittees could prevent concentrations of horses in small areas, thereby avoiding a situation that could result in a decline in available forage for special status species. As forage conditions in each HMA would be annually monitored, wild horse forage use could be adjusted by management actions to help maintain a thriving natural ecological balance.

New water developments for wild horses could be used by special status wildlife species. If wild horses concentrate around these sources, soil compaction and trampling of vegetation could lead to a loss of habitat function and a decrease in suitable habitat for special status species. New water developments might distribute horses over areas formerly used only sporadically or lightly. The potential effects would need to be determined on a case-by-case basis when decisions were made as to where the new water sources should be sited.

Grazing Management. Existing grazing management would continue within the AMU and the CMPA. Interim adjustments, long-term grazing management, and stocking levels would continue to be adjusted in accordance with the results of monitoring studies, allotment evaluations, and rangeland health assessments. Livestock management practices and administrative solutions would continue to be implemented. These management actions promote livestock use that would be balanced with forage production, which assures that habitat conditions for special status wildlife species would not be degraded. General riparian and upland vegetation conditions described in Chapter 3 would be maintained, although the current management has generally promoted an upward trend in both riparian and range condition. With improving vegetation condition, habitat for special status species would also likely improve.

Increased competition for food and cover between sage-grouse and livestock could occur during droughts. Failure to adjust livestock use during drought could result in limited plant regrowth and overuse in wet meadows and riparian areas, which would reduce forage and cover for sage-grouse and other sagebrush-dependent special status species. As each allotment would be evaluated through monitoring, appropriate changes in grazing management would be implemented, thereby promoting progress toward habitat objectives and standards for rangeland health. Any necessary adjustments in grazing management practices would reduce the likelihood of the effects described above.

Rangeland improvements such as fences could exclude livestock from critical habitat required by special status wildlife species. Such fences could also impede the movement of wildlife and potentially cause mortality due to entanglement. Compliance with BLM fencing requirements would reduce these potential effects. Where livestock would be excluded from streams, springs, riparian habitat, and wetland areas, more forage and cover would be available for special status wildlife species. Changes in plant communities due to livestock overgrazing would not occur, and improvements in habitat conditions would occur by reducing the likelihood of resource damage from concentrated animal use.

Wildland Fire Management. All wildland fires would be suppressed. Although fire suppression in the short term would maintain current habitat conditions for special status wildlife species, in the long term, larger, hotter fires could occur that could contribute to degradation of native plant communities and cause more frequent fire cycles.

Mechanical treatments and/or prescribed fire would be used to reduce fuel loading in areas where the fire regime has been altered. This action would help to reduce the potential for increased fire cycles and subsequent conversion of sagebrush habitat into an annual grassland or undesirable nonnative community. These management actions would help to maintain the viability of habitat for special status species. Over the long term, reductions in fuel loading would decrease the likelihood of catastrophic fire, which in turn would reduce the likelihood of loss of large portions of habitat needed by special status species. Short-term effects on any special status species could be minimized to the degree that management actions comply with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines.

Burned areas would be assessed for rehabilitation, and would be rehabilitated using a combination of mechanized and nonmechanized equipment. Restoration projects in areas where conditions would not be recovering naturally would improve habitat value for special status species. Disturbances to special status species from these activities would be unlikely since suitable habitat would not be present prior to restoration. In areas where natural recovery would be limited, a mixture of native and desirable nonnative plant species would be used to rehabilitate burned areas. Rehabilitation with native species would be more likely to provide suitable habitat for special status wildlife species. However, seeding nonnative species might be necessary to prevent invasion of weeds and would be more likely to provide future suitable habitat for such species.

Lands and Realty. Land acquisitions could potentially help to meet the management goals and objectives for special status species if they result in the acquisition of land important to all or part of the life history of special status species. The objective to acquire land with high public resource values would be consistent with the management of special status wildlife species. Habitat for special status wildlife species would be considered to have high public resource values and would be a priority for acquisition. The disposal of critical habitat for special status species would be prohibited, or in the case of exchange, weighed against the values and benefits to acquire in the transaction. Any such disposal might jeopardize the species' existence or contribute toward the need to list these species as federally T&E.

New withdrawals would be considered on a case-by-case basis. Public access development would be acquired on a case-by-case basis; however, under this alternative, no specific consideration would be given to protection of other resources, which would be provided in other alternatives.

New roads may be constructed around private lands to provide access to public lands. The construction and maintenance of these roads, if sited in critical habitat, could have both short- and long-term effects on special status species.

The management actions associated with authorizations of new ROWs, utilities, and permits for large-scale powerlines, fiberoptic cables, and pipelines would be conducted consistent with existing land use planning, regulation, and laws. ROWs would be located within designated corridors on a case-by-case basis. Siting additional disturbances within previously disturbed sites, such as designated powerline corridors, could reduce effects to special status wildlife species because the assumption would be that these species have already adapted to or been displaced by the developed corridors.

Negotiations and feasibility of consolidating parallel overhead powerlines in crucial sage-grouse habitat may continue as opportunities arise. Such consolidation may result in less predation from perching raptors.

No new effects would occur to bighorn sheep and other resources at Buckskin Mountain from existing communications development. Any ongoing effects would continue indefinitely. Consideration of new communications uses at Buckskin Mountain would be deferred until definitive proposals were received.

Effects to special status wildlife species from such projects would be similar to those described above for energy and mineral activities. Effects to special status wildlife species from new projects would be analyzed on a case-by-case basis in NEPA documents and would identify any effects that must be reduced or eliminated through mitigation.

Transportation and Roads. This alternative would maintain the existing transportation and roads management, while implementing the provisions of the Steens Act that apply to transportation. Only currently mapped roads would be considered in this resource area; unmapped roads would be inventoried and managed based on an EA that would include consideration of effects on special status species.

The potential effects of the operation and maintenance of roads on special status species would vary depending on the location of the road and its proximity to habitats of critical special status species (e.g., sage-grouse lek sites and brood-rearing habitat, bighorn sheep winter range and travel corridors, and raptor nest sites). Roads that lead to abandoned mine sites could encourage recreational exploration of the mines, with resulting disturbance to any maternity roosts and winter hibernacula for bats. Installation of bat gates would prevent such occurrences.

Off-Highway Vehicles. OHVs and mechanized vehicles would continue to be managed in accordance with the existing open, limited, and closed OHV designations. OHVs and mechanized vehicles can cause short- and long-term disturbances to individuals or populations of special status wildlife species. Potential effects due to disturbance include vehicle-caused mortality, poaching, habitat fragmentation, behavior modification, displacement into less suitable habitat, and increased human access into previously undisturbed locations. When OHV or mechanized vehicle use occurs near important breeding habitat, disturbances can lead to a loss or decline in reproduction for special status species. In certain

areas, potential effects due to disturbances would be reduced to the extent that OHV and mechanized vehicle use would be limited to designated roads, ways, and trails, seasonal closures have been implemented, and OHV and mechanized vehicle use would be excluded. The current management situation has already assessed the potential effects of the OHV system; no major effects to special status species would be known. The new management due to the Steens Act does not create any conflicts with special status species.

Recreation. Human encroachment on bighorn habitat can displace sheep and disrupt local migration and movement routes. Current recreation activities have few effects on bighorn sheep and their habitat.

Concentrated recreation in sage-grouse habitat could have the potential to displace birds from the immediate area of use. As long as unoccupied suitable habitat would be nearby, no long-term effects would be expected. However, where suitable habitat would be limited or displacement from habitat components (e.g., leks) occurs, the survival and reproductive output of sage-grouse could be affected. Effects of additional recreation would be considered on a case-by-case basis specific to each activity.

4.7.2.3.3 Alternative B

Direct Effects

Bat gates would be installed at the entrances to abandoned mines and areas would be withdrawn from mineral entry. The effects of this management action would be similar to Alternative A. However, these sites would be withdrawn from mineral entry, which would provide protection for bats from additional mineral entry disturbances.

Natural processes would be allowed to determine future conditions of big sagebrush. In most areas of big sagebrush habitat, there would be no threats to property or human life, and wildland fires would not be suppressed. Management actions do allow consideration of fire suppression in areas of significant resource values. To the extent that habitat for sage-grouse would be considered a significant resource value, fires would be suppressed in those areas. In other places, wildland fires that were not suppressed could change the structure of sagebrush habitat to grasslands.

The reestablishment of natural fire regime could restore natural processes that shape suitable habitat for sagebrush-dependent species. However, historic and current fire suppression, along with weed invasion, has changed sagebrush habitat conditions so that unsuppressed fire could increase the likelihood of sagebrush habitat being converted into annual grasslands. All burned areas would be evaluated for rehabilitation actions. A mixture of native plant species would be used to rehabilitate burned areas where natural recovery would be limited. The lack of flexibility on choice of seed mix might extend the length of time for rehabilitation. If the burned area contained important habitat components for special status species, the increased period of time to achieve restoration would represent a loss of available habitat for that period of time.

To the extent practicable, management would be in accordance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines. This would result in better survival of fledglings by minimizing actions that could cause their mortality. It would also require other resources to be managed so that goals and objectives for sage-grouse would be met and long-term range conditions would improve. However, the reliance on passive methods could limit the ability to achieve the Management Guideline's goals.

No assessment would be performed to determine whether suitable habitat conditions would be present for successful reintroduction of Columbia sharp-tailed grouse, mountain quail, and other species; therefore, no habitat improvements would be conducted prior to reintroductions. This would reduce the chances of establishing successful self-sustaining populations of these special status species.

Natural processes would be allowed to determine the natural range expansion of bighorn sheep populations. Poor quality habitat in historic bighorn sheep range would be improved. This would enable bighorn sheep that naturally expand into historic habitat to be more successful in establishing viable herds. Bighorn sheep population numbers would be allowed to exceed management objectives. The ODFW would not be authorized to trap bighorn sheep when excess numbers would be available. No additional introductions and/or transplants would be conducted into identified historic range. These actions would conflict with the ODFWs existing management plan and goals for bighorn sheep, and could result in declines in the range from overuse, declines in herd health and viability; they would also prevent the ODFW's from engaging in wildlife exchanges with other states.

Up to five sites would be identified for construction of low visual impact, natural appearing water sources in historic bighorn sheep habitat. Lack of water can prevent the successful reestablishment of bighorn sheep in historic habitat. Development of water sources would increase the likelihood of viable herds in historic habitat. Since no transplants into historic habitat would be allowed, the locations of these water sources would need to be near existing populations in order for them to be effective.

Indirect Effects

Soils and Biological Crusts. In the short term, localized declines in soil productivity could occur. In the long term, this alternative would be likely to maintain or improve soils and crusts, which would improve the quality of sagebrush habitat for special status wildlife.

Riparian and Wetlands. The management goals and objectives for riparian habitat and wetlands would produce similar effects as described in Alternative A. However, use of passive measures to achieve restoration objectives might result in a longer period of time to improve riparian vegetation communities and consequently, a longer period of time before suitable habitat conditions for special status wildlife species develop. In the short term, the limited use of active restoration measures and emphasis on passive measures could result in a longer period of time for the development of preferred habitat conditions for special status species. Upland vegetation communities adjacent to riparian areas would be managed to reduce fire frequency and intensity, with an emphasis on native vegetation. This would help retain and protect edge habitat, which has a high value for special status species.

The management actions for roads could reduce human-caused disturbances to special status wildlife species due to the elimination of alternative routes in riparian/wetland areas and would result in a slight increase in habitat availability. It could also eventually result in an increase in riparian vegetation, which provides important foraging, cover, and breeding habitat for special status species.

Beaver populations would be managed as in Alternative A and the potential effects would be the same.

Woodlands. Fires in old-growth western juniper stands would be allowed to burn. No special status species would be solely dependent on this habitat type. Minimal effects from allowing fires to burn would be expected unless the fire spread uncontrolled to other habitat. In the long term, the size and intensity of fires would likely be reduced as the historic fire regime would be reestablished. Short-term effects such as temporary displacement to some special status species may result from these fires; however, in the long term, allowing the return of fires would likely result in reduced size and intensity of future fires as the historic fire regime becomes established.

Management actions associated with the maintenance, restoration, and improvement of quaking aspen and mountain mahogany stands would rely on natural processes, which could take a long period of time to achieve goals. If natural processes result in an increase in western juniper and a decline in quantity and vigor of quaking aspen and mountain mahogany, a decrease in the available herbaceous understory forage for special status species could occur along with a local decline in the viability of special status species that rely on these habitat types.

Mechanical removal of all younger western juniper trees from riparian and sagebrush habitats would result in an increase in understory forage available for sagebrush-dependent special status species. Relying on natural and human ignited wildland fires to reduce the influence of western juniper in these same habitats would result in a short-term loss of habitat. In the long term, suitable habitat conditions for sagebrush-dependent special status species would develop as long as burned areas were not subsequently invaded by weeds.

Rangelands. Rangeland management would emphasize passive methods and natural processes to achieve goals and objectives. Such methods would probably take longer to achieve suitable habitat conditions for special status species. Opportunities to improve habitat using active methods would not be implemented. In some places, management that emphasizes passive methods and natural processes could result in less suitable habitat for sagebrush-dependent special status species due to invasive weeds and other undesirable nonnative species such as cheatgrass. Management actions would not include the rehabilitation of burned areas, which could also result in less suitable habitat for these species due to weed invasion and failure of sagebrush to compete successfully with grasses. Nonnative seedings, which do not provide suitable habitat for sagebrush-dependent special status species, might remain established longer than under other alternatives because natural processes would be allowed to determine the re-invasion rate of native species. Providing for and restoring degraded and decadent shrublands would provide improved habitat conditions for sagebrush-dependent wildlife, to the extent that the management actions complied with the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines. As active management and restoration of these areas occurred, improved habitat

would be available for sagebrush-dependent wildlife. Opportunities to use livestock grazing to suppress competition and allow the establishment of sagebrush habitat could not occur under this alternative.

Noxious Weeds. The management goals and objectives for noxious weeds would produce similar effects as those described in Alternative A. However, the potential for weed invasion might also be greater than in other alternatives because fewer methods of control would be authorized.

Fish and Wildlife. The management emphasis would be on managing habitat for self-sustaining native species. Approximately 9,000 acres of sagebrush would be aerially reseeded onto deer winter range. This could restore and improve sagebrush habitat for sagebrush-dependent special status species. The degree of improvement would depend upon the success rate of the reseeding effort and the number of acres restored to sagebrush habitat. Opportunities would be identified and implemented for the improvement and/or restoration of fish and wildlife habitat through the use of wildland fire, fence removal, or other mainly passive methods. Such improvements could also improve habitat conditions for special status species.

Forage for wildlife would be allocated above management objective levels and wildlife populations would be allowed to expand naturally. This management action would be unlikely to result in reduced forage availability for special status species.

Energy and Minerals. None of the potential effects due to energy and mineral exploration, location, development, and production described in Alternative A would occur because the entire Planning Area would be recommended for withdrawal from locatable mineral entry.

Wild Horses and Burros. The potential effects of wild horses on special status species would be the same as those described for Alternative A. Management actions that allow for permanent increases or decreases in AMLs could allow resource managers to implement adaptive management strategies that would minimize conflicts with special status species. Permanent increases in AMLs would not be assumed to reduce habitat suitability for special status species since wild horses would be maintained at AMLs that ensure a thriving natural ecological balance between wild horse populations and other resource values. The additional methods of population control could decrease the rate of herd growth, thus minimizing potential conflicts with special status species due to high herd numbers.

Grazing Management. No livestock grazing would be authorized in the AMU. The absence of livestock would lead to increased availability of grass and herbaceous plants needed for sage-grouse nesting cover. Competition for forage between livestock and sagebrush-dependent special status species would not occur. Populations of sagebrush-dependent wildlife could increase in the AMU.

Livestock grazing would occur in the CMPA consistent with the Steens Act, but no rangeland projects would be planned or implemented in support of livestock grazing. The S&Gs, including Standard 5, which specifically addresses protection of special status species, would apply to grazing management. Natural resource objectives would be emphasized and would provide greater consideration of special status species.

Wildland Fire Management. Wildland fires that threaten property, human life, or significant resource values would be suppressed. Suppression of other wildland fires would be evaluated and managed with minimal suppression actions. Suppression of wildland fires in habitat used for breeding activities by special status species would preserve the habitat. However, it would also possible that over the long term, such activities could contribute to the occurrence of larger, hotter fires, loss of suitable habitat, increased fire cycles, and weed invasion.

All burned areas would be evaluated for rehabilitation actions. A mixture of native plant species would be used to rehabilitate burned areas where natural recovery would be limited. The lack of flexibility on choice of seed mix might extend the length of time for rehabilitation. If the burned area contained important habitat components for special status species, the increased period of time to achieve restoration would represent a loss of effective habitat for that period of time.

Development of a plan to manage wildland fires for resource benefit would allow planning to protect critical resources for special status species.

Lands and Realty. Under lands and realty actions, this alternative would recommend the withdrawal of the entire Planning Area from the public land laws, including the mining laws. All public lands would be retained and public holdings would be increased. These actions could potentially help to meet the management goals and objectives for special status species if they result in the acquisition of land important to all or part of the life history of special status species. Habitat for special status wildlife species would be considered to have high public resource values and would be a priority for acquisition. The following management actions could protect habitat critical to special status species: 1) acquire the rights necessary to close roads that provide public access to lands containing sensitive resource values; 2) control and minimize access to areas containing sensitive resources; and 3) provide for land tenure actions that do not facilitate public access to lands containing sensitive resource values. The entire Planning Area would be considered a ROW and realty use authorization exclusion area.

No new effects from communications development to bighorn sheep and other resources at Buckskin Mountain would occur. When the existing facilities become obsolete and would be removed, there would be less human disturbance to the sheep in that area from communications operation and maintenance activity.

Removal or consolidation of parallel overhead powerlines in crucial sage-grouse habitat may result in less predation from perching raptors.

Transportation and Roads. Only roads required by law would be constructed, and road maintenance would not occur. Road closures would be the most extensive under this alternative. Disturbance effects to special status species from transportation and roads would be minimal under this alternative.

Off-Highway Vehicles. Areas designated as closed would be maximized and would include the Alvord Desert playa, Borax Lake, Mickey Hot Springs, Catlow Valley, and all WSAs. All other areas would be designated as limited to designated roads and trails, with a minimum number of roads and trails identified. Organized OHV or mechanized vehicle events would be prohibited. Potential effects from OHVs on special status wildlife species and their habitat would be the same as those described for Alternative A. Designation of the Steens Mountain Wilderness, all WSAs, and WSA cherrystem roads as closed to OHV and mechanized vehicle use would eliminate potential disturbances to wintering bighorn sheep to the extent that their range overlaps with the closed designation. The closed designation would also eliminate any disturbances to special status wildlife species and their habitat. Road closures would reduce access and thereby reduce human disturbance to special status wildlife species.

Recreation. Closing some undeveloped recreation sites would improve suitable habitat conditions for special status animal species. Special status animal species would generally not be disturbed by recreational use.

4.7.2.3.4 Alternative C

Direct Effects

The effects of bat gate installation would be the same as those described for Alternative B.

Big sagebrush habitat would be managed for the benefit of special status species to meet the DRC in all big sagebrush habitats throughout the Planning Area. Management would be in accordance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines. The effects of this management action would be similar to those described for Alternative A.

The management actions for the reintroduction of Columbia sharp-tailed grouse, mountain quail, and other species would be the same as for Alternative A. The effects of these management actions would be similar to those described for Alternative A.

Transplants, reintroductions, and natural expansion of bighorn sheep would be allowed. The effects would be similar to those described for Alternative A. No habitat improvements in historic bighorn range would be conducted. This could reduce the likelihood of establishing viable herds in these transplant and reintroduction locations as well as the areas bighorn sheep naturally expand. Bighorn population numbers would be allowed to exceed management objectives. The ODFW would be authorized to trap bighorn sheep if they determine that excess animals would be available for removal. This would protect the range from resource overuse, protect herd health and viability, and enable the ODFW to engage in wildlife exchanges with other states. The effects of water development would be the same as those described in Alternative A.

Indirect Effects

Soils and Biological Crusts. The management goals and objectives of the Soils and Biological Soil Crusts resource area would be directed toward promoting soil stability and reducing erosion. Soil conditions could improve more quickly in the short term.

Riparian and Wetlands. This alternative would be similar to Alternative B. However, both active and passive measures would be used to manage livestock use in riparian/wetland areas. The rate of progress toward achieving an advanced ecological status for restoration of riparian/wetland areas and upland vegetation would be expected to increase because both active and passive measures would be used. Upland vegetation communities would be manipulated and managed to reduce fire intensity and frequency. Active restoration could include both native and/or desirable nonnative vegetation. Restoration sites would be managed to progress toward native vegetation within the RMP timeframe of 20 to 50 years. Under these management actions, suitable habitat conditions for special status species would be maintained or increased.

Similar to Alternative A, the establishment of sources of localized tree and shrub source material for restoration would assist in restoring riparian vegetation. Restoration actions would be expanded beyond the scope of Alternative B to isolated stands of riparian vegetation, thereby improving habitat conditions for special status wildlife species. However, the habitat value of these isolated sites could be reduced if livestock or wild horses damaged the vegetation during restoration.

Roads within and providing access to riparian areas would be managed as in Alternative B, and the effects would be similar to those described under Alternative B. Beaver populations would be managed as in Alternative A. In addition, reintroduction and expansion of beaver into suitable habitat would be allowed. This would increase the likelihood of additional suitable habitat developing for special status amphibians and bats.

Woodlands. Although the management actions for woodlands would be different under Alternative C than for Alternative A, the potential disturbance effects on special status species would be the same. The effects on special status species from mechanical removal of up to 90 percent of the post-settlement western juniper trees in old growth stands would be similar to Alternative A. The effects on special status species of allowing fires to burn in old growth western juniper stands if no threat to life or significant resource values exists, would be similar to the effects described in Alternative B. To the extent that fires might be suppressed, restoration of fire to its historic role in the ecosystem would be delayed. Since no special status species require this habitat type for successful reproduction, no effects to their viability would be expected from the delay.

The effects of the following management actions would be the same as those described for Alternative B: 1) potential effects of mechanical juniper removal from quaking aspen and mountain mahogany stands, and the restoration of quaking aspen stands through burning; 2) mechanical removal of younger western juniper from riparian and sagebrush habitats; and 3) wildland fire, and natural and human ignited fires would be allowed to reduce the influence of western juniper on sagebrush and riparian habitat.

Rangelands. The emphasis would be on natural values and other resource objectives, such as reestablishment of native species. Actions to diversify the structure and composition of selected nonnative seedings would increase the quality and quantity of habitat available for sagebrush-dependent species.

Interseeding would be used on approximately 20,000 acres of nonnative seedings throughout the Planning Area to establish native plants where vegetative diversity would be low. The emphasis would be on reestablishing native species, but other desirable nonnative species could be used in the seeding mix where appropriate. This would increase habitat quality and quantity across a large expanse of the project area and could contribute to increases in populations of sagebrush dependent species. Livestock grazing could be used to suppress plant competition and allow sagebrush establishment. To maximize the likelihood of establishing suitable habitat for special status wildlife species, coordination with the ODFW, USFWS, and permittees would occur. Seedings on the north and west side of Steens Mountain would be emphasized. Habitat conditions in these locations would improve for sage-grouse.

The effects of the following management actions would be the same as those described for Alternative A: 1) brush beating of sagebrush in a mosaic pattern would be allowed on 50 percent of seeded areas with high brush cover; 2) natural-ignited wildland fire would be allowed to create a mosaic of multiple successional stages; 3) reduce the dominance of woody plants, and release suppressed desirable plants.

Plant communities that do not meet the DRC due to dominance by annual or invasive species, or invasive juniper would be rehabilitated using only native species. The emphasis on native plant species could increase both the quality and quantity of suitable habitat for sagebrush-dependent species.

Big sagebrush, quaking aspen, and western juniper communities would be managed for the benefit of all wildlife and to meet the DRC in all habitats. Big sagebrush habitat would be managed for the benefit of game and nongame species and would be managed to meet the DRC in all big sagebrush habitats throughout the Planning Area. These management actions would increase the quality and quantity of suitable habitat for sagebrush-dependent species.

Noxious Weeds. The effects of management actions for noxious weeds would be similar to those described for Alternative A.

Fish and Wildlife. The effects of emphasis on managing habitat for self-sustaining native species would be the same as for Alternative B.

Throughout the Planning Area, approximately 20,000 acres of nonnative seedings (discussed above) and all of low species diversity native vegetation in deer winter range would be interseeded to establish native plant species. Other desirable nonnative plant species may be used on a limited basis. Livestock grazing would be used to suppress competition and allow sagebrush to become established. Coordination with the ODFW, USFWS, and permittees would occur to set livestock grazing prescriptions on a site-specific basis in areas to be reseeded. This would increase habitat quality and quantity across a large expanse of the project area and could contribute to increases in populations of sagebrush-dependent species.

Opportunities would be identified and implemented to improve and/or restore fish and wildlife habitat through wildland fire, other vegetation manipulations, limited fence removal, water developments, and other measures. The additional projects could include both active and passive methods and would provide more opportunities to improve habitat than using mainly passive methods.

Energy and Minerals. Big game winter range, areas containing special status species and their habitats, and areas within 0.6 mile of identified sage-grouse leks would be recommended for withdrawal from various types of energy and mineral development. In addition, numerous other types of special designations would be withdrawn. The potential effects of energy and minerals on special status species as described in Alternative A, would be reduced to the extent that these additional withdrawn areas would be occupied by special status species or contain suitable habitat for such species.

Wild Horses and Burros. The potential effects of management actions associated with wild horses would be the same as those described for Alternative B.

Grazing Management. Protection of natural values would be emphasized in the AMU while providing for minimal sustainable livestock grazing that meets allotment management objectives. Grazing in the CMPA would be allowed consistent with Steens Act, but emphasis would be on natural resource objectives. These management actions would increase the likelihood that suitable habitat would be maintained or increased for sagebrush-dependent special status species. Other management actions to meet natural resource objectives, including discontinued use in vacant allotments that have resource conflicts, could also increase the availability of suitable habitat for special status species.

Wildland Fire Management. Wildland fires that threaten property, human life, or significant resource values would be suppressed. To the extent that these areas coincide with habitat used by special status species, suitable habitat would be maintained. However, over the long term, such activities could possibly contribute to the occurrence of larger, hotter fires, and a loss of suitable habitat, as well as increased fire cycle and weed invasion. Suppression of other wildland fires would be evaluated and managed with minimal suppression actions if appropriate for resource benefits. All burned areas would be evaluated for rehabilitation actions. A mixture of native plant species would be used to rehabilitate burned areas where natural recovery would be limited. The effects of this management action would be similar to those described under Alternative B. The effects of other management actions would be similar to those described for Alternatives A and B.

Lands and Realty. All lands within 0.6 mile of sage-grouse leks, deer and elk winter range, and bighorn sheep habitat, would be designated as ROW and realty use authorization exclusion and avoidance areas. The feasibility of consolidating existing parallel utility ROW facilities through crucial wildlife habitat would be evaluated. Where deemed feasible, consolidation of facilities would be implemented for critical areas. Federal agency requests for new withdrawals would be recommended for approval only if they would limit commodity production and protect natural values.

No new effects to bighorn sheep and other resources from communications development would occur at Buckskin Mountain. When the existing facilities become obsolete and would be removed there would be less human disturbance to the sheep in that area from communications operation and maintenance activity.

Consolidation of parallel overhead powerlines in crucial sage-grouse habitat, where feasible, may result in less predation from perching raptors.

These management actions, along with others for Alternative C, would minimize disturbance effects to wildlife.

Transportation and Roads. Transportation systems would be managed to meet resource goals and objectives consistent with emphasizing the protection of natural values. To the extent that this results in road closures, seasonal closures, and other limitations, disturbance effects to special status species and their habitat would be minimized and would be similar to Alternative B.

Off-Highway Vehicles. Management for minimal OHV and mechanized vehicle use, including limiting OHV and mechanized vehicle use to designated roads, ways, and trails across the Planning Area, would result in reduced disturbance to wildlife. Seasonal area closures and closing unneeded roads would also reduce disturbance to wildlife. Road closures could reduce access and thereby reduce human disturbance to special status wildlife species.

Recreation. To the extent that recreational use would be focused away from critical habitat of special status species (e.g., nests, lek sites), disturbance to special status animal species would be reduced. Some disturbance and displacement would be expected, but concentrated recreation use could result in the loss of special status animal species habitat.

To the extent that unlimited dispersed recreation increases and consistently overlaps with special status species habitat, special status species could temporarily alter their use patterns or be permanently displaced. The effects of specific projects on special status species and their habitat would be analyzed on a case-by-case basis.

4.7.2.3.5 Alternative D

Direct Effects

Management would be similar to Alternatives B and C except for the following: Bat gates would be installed at the entrances of abandoned mines to protect known roost sites from disturbance by recreationists. Specific crucial sites, such as mines known to contain large numbers of hibernating individuals or high-density maternity roosts, would be considered for withdrawal from mineral entry.

Big sagebrush habitat would be managed for the benefit of special status species to meet the DRC in all big sagebrush habitats in most of the Planning Area. Habitat management would be coordinated across agency boundaries, which would increase the likelihood of successfully accomplishing goals and objectives relating to sage-grouse and other special status species.

Management would be in accordance with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines. The effects of this management action would be similar to Alternatives A.

The management actions for the reintroduction of Columbia sharp-tailed grouse, mountain quail, and other species would be the same as for Alternative A. The effects of these management actions are similar to those described for Alternative A.

The management actions associated with transplants, reintroductions, and natural expansion of bighorn sheep populations; habitat improvements in historic range; and trapping by the ODFW when bighorn numbers exceed management objectives, would be the same as for Alternative A. The effects of these management actions would be similar to those described for Alternative A.

The management action to identify up to ten sites for construction of low visual impact, natural appearing water sources or wildlife guzzlers in historic bighorn sheep habitat would be the same as for Alternative A. The effects of this management action would be similar to those described for Alternative A.

Indirect Effects

Soils and Biological Crusts. The management goals and objectives of the Soils and Biological Soil Crusts resource area would be directed toward promoting soil stability and reducing erosion. The emphasis on restoration and rehabilitation of soils and other natural resource values would produce similar effects as Alternative C.

Riparian and Wetlands. The ecological status objectives would be dependent on meeting multiple resource objectives. Similar to Alternative C, management of existing grazing systems and recreation would be directed toward improvements to maintain PFC and promote an advanced ecological status. The rate of progress toward achieving an advanced ecological status for restoration of riparian and upland vegetation would be expected to increase because both active and passive measures would be used. Suitable habitat conditions for special status species would develop sooner under these management actions.

The effects of the following management actions would be similar to the effects described for Alternatives A and B, respectively: the establishment of sources of localized tree and shrub source material for restoration, and expansion of restoration actions to include isolated stands of riparian vegetation. The effects of roads within or providing access to riparian areas would be similar to those described in Alternative B. Beaver populations would be managed as in Alternative C and the effects would be the same as those described in Alternative C.

Woodlands. Although the management actions for woodlands would be different under Alternative D than under Alternatives A, B, and C, the effects on special status species would be the same as those described under those alternatives. The management action to develop markets for the by-products of juniper removal could result in additional disturbances to special status species in certain locations, and would be analyzed on a case-by-case basis.

Rangelands. Grazing systems and range improvements designed to improve ecological conditions would have similar effects as those described in Alternative A. Because the emphasis would be on balanced cooperative management practices, the ecological status of native plant communities would be maintained or improved. Actions to diversify the structure and composition of selected nonnative seedings, consistent with resource objectives, would be implemented. These actions would also maintain or improve suitable habitat for special status species.

Desirable nonnative seedings would be managed to maintain vegetation composition and meet S&Gs. To the extent that nonnative seedings would be maintained in place of sagebrush habitat, a loss of habitat for sagebrush-dependent species would occur.

The following management actions could reduce suitable habitat for special status species in the short term, but in the long term, they would increase the amount and diversity of suitable habitat for special status species: 1) Interseeding approximately 10,000 acres or more of nonnative seedings to establish native plants throughout the Planning Area where vegetative diversity would be low. The emphasis would be on reestablishing native species, but other desirable nonnative species could be used in the seeding mix where appropriate; 2) Brush beating of sagebrush in a mosaic pattern on 50 percent of seeded areas with high brush cover; 3) Plant communities that do not meet the DRC due to dominance by annual or invasive species or invasive juniper would be rehabilitated. Native and nonnative species would be seeded where appropriate; and 4) Prescribed fire and wildland fire would be used to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plants. The potential effects of these actions would be the same as those previously described for Alternatives A, B, and C.

Noxious Weeds. Treatment for noxious weeds under this alternative would be similar to Alternative A, utilizing integrated management. Emphasis on protection and restoration of natural values would provide accelerated recovery rates and improved habitat conditions.

Fish and Wildlife. Throughout the Planning Areas, approximately 10,000 acres or more of nonnative seedings (discussed above) and most of the native vegetation with low vegetative diversity in deer winter range would be interseeded to establish native plant species. Nonnative plant species could be used where appropriate. Livestock grazing would be used to suppress competition and allow sagebrush to become established. To the extent that sagebrush would be successfully reestablished, suitable habitat for sagebrush-dependent special status species would improve.

The effects of improvements and/or restoration of fish and wildlife habitat through wildland fire, other vegetation manipulations, water developments, and other measures would be the same as those identified in Alternative A. Fences could also impede the movement of special status species and potentially cause mortality due to entanglement. Continued compliance with BLM fencing requirements would reduce these potential effects.

Energy and Minerals. Many special designations would be withdrawn from locatable mineral development, including RCAs and ACECs. Seasonal and/or special stipulations would be implemented for big game winter range, RCAs, areas containing federally listed species and their designated critical habitat, and within 0.6 mile of identified sage-grouse leks. Effects to special status species would be reduced with respect to Alternative A, but would increase with respect to Alternatives B and C.

Wild Horses and Burros. The potential effects of management actions associated with wild horses would be the same as those described for Alternative B.

Grazing Management. Under this alternative, the development of grazing management prescriptions both in the AMU and in the CMPA would be designed to meet natural resource objectives. The effects of this action on special status species would be to maintain habitat with some improvements over the long term similar to those described for Alternative A.

Wildland Fire Management. Management actions and their effects on special status species would be similar to Alternative C. However, a mixture of native and introduced species would be used to enhance economic and natural resource values for the rehabilitation of burned areas and areas altered by fire suppression. This could allow greater options for resource managers and the possibility of more rapid rehabilitation of sites. Consequently, the development of suitable habitat for special status species could occur more quickly compared to using only native species.

Lands and Realty. The acquisition of land with high public resource values would be emphasized, potentially providing increased habitat for special status species, WSAs and ACECs would be managed as ROW and realty use avoidance areas, thereby reducing potential special species effects due to ROW construction and maintenance activities with respect to Alternative A, but reducing benefits with respect to Alternatives B and C. Access control in sensitive resource areas would not be emphasized as in Alternatives B and C, potentially increasing effects to special status species. All large-scale facilities would be encouraged to locate in the designated corridors. Failure to do so would increase disturbances to wildlife and contribute to habitat loss. New withdrawals and modifications would be considered on a case-by-case basis.

Existing effects to bighorn sheep and other resources from communications development at Buckskin Mountain would continue. Additional disturbance may occur to the sheep from human activity associated with added communications development. However, implementation of a communications site plan would limit surface and other environmental disturbance, facilitate efficient timely communications development, and reduce conflict among users. Effects to sheep by communications development would also be limited by low demand for facilities, remoteness, and small population in the service area.

Consolidation of parallel overhead powerlines in critical sage-grouse habitat, where feasible, may result in less predation from perching raptors.

Potential disturbance effects to wildlife would be similar to those under Alternative A.

Transportation and Roads. For existing transportation and roads management, this alternative would result in management that meets resource goals and objectives, but that strikes a balance between cultural, economic, ecological, and social values. The effects for this alternative on special status species would likely be increased from Alternatives B and C, and decreased from Alternative A.

Off-Highway Vehicles. OHV and mechanized vehicle use would be managed in accordance with Alternative D OHV designations. The BLM would seek cooperative agreements with OHV and mechanized vehicle clubs and other participants. Potential disturbance effects to special status species would be analyzed on a case-by-case.

Recreation. Tourism opportunities and recreation developments would be allowed only if consistent with other resource objectives, thereby minimizing disturbance to special status animal species. Development of new recreation sites would be consistent with the protection of natural values, which would also help to minimize disturbance to special status animal species.

4.7.2.3.6 Alternative E

Direct Effects

The effects of bat gate installation would be the same as those described for Alternative A.

Big sagebrush would be reestablished where economically important special status species would be present. The emphasis on game species, such as mule deer, could indirectly create habitat conditions suitable for other special status species. Management would occur to the extent practicable with the Migratory Bird Executive Order and the Greater sage-grouse and Sagebrush Steppe Ecosystem Management Guidelines.

Whether habitat improvements, if any, would be needed in order to create suitable habitat for reintroduced Columbia sharp-tailed grouse, mountain quail, and other species would be determined. Implementation of any necessary habitat improvements prior to reintroductions would increase the likelihood of establishing successful, self-sustaining populations of these special status species. Introductions would not occur in areas where economic effects would be demonstrated. This could potentially limit the number of suitable locations for reintroductions.

The management actions associated with bighorn sheep transplants, reintroductions, and natural expansion of populations; habitat improvements in historic range; and trapping by the ODFW, when they determine that excess animals were available, would be the same as for Alternative A. The effects of these management actions would be similar to those described for Alternative A. The management action to identify up to ten sites for construction of low visual impact, natural appearing water sources or wildlife guzzlers in historic bighorn sheep habitat would be the same as for Alternative A The effects of this management action would be similar to those described for Alternative A.

Indirect Effects

Soils and Biological Soil Crusts. The management goals and objectives of the Soils and Biological Soil Crusts resource area would be directed toward promoting soil stability and reducing erosion. These goals and objectives should maintain and possibly improve special status species habitats both in the long and short term.

Riparian and Wetlands. Management of existing grazing systems would be directed toward providing maximum use while maintaining or progressing toward PFC. Active restoration of both upland and riparian communities would be pursued to provide sustainable livestock forage, and would not emphasize ecological status. Active restoration of both upland and riparian communities would be pursued to provide sustainable livestock forage, soil stability, and aesthetics, and would not emphasize ecological status. These management actions could reduce habitat suitability for special status species.

Management of roads within and providing access to riparian areas would be similar to Alternative A, with additional emphasis on the development of additional roads to promote commodity production and public uses. Potential effects to special status species due to disturbance would be more likely to occur than under any of the other alternatives. If new roads were located in meadow habitat, they could cause loss of suitable foraging habitat for a variety of special status species. Frequent use of such roads could cause indirect loss of the remaining habitat.

The effects of management actions for beaver would be the same as those described under Alternative A.

Woodlands. The effects of management actions would be similar to those described for all other alternatives. The management action to develop markets for by-products of juniper removal could result in additional disturbances to special status species in certain locations, and would be analyzed on a case-by-case basis.

Rangelands. Production of native, herbaceous and shrubby vegetation for commodity uses within the constraints of other resource management objectives would be emphasized. Restoration of existing nonnative seedings in poor or fair condition would maintain or improve habitat conditions for special status species to the extent that the restored areas would be available for their use. The use of interseeding to establish native and other desirable nonnative plant species on approximately 5,000 acres of low diversity, nonnative seedings would increase habitat suitability for special status species. The emphasis on commodity production would mean rangeland treatments would be less likely to develop habitat conditions suitable for sagebrush-dependent special status species.

Areas dominated by cheatgrass or an overstory of sagebrush with a few herbaceous plants would be rehabilitated with species that would provide optimal forage and vegetative cover. This could increase suitable habitat conditions for

sagebrush-dependent special status species proportional to the amount of rehabilitation that occurs. Plant communities dominated by undesirable invasive species or invasive juniper would be rehabilitated with plant species that would provide optimal forage and vegetative cover for livestock. This could also improve habitat conditions for sagebrush-dependent special status species to the extent that plant species used for rehabilitation provide suitable nesting and foraging habitat. Other management actions, including reduction of woody vegetation and management of big sagebrush habitat, would also increase habitat availability. Reductions in fuel loading (i.e., reduction of woody vegetation) would decrease the likelihood of catastrophic fire, which would reduce the potential loss of large portions of special species habitat.

Brush beating or disking a maximum of 75 percent of nonnative seedings with high shrub cover would be conducted to release grass species and preserve maximum production. This could increase the potential effects to special status wildlife species and their habitat from those described in Alternative C, but similar methods to minimize any effects could be implemented. Effects to sage-grouse would increase through decreased cover, as this amount exceeds that set forth in the Greater sage-grouse and Sagebrush Steppe Management Guidelines.

Plant communities that do not meet the DRC due to dominance by annual or invasive species or invasive juniper would be rehabilitated. Seed species would be those that provide for optimal forage and/or cover production. To the extent that such species do not provide suitable habitat for special status species, habitat suitability would decline.

Prescribed fire and wildland fire would be used to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plants. This would have the same effects as those described in Alternative B. Similar to Alternative A, mechanical removal of woody vegetation would be used to create structural mosaics, but under this alternative it would be used only on selected sites, thereby reducing any potential effects to special status species.

Big sagebrush habitat would be managed for the benefit of game species where present and would be managed to meet the DRC in all big sagebrush habitats throughout the Planning Area. This alternative may not meet the habitat conditions required by sagebrush-dependent special status species. Big sagebrush, quaking aspen, and western juniper habitat types would be managed where economically important wildlife would be present. Big sagebrush would be reestablished where economically important game species would be present. To the extent that these areas would be used by special status species, habitat conditions would be maintained or improved.

Noxious Weeds. Treatment for noxious weeds under this alternative would be similar to Alternative A, using integrated management. Priority would be given to high quality natural resource areas, which may provide slightly higher water resource benefits than in Alternative A, where priority would be to roads, ROWs, and recreation sites.

Fish and Wildlife. Throughout the Planning Area, approximately 5,000 acres nonnative of seedings (discussed above) and some native vegetation with low vegetative diversity in deer winter range would be interseeded to establish native and other desirable nonnative plant species. Livestock grazing would be used to suppress competition and allow sagebrush to become established. The potential effects of this management action would be similar to those described for Alternative D, but would occur on fewer acres. This management action could contribute to an increase in suitable habitat for sagebrush-dependent special status species. The habitat availability could increase to the extent that the reseeding occurs near habitat occupied by special status species or that it creates conditions that could eventually be used by special status species.

Opportunities would be identified and implemented to improve and/or restore fish and wildlife habitat through wildland fire, other vegetation manipulations, limited fence removal, water developments, and other measures. However, these improvements would also benefit livestock, which might limit their efficacy in terms of improving habitat for special status species.

Energy and Minerals. Energy and mineral development would be based on the current management framework. Only areas closed by Congressional action would be excluded from development. No special designations would be excluded from leasing or entry. Certain stipulations could be applied by an ID team prior to leasing. Potential effects of such activities would be the same as those described for Alternative A. Due to the emphasis on commodity production and fewer closed locations, the likelihood of such effects occurring would be much greater under this alternative than all other alternatives.

Wild Horses and Burros. Under this alternative, the South Steens HMA would be expanded to include some areas such as Alvord Peak, where wild horses were removed in the late 1970s. One reason for this removal was the conflict of managing wild horses in bighorn sheep habitat. Returning wild horses to areas inhabited by bighorns could reduce the

habitat available for bighorn sheep. Wild horses could also affect riparian resources and sagebrush steppe habitat that would be used by several special status species migratory birds. If Alternative E's emphasis on livestock grazing authorization resulted in increased use in HMAs, then long-term trends toward a decline in rangeland condition could occur if monitoring would not rigorously adhered to, and any needed adjustments in AMLs would not be implemented. Such a situation could degrade suitable habitat conditions for special status species.

Grazing Management. Livestock grazing opportunities would be maximized under this alternative. The increased emphasis on livestock grazing would more likely cause some of the potential effects described in Alternatives A and B. Although S&Gs would be used to guide management, this alternative does not provide for the emphasis on other resource objectives in allotment planning as do other alternatives. Depending on where the increased use occurred, some decline in habitat suitability for special status species could occur if the increased use resulted in a decline in rangeland conditions.

Wildland Fire Management. All wildland fires would be suppressed using appropriate management actions. The effects of this management action would be the same as those described under Alternative A. Rehabilitation of all burned areas with a mixture of native and introduced plant species would be used to provide maximum economic production. Following rehabilitation, an increase in the extent of introduced plants compared to pre-fire conditions could result in a decline in suitable habitat for special status species. If native plants would be prevented from reestablishment within the rehabilitated areas, long-term loss of habitat suitable for special status species could occur. A plan to manage fires for resource and economic benefit would be developed. Although economic benefits would be prioritized under this alternative, other resources, such as big game winter habitat would be likely to receive a similar high priority. Suitable habitat for special status species would be provided to the degree that these species occur in the prioritized habitat types.

Lands and Realty. Acquisition of land with high commodity values would be emphasized over lands with high natural resource values. In the long term, disturbance effects to wildlife could increase if commodity uses increase. As in Alternative D, some special designations would be managed as ROW and realty use avoidance areas, reducing potential disturbances to wildlife from ROW construction and maintenance activities. Similar to alternative D, access control in sensitive resource areas would not be emphasized, potentially increasing disturbances to special status species. The feasibility of consolidating existing parallel utility ROW facilities through crucial wildlife habitat would be evaluated, but no action would be taken to consolidate the facilities. Construction of new powerline projects located near sage-grouse lek sites could alter habitat use, cause abandonment of lek sites, and increase predation rates due to the development of perch sites for raptors. No new protective withdrawals would be considered. This action, along with other management actions under this alternative, would increase the disturbance effects to special status species.

Existing effects to bighorn sheep and other resources from communications development at Buckskin Mountain would continue. Additional disturbance may occur to the sheep from human activity associated with added communications development and may be exacerbated by disorganized, inefficient development due to the absence of a communications site management plan. However, these effects to sheep by communications development would be limited by low demand for facilities, remoteness, and small population in the service area.

The absence of action to consolidate existing parallel overhead powerlines may result in continued predation from perching raptors on sage-grouse, visual intrusions, and other environmental disturbance.

Transportation and Roads. Transportation and roads would be managed for the benefit of commodity production. Road closures would be the least extensive under this alternative, and maintenance requirements would be higher. New road development would be encouraged. Under this alternative, the operation and maintenance of roads would be more likely to cause disturbance effects to special status species than would occur under the other alternatives. The extent of the disturbance would vary depending on the proximity of roads to critical habitat needed by special status species.

Off-Highway Vehicles. Management actions would maximize OHV and mechanized vehicle use with respect to all other alternatives. The potential for disturbance to special status animal species and their habitat from OHV and mechanized vehicle use would be highest under this alternative.

Recreation. Increased recreation opportunities and use would result in greater disturbances to special status animal species. To the extent that new recreational developments or dispersed recreation occurs in or near areas regularly used

by special status animal species, these species could be permanently displaced from important habitat. Overall, increased recreation use would result in greater effects to special status animal species.

4.7.2.4 Summary of Effects

Under Alternative A, habitat for sagebrush-dependent species would continue to slowly decline over time. Identification, conservation, and aggressive fire suppression activities within remaining blocks of sagebrush habitat where ecological integrity would still be high would offset this decline. Some restoration of degraded sagebrush habitat would occur, but this would not be a priority area of focus for restoration. Maintaining nonnative seedings to promote forage production would continue the declining trend in sagebrush-dependent species. The management goals would be met over the life of the Plan; however, no large increase in sagebrush-dependent species or their habitat would be expected to occur. The potential disturbance effects due to energy and minerals and recreation would be less under Alternative E, comparable to Alternative C, but greater than Alternatives B and C.

Special status species habitat would continue to improve, although recovery rates and extent of recovery would be reduced to allow for commodity uses, including livestock, transportation, and recreation. Management would continue on a case-by-case basis on a site-specific level with less consideration for watershed-scale effects.

Under Alternative B, reliance on natural processes and passive management actions could result in wildland fires that destroy a large proportion of sagebrush habitats in the Planning Area. Less extensive restoration on lands burned by wildfire could result in decreased habitat availability for sagebrush-dependent species. The management goal for this objective would not be met under this alternative, and sagebrush-dependent species would decline at a greater rate than under Alternative A. The potential disturbance effects due to energy and minerals and recreation would be less under Alternative B compared to all other alternatives.

Under Alternative C, remaining blocks of sagebrush where ecological integrity would still be high would be closely monitored and conserved. Restoration priorities would be given to those areas of sagebrush that would be in moderate to low ecological condition. Active restoration would move areas in moderate and poor condition toward higher ecological integrity and offset the declining trend. Close monitoring of grazing activities to allow enough residual grasses to remain onsite would offset any declining trends. Sagebrush-dependent species would be expected to increase over the life of the Plan at a moderate rate. Alternative C would meet the management goal faster than all other alternatives. The potential disturbance effects due to energy and minerals and recreation would be less than Alternatives A, D, and E. Recovery rates would be faster than what would occur under all other alternatives, which would result in better special status wildlife species habitat conditions. Consideration of watershed-scale effects would result in more stable conditions. Emphasis on protection and restoration of natural values would achieve the management goal for special status species.

Under Alternative D, effects would be similar to Alternative C. While restoration of sagebrush would still be a priority, it would be achieved at a slower rate compared to Alternative C. Recovery rates for other habitat types would require more time and would be slower than Alternative C. However, the management goal would be met under this alternative. The potential disturbance effects due to energy and minerals and recreation would be less than Alternatives A and E, comparable to Alternative C, but greater than Alternative B.

Under Alternative E, effects would be similar to Alternative A. However, increased emphasis on commodity production would reduce benefits to sagebrush habitat and sagebrush dependent species. Restoration would be focused in commodity production areas. Commodity production areas would receive fire suppression priorities over other resources. Sagebrush-dependent species would continue to decline over the life of the plan. The management goal for this objective would not be met within the life of the plan. The potential disturbance effects due to energy and minerals and recreation would be greatest under Alternative B compared to all other alternatives.

4.7.2.5 Cumulative Effects

Historically, cumulative effects to sagebrush habitat from overgrazing and fire suppression have contributed to a decline in sagebrush habitat conditions for special status species. In addition, the invasion of exotic species such as cheatgrass, has led to a reduction in understory grasses and forbs and has left much of the remaining big sagebrush habitat in moderate to low ecological condition. Without major investments in restoration, these cumulative effects would continue to keep most big sagebrush habitats in poor condition. Alternatives that support active management and restoration would increase habitat for sagebrush-dependent species.

4.7.3 Fish

4.7.3.1 Goals and Objectives

Goal 1 - Maintain, restore, or improve special status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings.

Objective 1. Conserve special status animal species and the ecosystems on which they depend.

4.7.3.2 Assumptions

Pursuant to the ESA, the BLM would continue to consult with the USFWS on any actions that may affect federally protected species or designated critical habitat. Interagency consultation would promote management actions that would not jeopardize the continue existence of federally threatened or endangered species, and that would minimize or avoid adverse effects of management actions on these species.

Conservation of special status fish species on public lands would be associated with aquatic habitat. Maintenance, restoration, or improvement of habitat would primarily be addressed through management of water and riparian vegetation resources. Salmonid and resident fish habitat would be a designated beneficial use in the Planning Area and would be subject to water quality criteria established by the state. WQRPs would be developed and implemented to restore water quality specific elements of fish habitat, such as water temperature.

As a result of the Steens Act, the public lands within Borax Lake chub designated critical habitat have been withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. This action eliminated the threat of geothermal energy development on public lands surrounding Borax Lake, a primary issue that prompted listing of the Borax Lake chub as endangered and designated critical habitat pursuant to the ESA.

The majority of public land stream miles that provide habitat for redband trout, Catlow tui chub, and Malheur mottled sculpin would be within the Steens Mountain Wilderness. Many of these streams would be also designated segments of the WSR system that recognizes fish habitat as an ORV and regulates management to protect and enhance fish habitat.

The Lahontan cutthroat trout would be listed as threatened under the ESA. The development of WQRPs for the streams occupied by this species would identify activities in these watersheds to maintain or restore water quality that supports Lahontan cutthroat trout habitat.

Analysis of Alternatives

4.7.3.2.1 Effects Common to All Alternatives

Direct Effects

Fish and wildlife habitat monitoring would be coordinated with other responsible agencies and cooperators. Monitoring would help to promote management of special status species habitat and populations for conservation and/or recovery by providing information for adaptive management decisions.

Indirect Effects

Off-Highway Vehicles. For OHV and mechanized vehicle use in the Borax Lake ACEC/area, closing or limiting to existing or designated roads and ways the Borax Lake ACEC/area would protect special status species (Borax chub) habitat.

4.7.3.2.2 Alternative A

Direct Effects

Special status species habitat would be managed for conservation and/or recovery. Where special status species habitat occurs in wilderness, WSRs, ACECs, or would be covered by biological opinions of the USFWS, recovery plans, or conservation agreements, additional management actions may not be required or may be minimal. For areas not included in the above description, additional management actions may be developed and implemented through activity plans, such as modification of grazing or recreation management, or restrictions on vehicle access. This management action would promote viable populations of special status fish, and may preclude future listings.

Indirect Effects

Potential indirect effects to special status aquatic species resulting from management actions in other resources would be described for this alternative in the water resources, and fish and aquatic habitat sections of this document. These effects include fine sediment delivered to streams, which could result from the following: 1) decreases in riparian vegetation density and coverage, or from soil compaction; 2) increases in stream temperature due to decreased riparian vegetation; or 3) reduction in physical habitat or habitat complexity due to direct disturbance and resulting streambank instability. However, under this alternative, the management action described above to conserve and/or recover special status species and habitat would promote management actions to conserve or restore habitat.

4.7.3.2.3 Alternative B

Direct Effects

Except for critical habitat, natural processes would be allowed to define special status species habitat. Where habitat for special status species would be degraded, this management may not promote conservation and/or recovery. Erosion may continue, and noxious weeds may spread, both of which lead to increased sedimentation and reduce available habitat. In other areas, natural processes should provide for maintenance or continued improvement of habitat conditions, although improvements may be slower than in alternatives where active restoration occurs.

The Borax Lake chub would likely be eligible for down-listing to "threatened" or delisted from the ESA as a result of permanent protection from threats identified in the Recovery Plan for the Borax Lake Chub.

Indirect Effects

As described in Alternative A, potential indirect effects to special status aquatic species resulting from management actions in other resources for this alternative would be described in the water resources and fish and aquatic habitat sections of this document. Although the potential for indirect effects to special status species does exist, the effects would be limited in scope and nature, resulting from exclusion of commodity production in the AMU and the emphasis on maximizing natural processes within the CMPA.

4.7.3.2.4 Alternative C

Direct Effects

As in Alternative A, special status species habitat would be managed for conservation and/or recovery, with the same effects.

As in Alternative B, permanent protection of designated critical habitat for the Borax Lake chub would be pursued through purchase or conservation easements, with the same effects.

Indirect Effects

As described in Alternative A, potential indirect effects to special status aquatic species resulting from management actions in other resources for this alternative would be described in the water resources and fish and aquatic habitat sections of this document.

4.7.3.2.5 Alternative D

Direct Effects

As in Alternative A, special status species habitat would be managed for conservation and/or recovery, with the same effects.

Permanent protection of designated critical habitat for the Borax Lake chub would be pursued through purchase or conservation easements, but activities that could affect critical habitat would be managed to avoid or minimize effects. This action would likely promote the protection of the species and designated habitat in the event that TNC wished to dispose of the property.

Indirect Effects

As described in Alternative A, potential indirect effects to special status aquatic species resulting from management actions in other resources for this alternative would be described in the water resources and fish and aquatic habitat sections of this document.

4.7.3.2.6 Alternative E

Direct Effects

Special status species habitat would be managed with an emphasis on game species. For most special status species, this would have the same effects as under Alternative A. For Malheur sculpin, which occur with redband trout throughout their range, management for redband trout would also benefit the sculpin. Alvord chub, however, may occur in habitats that do not contain game fish. In these cases, the emphasis on game species under this alternative may not provide the same level of conservation for these species.

As in Alternative A, current management of designated critical habitat for the Borax Lake chub would continue, with the same effects.

Indirect Effects

As described in Alternative A, potential indirect effects to special status aquatic species resulting from management actions in other resources for this alternative would be described in the water resources and fish and aquatic habitat sections of this document.

The one exception to this would be the addition of the Dry Creek and Big Springs pastures in the Fish Creek-Big Indian Allotment, and the Carlson Creek Allotment, Serrano Point Allotment, and Bone Creek and Miners Field pastures of the Alvord Peak Allotment that would return wild horses to areas where they have not been since the 1970s. This area includes Bone Creek which is habitat for the Alvord chub, a special status species. Returning wild horses to this area could potentially affect chub habitat and population by affecting water quality and riparian resources such as stream temperature, bank stability, vegetative diversity, cover and density. Since fencing at the north end of the Serrano Point Allotment would not be sufficient to stop horse movements, wild horses could potentially reach streams to the north along the east side of Steens Mountain that contain Lahontan cutthroat trout, which are federally listed as Threatened. The same effects as described for Alvord chub habitat could occur if horses reach streams containing Lahontan cutthroat trout.

4.7.3.3 Summary of Effects

Under all alternatives, special status species habitat would be managed to conserve and/or recover these species and their habitat, reducing potential indirect effects. Indirect effects would be further reduced under Alternative B primarily because many management actions with the potential to affect special status species and their habitat (e.g., livestock grazing) would not occur in the AMU. However, active restoration of special status species habitat or populations may not occur under Alternative B, which may restrict the potential to restore or conserve populations and habitat in some areas that would be currently disturbed. Indirect effects would be greatest under Alternative E due to the emphasis on commodity production and reduced emphasis on nongame species. Although Alternative E would emphasize commodity production and public uses, BMPs would be developed and implemented to minimize direct and indirect effects to special status species and their habitat. For example, riparian exclusion may be implemented where timing or intensity of grazing to promote commodity production can be assumed to fail to meet riparian vegetation and/or water quality objectives.

4.7.3.4 Cumulative Effects

The cumulative effects of management actions on special status aquatic species would be reduced under Alternative B, since many management actions having the potential to affect these species (e.g., livestock grazing or energy and mineral development) would be substantially reduced or eliminated. Cumulative effects would also be reduced under Alternative C, which has an overall emphasis of protecting and restoring habitat. Although management actions in other resources that have the potential to affect special status species would occur under Alternatives A and D, the potential for cumulative effects would be reduced through an emphasis on conservation and/or recovery of special status species and habitat. Conceptually, the potential for cumulative effects would be greatest under Alternative E, since many of the management actions emphasized to promote commodity production and public uses could contribute to cumulative effects. However, potential effects would be minimized or mitigated through application of BMPs.

4.7.4 Redband Trout Reserve

4.7.4.1 Goals and Objectives

Goal 1 - Manage the RTR to conserve, protect and enhance the Donner und Blitzen population of redband trout, and provide opportunities for scientific research, environmental education, and fish and wildlife-oriented recreation.

Objective 1. Define the RTR boundary.

Objective 2. Maintain genetic integrity of redband trout in the RTR.

Objective 3. Increase the distribution and abundance of redband trout in the RTR through natural production.

4.7.4.2 Assumptions

The intent of designating the RTR was to emphasize protection of the Donner und Blitzen River and riparian ecosystem, and the redband trout that depend on this system. Under any of the alternatives for designating the limits of the RTR, according to the description provided in the Steens Act, all of the RTR would be within the Steens Mountain Wilderness and/or designated WSR segments, and precluded from livestock grazing. Management requirements of the Steens Mountain Wilderness and WSR designation include "non-degradation" and "protect and enhance ORVs", respectively. The ORVs include fish habitat and riparian vegetation. The interrelated nature of riparian condition to channel stability and complexity, and subsequently aquatic habitat, would facilitate maintaining or restoring fish and aquatic habitat within these areas regardless of resource-specific management actions. Also, most of the streams within the RTR would be currently on the 303(d) list for summer stream temperature. The development of WQRPs may further define site/reach specific management and monitoring objectives.

The ODFW retains jurisdiction over the management of fish populations. Under the ODFW's Native Fish Conservation Policy, the conservation of naturally produced (i.e., non-hatchery) native fish species in the areas to which they are indigenous is the ODFW's principal obligation for fish management. Two objectives of the policy would be to restore and maintain sustainable naturally produced fish species in their natural environments, and to provide recreational, commercial, cultural, and aesthetic benefits of optimum native fish populations to present and future citizens. The Policy further states that hatcheries would be used responsibly to help achieve the goals of this policy, and that the ODFW would manage nonnative fish and hatchery based fisheries to optimize user benefits, consistent with conservation of naturally produced native fish species. The BLM would coordinate with the ODFW on the management of redband trout and other aquatic species and their habitat in the RTR, and formulate recommendations regarding species management in accordance with selected alternatives of this RMP.

Opportunities for scientific research the environmental education would be developed, analyzed, and implemented through consultation with the ODFW, SMAC, and USFWS on a case-by-case basis.

4.7.4.3 Analysis of Alternatives

4.7.4.3.1 Effects Common to All Alternatives

Direct Effects

There would be no direct effects common to all alternatives.

Indirect Effects

There would be no indirect effects common to all alternatives.

4.7.4.3.2 Alternative A

Direct Effects

The boundaries of the RTR would be delineated independent of this RMP through coordination among the BLM, ODFW and SMAC

Riparian and aquatic habitats would be managed to maintain or progress toward PFC, water quality standards, and fish habitat values through existing management. Management for PFC in the context of wilderness and WSR designation would allow for ecological progression of riparian vegetation that would promote increased fish habitat values such as cover, instream complexity, woody debris, and substrate condition. The RTR would be managed in accordance with the Wilderness Act and the WSR Act, as appropriate. This may preclude some restoration activities for fish that require motorized transport, heavy equipment, or specialized materials.

The Page Springs gauging station weir would be removed if scientifically feasible and funds would be available. The existing weir has some effect on the ability of redband trout to migrate upstream and downstream, although the extent of this effect would be unknown. If the weir substantially impedes migration, this alternative may limit redband trout population expansion or abundance, particularly fluvial and adfluvial forms, which migrate for spawning. Also, nonnative fish such as carp and sunfish would be found in the mainstem of the Donner und Blitzen downstream of the weir. These fish likely compete with redband trout for food and physical habitat, and prey upon juvenile redband trout. The weir may limit migration of these fish upstream, although the effect of the weir on migration of nonnative fish would be unknown. If the weir substantially impedes the migration of nonnative fish, competition and predation with redband trout upstream of the weir would be reduced. Therefore, complete removal may increase the opportunity for nonnative fish to migrate into the RTR, and increase the effects of competition and predation on redband trout and other native aquatic species.

Indirect Effects

Wild Horses and Burros. Current AMLs and wild horse forage allocation levels would be maintained in all HMAs. Permanent increases or decreases in AML and forage allocations would not be considered. Concentration of wild horses or burros in riparian areas could result in decreased riparian vegetation density and cover, thereby reducing instream cover and shade. If upland forage or water availability decreased greatly, such as through extensive wildfire or drought, increased utilization and concentration of riparian areas could result in reduction of riparian vegetation density, leading to reduced aquatic cover, shade, and/or streambank stability.

Current water sources would be maintained. If properly sited and maintained, these water sources could reduce wild horse and burro concentration and use in riparian areas, thereby reducing streambank disturbance and increasing riparian vegetation coverage and density. This in turn would increase shade on the stream, cover, and habitat complexity. In some cases, the development of water sources may affect wetland habitat through diversion of water. However, additional water sources would not be developed under this alternative.

Recreation. Increased recreation use could result in increased localized disturbance to riparian and wetland vegetation and increased soil compaction, which would reduce aquatic habitat cover and shade. Increased recreation use could also result in greater fishing pressure, requiring more restrictive angling regulations to conserve redband trout. Intensive management could provide greater protection for resources such as aquatic habitat and fisheries through more immediate identification and resolution of conflicts between recreation and other resources.

River use would be allowed only when the lowest gate on the South Steens Loop would be open. Recreational river use may affect fisheries through disturbance of spawning fish or redds. Also, increased recreation use of the river could result in localized disturbance to riparian vegetation, which would reduce aquatic habitat cover and shade. However, the mandate to protect WSR ORVs should minimize effects to redband trout spawning.

4.7.4.3.3 Alternative B

Direct Effects

Under this alternative, the RTR would consist of public lands on the Donner und Blitzen River and its tributaries upstream of the confluence with Fish Creek to the longitudinal extent of current and future redband trout distribution. The migratory and spawning patterns of redband trout in the Donner und Blitzen system would not be well understood. Fish in the mainstem may spawn in tributaries, or the tributaries may contain populations that would be relatively distinct from the mainstem population. This alternative would include all potential habitat and potential populations, and would maximize conservation and protection for Donner und Blitzen redband trout.

Riparian and aquatic habitats would be managed for an advanced ecological status, which may promote increased fish habitat values such as cover, instream complexity, woody debris, or substrate condition. As in Alternative A, the RTR would be managed in accordance with the Wilderness Act and the WSR Act, as appropriate. This may preclude some restoration activities for fish that require motorized transport, heavy equipment, or specialized materials.

In coordination with appropriate entities, alternatives would be developed for the removal or modification of the Page Springs gauging weir. As previously noted, the weir may affect the ability of redband trout to migrate upstream and downstream, although the extent of this effect would be unknown; the weir may possibly have limited effects on the redband trout population. Also unknown would be the effect of the weir on migration and distribution of nonnative fish that may compete with redband trout. Complete weir removal may increase nonnative competition with redband trout upstream of the weir. A partial removal or structural modification of the weir, such as notching and/or a constructed fishway, may provide for improved redband trout migration while still protecting against passage of nonnative fishes upstream. Further, by restricting the range of nonnative fish, keeping the weir in place may be more beneficial to redband trout than removing it. A detailed site assessment and analysis would be necessary to address these issues, and to ascertain that any action taken would provide overall benefits for the redband trout. Therefore, this action retains the option of no modification if analysis indicates greater benefit to the redband trout population. Coordination with other appropriate agencies under this alternative would promote such an analysis.

Indirect Effects

Wild Horses and Burros. As in Alternative A, current AMLs and wild horse forage allocation levels would be maintained in all HMAs. However, permanent increases or decreases in AMLs and forage allocations would be considered if forage availability changed greatly. Concentration of wild horses or burros in riparian areas could result in decreased riparian vegetation density and cover, reducing instream cover and shade. Adjustments in AML and forage allocations would reduce the risk of increased utilization by wild horses and burros if forage availability changed, thereby reducing the possibility of decreased riparian vegetation coverage and density, and the resulting reduction in shade and aquatic habitat cover and complexity. As in Alternative A, current water sources would be maintained, with the same effects. However, additional water sources would be developed to improve animal distribution. If properly sited and maintained, these water sources could reduce wild horse and burro concentration and use in riparian areas, thereby reducing streambank disturbance and increasing riparian vegetation coverage and density. This in turn would increase cover, habitat complexity, and shade on the stream. In some cases, the development of water sources may affect wetland habitat through diversion of water.

Recreation. The CMPA, including the RTR, would not be designated as an SRMA. Minimal recreation development and management could reduce recreation use of the RTR. Reduced recreation use could reduce localized disturbance to riparian and wetland vegetation, thereby increasing aquatic habitat cover and shade. Reduced recreation use could also result in less fishing pressure and resulting effects on redband trout. Less intensive recreation management may provide less protection for resources such as aquatic habitat and fisheries, as conflicts between recreation and resources may be less likely to be identified and resolved.

No recreational river use would be allowed. The potential effects of river use, including disturbance of spawning fish or redds, would not occur. Also, disturbance to riparian vegetation recreation use on the river would not occur.

4.7.4.3.4 Alternative C

Direct Effects

As in Alternative B, the RTR would consist of public lands on the Donner und Blitzen River and its tributaries upstream of the confluence with Fish Creek to the longitudinal extent of current and future redband trout distribution, with the same effects.

As in Alternative B, riparian and aquatic habitats would be managed for an advanced ecological status, with the same effects. As in all Alternatives, the RTR would be managed in accordance with the Wilderness Act and the WSR Act, with the same effects.

As in Alternative B, coordination would occur with appropriate entities on removal or modification of the Page Springs gauging weir, with the same effects.

Indirect Effects

Wild Horses and Burros. As in Alternative B, current AMLs and wild horse forage allocation levels would be maintained in all HMAs; adjustments to forage allocations would be considered if forage availability changed greatly, with the same effects.

As in Alternative B, current water sources would be maintained, and additional water sources would be developed to improve animal distribution, with the same effects.

Recreation. The effects would be the same as Alternative A.

4.7.4.3.5 Alternative D

Direct Effects

As in Alternative B and C, the RTR would consist of public lands on the Donner und Blitzen River and its tributaries upstream of the confluence with Fish Creek to the longitudinal extent of current and future redband trout distribution, with the same effects.

Riparian and aquatic habitats would be managed for a diversity of fish habitat values. Assuming that fish habitat objectives would be similar to those in Alternative C, effects would be similar to Alternative C. As in all Alternatives, the RTR would be managed in accordance with the Wilderness Act and the WSR Act, with the same effects.

As in Alternative B and C, coordination would occur with appropriate entities on removal or modification of the Page Springs gauging weir, with the same effects.

Indirect Effects

Wild Horses and Burros. As in Alternatives B and C, current AMLs and wild horse forage allocation levels would be maintained in all HMAs; adjustments to forage allocations would be considered if forage availability changed greatly, with the same effects.

As in Alternative B and C, current water sources would be maintained, and additional water sources would be developed to improve animal distribution, with the same effects.

Recreation. The effects would be the same as Alternative A.

As in Alternative A and C, recreational river use would be allowed only when the lowest gate on the South Steens Loop Road would be open, with the same effects.

4.7.4.3.6 Alternative E

Direct Effects

Under this alternative, the RTR would consist of public lands on the mainstem Donner und Blitzen River upstream of the confluence with Fish Creek. Tributaries with known populations of redband trout would not be included. As previously noted, the migratory and spawning patterns of redband trout in the Donner und Blitzen River system would not be well understood. Fish in the mainstem may spawn in tributaries, or the tributaries may contain populations that would be relatively distinct from the mainstem population. This alternative would potentially eliminate some redband trout populations or spawning areas from the RTR, potentially reducing the emphasis on assessment, protection, and conservation.

As in Alternative D, riparian and aquatic habitats would be managed for a diversity of fish habitat values, with the same effects. As in all Alternatives, the RTR would be managed in accordance with the Wilderness Act and the WSR Act, with the same effects.

As in Alternatives B, C, and D, coordination would occur with appropriate entities on removal or modification of the Page Springs gauging weir, with the same effects.

Indirect Effects

Wild Horses and Burros. As in Alternatives B, C and D, current AMLs and wild horse forage allocation levels would be maintained in all HMAs; adjustments to forage allocations would be considered if forage availability changed greatly, with the same effects.

As in Alternatives B, C and D, current water sources would be maintained, and additional water sources would be developed to improve animal distribution, with the same effects.

Recreation. The effects of SRMA designation would be the same as Alternative A. A river access system would be implemented to manage recreational river use, with no limits on the number of users. Recreational river use may affect Donner und Blitzen River redband trout through disturbance of spawning fish or redds. Also, increased recreation use of the river could result in localized disturbance to riparian vegetation, thereby reducing aquatic habitat cover and shade. If recreational use increases considerably in the future, with no restrictions on the number of users, these effects may not allow for the protection and enhancement of WSR ORVs.

4.7.4.4 Summary of Effects

The RTR would be within lands managed as wilderness and WSRs, and would be in the No Livestock Grazing Area. Management of wilderness requires nondegradation of resource values, and management of WSRs requires protection and enhancement of ORVs, which include the redband trout habitat. These management requirements promote maintenance or restoration of aquatic habitat values under any of the alternatives.

Recreational use in the RTR, and use of riparian areas by wild horses and burros, would vary among the alternatives. With the assumption that ORVs would be protected under any of the alternatives, aquatic habitat values would be maintained or restored under any of the alternatives. However, unlimited recreational use of the river under Alternative E, with no limits on the number of users, could potentially affect ORVs and redband trout if recreational use increases considerably, through disturbance of spawning fish or redds. Also, under Alternative A, wild horse and burro AMLs would not be adjusted to reflect changes in forage availability. If forage were substantially reduced in the RTR through fire or drought, riparian utilization by wild horses and burros could increase substantially, which may affect redband trout habitat.

Protection of genetic integrity of redband trout varies among the alternatives. Under Alternatives A and E, continued stocking of hatchery rainbow trout would occur without an emphasis on a detailed assessment of the potential genetic

effects of stocking. This may lead to interbreeding and loss of genetic integrity in the redband trout population. However, Alternative E provides for mitigation based on assessment. Alternatives B, C, and D would emphasize an assessment of the potential effects of stocking. Although ODFW management direction would be to conserve native fish, an emphasis on assessment would likely provide additional protection of redband trout genetic integrity.

The potential genetic effects of stocking would be mitigated in different ways among the alternatives. Alternative A provides no specific mechanisms for mitigation. Alternative B would eliminate many of the potential effects of interbreeding with hatchery fish by eliminating stocking in BLM reservoirs, though stocking of rainbow may still occur in other lakes and reservoirs. Alternatives C and D would promote the development of strains of redband trout to be used in local facilities or hatcheries. If these strains were developed, the risk of reducing the genetic integrity of redband trout would be minimized or eliminated. Under Alternative E, mitigation measures to protect genetic integrity while promoting public uses would be developed.

4.7.4.5 Cumulative Effects

Due to the management of the RTR for both wilderness and WSR values within the No Livestock Grazing Area, potential adverse effects would be limited to those related to recreation. Increased recreational use of the RTR may result in extensive trails systems, or many dispersed campsites, with disturbance to riparian vegetation and soils. Fishing pressure may also increase to a greater degree. However, WSR management would require protection of ORVs, and limits on recreational access may be required if disturbance to riparian areas affected redband trout or their habitat. The distribution and abundance of Donner und Blitzen River redband trout would be expected to increase through ongoing maintenance and/or improvement of riparian and aquatic habitat.

4.8 Paleontological Resources

4.8.1 Goals and Objectives

Goal 1 - Preserve, protect and manage vertebrate, noteworthy invertebrate and plant paleontological resources in accordance with existing laws and regulations to make these resources available for appropriate uses by present and future generations.

Objective 1. Using predictive modeling, locate significant localities that may be in conflict with other resource uses.

Objective 2. Research significant paleontological localities in cooperation with universities and other federal agencies.

Objective 3. Protect significant paleontological localities.

Goal 2 - Increase public knowledge of, appreciation for, and sensitivity to paleontological resources.

Objective 1: Create paleontology interpretive opportunities for public education.

4.8.2 Assumptions

Paleontological resources consist of vertebrate fossils and their geologic settings. Noteworthy plant and invertebrate fossils would also be included.

Many of the other resource management objectives and associated management actions outlined in Chapter 4 could affect any or all paleontological resources. Most of these effects could be mitigated by first discovering the localities in question through project inventory and then by project re-design or various scientific data recovery methods such as recordation, surface collection, subsurface testing, or excavation. The FLPMA and NEPA provide the legal basis for this inventory and mitigation process. Even with adherence to these acts, inadvertent loss of paleontological resources could and does occur. Protection of paleontological localities through law enforcement surveillance and other protective measures would occur under all alternatives.

Effects of other public land uses such as livestock grazing, wild horse grazing, dispersed recreation, and OHV use either go unnoticed or the activity would not be considered an undertaking, per se, and would not inventoried. These effects

would often be mitigated on a case-by-case basis as they would be discovered. Since not all fossil localities in the Planning Area would be known, the different management actions that could indirectly effect paleontological resources can be analyzed only by estimation.

4.8.3 Analysis of Alternatives

Direct Effects

4.8.3.1 Alternative A

Under Alternative B, a predictive model to locate paleontological localities that could be in conflict with other resource uses would be implemented only areas of intensive recreation use in the entire Planning Area, and livestock use areas within the Steens CMPA. The associated sample inventory to test the model and find localities would be implemented only in these target areas. Indirect effects to paleontological resources by other resource uses would be mitigated on a case-by-case basis. Paleontological research would be limited in scope. This type of research could include surface collection of fossils, cumulative surface ground disturbance of up to 20 square meters, and deeper excavation blocks of up to ten square meters. On-site interpretation and interpretive facilities construction would not be implemented, and only off-site, interpretative displays and other products would be created.

4.8.3.2 Alternative B

Under Alternative B, a predictive model to locate paleontological localities that could be in conflict with other resource uses would be implemented only in areas of intensive recreation use in the entire Planning Area, and livestock use areas within the Steens CMPA. The associated sample inventory to test the model and find localities would be implemented only in these target areas. Indirect effects to paleontological resources by other resource uses would be mitigated on a case-by-case basis. Paleontological research would be limited in scope. This type of research could include surface collection of fossils, cumulative surface ground disturbance of up to 20 square meters, and deeper excavation blocks of up to ten square meters. On-site interpretation and interpretive facilities construction would not be implemented, and only off-site, interpretative displays and other products would be created.

4.8.3.3 Alternative C

Under Alternative C, a predictive model to locate paleontological localities that could be in conflict with other resource uses would be created for the entire Planning Area. Indirect effects by other resource uses could be predicted throughout the Planning Area, and a sample inventory to test the model and locate fossil localities would be implemented in a programmatic fashion. Paleontological research would be focused on areas where conflicts with other resource uses occur under this alternative. This type of research could include surface collection of fossils, cumulative surface ground disturbance of up to 100 square meters, and deeper excavation blocks of up to 50 square meters. Protection of paleontological localities through law enforcement surveillance and other protective measures would occur. Off-site interpretive facilities would be constructed and self-guided walking tour brochures would be created. This interpretation program could result in construction of road pull-outs, kiosks or sign bases, and placement of interpretive signs at various locations in the Planning Area.

4.8.3.4 Alternative D

Under Alternative D, a predictive model to locate paleontological localities that could be in conflict with other resource uses would be created for the entire Planning Area. Indirect effects by other resource uses could be predicted throughout the Planning Area and a sample inventory to test the model and locate fossil localities would be implemented in a programmatic fashion. Paleontological research would be focused on areas where conflicts with other resource uses occur under this alternative. This type of research could include surface collection of fossils, cumulative surface ground disturbance of up to 200 square meters, and deeper excavation blocks of up to 100 square meters. Protection of paleontological localities through law enforcement surveillance and other protective measures would occur. Off-site interpretive facilities would be constructed and self-guided walking tour brochures would be created. This interpretation program could result in construction of road pull-outs, kiosks or sign bases, and placement of interpretive signs at various locations in the Planning Area.

4.8.3.5 Alternative E

Under Alternative E, a predictive model to locate paleontological localities that could be in conflict with other resource uses would be created for the entire Planning Area. Indirect effects by other resource uses could be predicted throughout the Planning Area and a sample inventory to test the model and locate fossil localities would be implemented in a programmatic fashion. Sample inventories would be increased to account for increased commodity uses. Paleontological research would be conducted in all known localities in the Planning Area. This type of research could include surface collection of fossils, cumulative surface ground disturbance of greater than 400 square meters, and deeper excavation blocks of greater than 200 square meters to support increased natural history tourism. Protection of paleontological localities through law enforcement surveillance and other protective measures would occur. On-site and off-site interpretive facilities would be constructed and self-guided walking tour brochures would be created in order to support increased natural history tourism. This interpretation program could result in construction of road pull-outs, kiosks or sign bases, and placement of interpretive signs at various locations in the Planning Area.

4.8.3.5.1 Indirect Effects Common to All Alternatives

The management of the following resources or uses could indirectly affect cultural and paleontological resources. All could affect cultural resources under all alternatives. Effects vary in magnitude across the alternatives.

Water Resources, Riparian/Wetland, Fish and Special Status Fish Habitat. Water resources, riparian/wetland, fish habitat and special status fish species habitat management tend to be intertwined and could affect paleontological resources. Most management actions associated with these water and related resources would be focused on protection or restoration of riparian corridors. One potential indirect effect caused by increased protection of riparian or wetland areas through physical barriers or decreased use would be the potential increased use in the uplands. Paleontological resources in upland areas that previously received little or no livestock use could be subjected to livestock trampling and trailing effects in certain locations under a more upland-focused grazing system.

Management actions under Alternatives A, C, and D would generally provide similar levels of protection to paleontological resources because livestock grazing intensity would be approximately the same in these three alternatives. Water resources and related projects in these three alternatives could indirectly effect paleontological resources in upland areas because grazing intensity would increase in these areas. Alternative E would probably see the most active water resources management because of the focus on commodity extraction. This alternative could result in the greatest effects to paleontological resources, particularly in upland areas when the riparian areas would be closed to livestock and wild horse grazing.

Special Status Animal Species Habitat, Rangelands Vegetation, and Noxious Weeds. Special status animal species habitat, rangeland vegetation, and noxious weed management projects would be focused on manipulation of plant communities for various reasons. Most vegetation management actions could result in short-term effects on paleontological resources because of increased ground visibility and heightened potential for erosion. However, since vegetation management actions would be intended to increase vegetation cover and provide soil stability, they provide long-term protection for paleontological resources.

Vegetation management projects under Alternatives C, D, and E would probably result in the most acres of changed plant communities and provide the greatest long-term protection to paleontological resources. Alternative B would result in the least number of acres converted and provide the least protection for paleontological sites. Vegetation management projects under Alternative A would be fewer than in Alternatives C, D, and E but more than in Alternative B. As a result, paleontological resources would be most protected under Alternatives C, D, and E, less under Alternative A and the least under Alternative B.

Woodlands. Juniper woodland treatments can affect paleontological resources by decreasing the potential for erosion and eventually increasing ground cover. "Drop and leave" slash treatment in woodland management would be preferred to "drop and burn" treatment. When slash would be burned, ground cover would be eliminated allowing increased soil erosion. However, without some type of juniper management, many areas of sagebrush-juniper steppe would evolve into juniper woodland, resulting in erosion that increases ground visibility. This could lead to surface and subsurface damage to paleontological resources that destroys scientific data and leads to increased illegal fossil collecting.

Juniper woodland management would be the most active under Alternatives A, C, D, and E. When downed slash would not be burned or trees were girdled and burned standing, paleontological resources could be protected by active woodland management. If downed slash were burned, paleontological resources would be affected in the short term by increased soil erosion and increased ground visibility. Juniper woodland management under Alternative B would be limited because Alternative B relies on natural processes to "manage" these woodlands. This alternative could result in the greatest effects on paleontological resources because of increased ground visibility and surface erosion.

Social and Economic Values. Existing socioeconomic values would be primarily focused on consumptive use with the trend toward increasing emphasis on nonconsumptive uses. Effects on paleontological resources would be greater with consumptive than nonconsumptive use because consumptive uses would be more likely to result in ground disturbances than most nonconsumptive uses or resource management strategies. An exception to this association would be recreation use. Although such use would be nonconsumptive, dispersed recreation can result in increased illegal collection of fossils and disturbance of fossil localities.

Alternative B would be the least consumptive and affect paleontological resources the least. Alternative E, the most consumptive, would affect paleontological resources the most. Alternatives C, D, and A, intermediate between B and E, would moderately affect paleontological resources.

Energy and Minerals. In general, the fewer restrictions on the exploration and extraction of energy and mineral resources, the greater the effect on paleontological resources. The amount of time required to complete paleontological clearances and mitigate effects on localities with high potential would be variable, depending on the type of mineral and the permitting process. However, many of the effects resulting from these activities would be mitigated.

Minerals management under Alternative E would be the least restrictive and affect paleontological resources to the greatest degree. Alternative A would be the second least restrictive, with Alternatives C and D offering much greater restrictions such as NSO stipulations near significant fossil localities. Minerals management under Alternative B would be the most restrictive and affects paleontological resources the least.

Lands and Realty. Lands and realty management could affect paleontological resources, most notably loss of management from loss through land exchanges and land sales. These effects could be mitigated through adherence to the FLPMA. As with land tenure actions, the effects created by utility line construction would be mitigated. Restrictions or elimination of utility corridors can reduce effects on paleontological resources. Existing (Alternative A) land tenure management emphasis would be increasingly focused on acquiring high value lands and management easements, while utility development would be relatively static.

Acquiring high value paleontological properties and meeting paleontological resource objectives would be possible under existing management, but would be improved under Alternatives B, C, and D. Lands and realty management under Alternative E would result in the greatest effects on paleontological resources from increased land disposals and potentially greater numbers of utility corridors and the elimination of land purchases.

Wild Horses and Burros

Paleontological resources would be affected by wild horse use in a similar manner as livestock grazing. Construction of additional water developments to promote an even use of the landscape and provide for water during drought years could affect paleontological resources through increased use in the uplands. Paleontological resources in upland areas that receive little or no wild horse use could be subjected to trampling and trailing effects in certain locations under a more upland-focused livestock grazing system.

Wild horse use would be approximately the same under all the alternatives because wild horse numbers would be managed at similar levels. Impacts to paleontological resources from wild horses would therefore be the same under all alternatives.

Grazing Management. Livestock grazing use can affect paleontological localities through livestock trampling, wallowing, and trailing. Low level trampling would be probably the norm for most localities. Paleontological resources in upland areas that receive little or no wild horse use could be subjected to trampling and trailing effects in certain locations under

a more upland-focused livestock grazing system. In general, the more livestock grazing would be restricted, the fewer the effects on paleontological resources.

Livestock grazing would be limited to a portion of the CMPA under Alternative B. This alternative would dramatically decrease livestock grazing effects on paleontological resources. Alternatives A, C, and D would allow more livestock grazing than Alternative B and the resultant effects would be greater. Alternative E, maximum commodity production, would result in the greatest effects on paleontological resources. These effects could be partially offset with increased grass seedings to provide greater soil stability.

Fire Management. Wildland fire and wildland fire suppression affect paleontological resources in a number of ways. Suppression activities such as OHV use, bulldozing control lines, and occupation of fire camps can damage paleontological resources through sediment compaction and altered surface water drainage. Wildfire removes ground cover and exposes rock and soil to erosion, subjecting paleontological localities to damage from wind and water erosion and illegal collecting. In general, even though suppression can damage paleontological resources in specific ways, well planned suppression would be preferable to allowing wildfires to burn unchecked. The resultant erosion, in particular, can result in damage to localities.

Wildfire suppression would be most active under Alternatives A, C, D, and E. Impacts to paleontological localities from wildland fire and suppression would be at similar levels under these alternatives. Under Alternative B, wildland fire suppression would be limited and fires would be allowed to burn larger areas than under any of the other alternatives. This emphasis on naturalness would affect paleontological resources to a greater extent than any of the other alternatives. Increased erosion would occur where greater amounts of burned acreage create larger exposures of surface rock and soil, subjecting paleontological localities to damage from wind and water erosion and the possibility of illegal fossil collecting.

Prescribed burning can affect paleontological resources by increasing short-term ground surface visibility and, potentially, surface runoff and erosion. This greater visibility makes fossils more accessible and can lead to increased illegal collection. These short-term effects would be mitigated through prior paleontological inventory, systematic surface fossil collection and/or post-fire monitoring. After a few seasons of growth, plant cover should decrease ground visibility. Decreased visibility can affect paleontological locality through decreased potential for illegal collecting. Prescribed fire management actions would usually be planned to target a certain plant species or plant association, while preserving other portions of the plant community. Under this prescription, paleontological resources would not be substantially affected. However, if the burn plan calls for extreme heat generation to eliminate a target plant species that would be difficult to remove (e.g., juniper), paleontological resources could be affected by increased soil exposure and erosion.

Prescribed wildfire would be most active under Alternatives A, C, D, and E. Impacts to paleontological resources from prescribed wildland fire would be at similar levels under these alternatives. Prescribed burning could be limited under Alternative B. Thus, paleontological resources would be less affected by short-term ground surface visibility, exposure of surface sediments to wind and water erosion, and loss of fossils to illegal collectors.

Transportation and Roads. Road construction can expose paleontological localities and, therefore, aid in their discovery. The discovery would not be without cost as a portion of the locality would be destroyed during the construction. Roads allow access to paleontological resources. This access could result in illegal surface collection and excavation, however, open vehicular access to paleontological resources affords the BLM an opportunity for paleontological resource monitoring and management.

Alternatives that would dramatically decrease motorized access would be Alternatives B and C. Under these alternatives illegal fossil collection and excavation could likely continue at present or higher levels because vandals could ignore road closures. In addition, they might feel more secure in their illicit activities if the BLM was hampered in its monitoring efforts. Alternatives that would only slightly reduce or not reduce motorized access would be Alternatives A, D, and E. Access to public lands would allow illegal fossil collecting and excavation at present rates but would also permit greater access to law enforcement in surveillance operations.

Off-Highway Vehicles. Unrestricted OHV and mechanized use affects paleontological resources. Compaction, altered surface water drainage, and erosion would all be effects to the landscape and, by extension, to paleontological resources. Organized OHV and mechanized event locations could be cleared and any effects mitigated through adherence to the

FLPMA and NEPA; however, the effects caused by dispersed OHV and mechanized vehicle activity would not be mitigated unless they were discovered. Alternatives A and E would be the least restrictive to OHV and mechanized vehicle use within the Planning Area. Alternative D would be considerably more restrictive than Alternatives A or E, with a limited number of acres designated as open to OHV and mechanized vehicle use. Alternatives B and C offer no areas designated as open to OHV and mechanized vehicle use. Alternative B would be the most restrictive with the majority of the Planning Area designated as limited to designated roads and trails or closed to OHV and mechanized vehicle use. Alternative C designates fewer acres as closed, but still limits OHV and mechanized vehicle use in most of the Planning Area to designated roads, ways, and trails. Alternatives A and E would affect paleontological resources to the greatest degree. Alternative D would result in fewer effects than Alternatives A and E. Alternative C followed by Alternative B would result in the fewest OHV- and mechanized vehicle related effects on paleontological resources.

Recreation. Recreation development/management creates different effects to paleontological resources. A greater use of interpretive developments at developed recreation facilities could increase public awareness and education, which could potentially result in decreased illegal collecting and locality damage. Increased recreation development, on the other hand, could bring more people to the area and more visitors could mean greater illegal collection and locality damage. Developed recreation has fewer effects to paleontological resources than non-developed recreation because it concentrates people in small, predictable areas. Dispersed recreation emphasis would attract visitors to places that have not received much use in the past, therefore, this type of use would be much less predictable and measurable. Under Alternatives A and D, recreation development levels would be very low and dispersed recreation use would be gradually increasing. Under Alternatives B and C, the emphasis would be on dispersed and undeveloped recreation. Recreation use under Alternative E would likely stress developed recreation facilities in order to accommodate increased visitation. Determining which alternative would affect paleontological resources the most would be difficult. Since dispersed recreation activities would be the most difficult to monitor and control, Alternatives B and C may have the greatest effects on paleontological resources.

Areas of Critical Environmental Concern, Wilderness, and Wilderness Study Areas. With their greater emphasis on natural values, ACECs, wilderness, and WSA designations can reduce the number of effects on paleontological resources because they reduce the number of land disturbing activities in an area. The greater the number of acres designated, the fewer effects on paleontological resources.

Alternative A, with the second largest acreage devoted to ACECs, would result in fewer effects to paleontological resources than all the alternatives except Alternative C. The number of acres of either wilderness or WSAs within the Planning Area would be similar for all alternatives. Therefore, the effects on paleontological resources would be the same under all alternatives.

Wild and Scenic Rivers. WSR designations can indirectly affect paleontological resources, especially through their relationship to livestock grazing management. Placing few restrictions on grazing in the river corridors would result in effects to paleontological resource sites through trampling, trailing, and wallowing. Greater restrictions placed on grazing in the river corridors could result in concentrated livestock use at river crossings and water gaps. Total exclusion of grazing in the river corridor can focus livestock grazing effects on lightly used upland areas, resulting in increased effects on paleontological localities in the uplands. As a consequence, increased restrictions or exclusion of grazing in the WSR corridors would increase effects on paleontological resources outside the corridors, while decreasing effects within them.

Alternative C recommends more miles of river as suitable for designation as WSRs by Congress than all the other alternatives. Therefore, Alternative C would provide the fewest effects on paleontological resources because eligible river corridors would continue to be managed under more restrictive interim guidance.

4.8.4 Summary of Effects

With the exception of fire suppression and forest/woodland management, Alternative B would result in the fewest effects on paleontological resources of all the alternatives. With extremely limited suppression efforts and few allowances for prescribed fire, no provision would be made for locating or protecting localities that could be affected by wildfire. Fuels reduction would be relegated to natural forces, resulting in more intense fires of longer duration. This type of fire would damage paleontological resources through increased soil exposure and erosion. Increased erosion and ground visibility in unmanaged juniper woodlands could result in increased effects on paleontological resources.

Alternative E would be the least restrictive of all the alternatives and would result in the greatest level of effects on paleontological resources. An analysis of the remaining alternatives shows that the next lower level of effects would occur under Alternative A, followed in order by Alternatives D and C. This order would be based on the increased emphasis on natural values and decreased commodity use.

4.8.5 Cumulative Effects

Since most paleontological resources would be location specific, fragile, and nonrenewable, direct and indirect effects would be, by nature, cumulative. A paleontological site can be subjected to grazing pressure, OHV use, and illegal collecting. Each instance of degradation reduces the capacity for that paleontological locality to answer questions about prehistoric animals, plants, and environments; eventually the locality may be totally destroyed in terms of information potential.

A recurring issue seen repeatedly within different, though related, resources would be the issue of livestock grazing in riparian corridors. Water resources, fish and wildlife, and their respective habitats, rangeland/grazing use, and WSR management all focus either partially or fully on riparian corridor management. Cumulative effects on paleontological resources would be reduced when livestock grazing would be restricted or excluded in these areas, since some paleontological localities occur near riparian areas. The potential to increase effects on paleontological resources in upland areas when grazing in the riparian areas would be restricted or discontinued could also increase cumulative effects. This increase in effects would be likely to be widespread and to go unnoticed even if all other resource objectives would be met. Effects that would be unnoticed could not be mitigated.

Paleontological resources fare best when the uses of public lands would be restricted to those that cause the least ground disturbance.

4.9 Cultural Resources

4.9.1 Goals and Objectives

Goal 1 - Preserve, protect and manage cultural resources in accordance with existing laws, regulations, and Executive Orders, in coordination/consultation with the Burns Paiute Tribe, other Native American tribes, Harney County Historical Society, and other heritage groups to make cultural resources available for appropriate uses by present and future generations.

Objective 1. Using predictive modeling, locate significant sites that may be in conflict with other resource uses.

Objective 2. Use Section 110 inventories to locate significant sites in the Planning Area.

Objective 3. Research significant cultural sites in cooperation with universities, the Burns Paiute Tribe, other tribes, and heritage partners.

Objective 4. Use protective measures to safeguard significant cultural sites.

Objective 5. Pursue land acquisitions to bring significant sites into public ownership.

Objective 6. Stabilize, restore or reconstruct significant historic structures to provide public safety and recreational and interpretive opportunities.

Goal 2 -: Increase public knowledge of, appreciation for, and sensitivity to cultural resources.

Objective 1: Create cultural resources interpretive opportunities and sites for public education in coordination with the Burns Paiute Tribe, other tribes, and/or heritage partners, as appropriate.

4.9.2 Assumptions

Cultural resources would be an inclusive term that includes historic structures and sites and prehistoric archaeological sites. Since prehistoric sites would be the heritage of American Indian tribes, the BLM would be mandated to consult and coordinate with the Burns Paiute and other tribes in order to protect their heritage on public lands.

Many of the other resource management objectives and associated management actions outlined in this analysis could affect any or all cultural resources. Most of these effects could be mitigated by first discovering the sites in question through project inventory and then by project re-design or various scientific data recovery methods such as recordation, surface collection, subsurface testing, or excavation. The basis for this inventory and mitigation process would be Section 106 of the National Historic Preservation Act of 1966. Even with adherence to these acts, inadvertent loss of cultural resources could and does occur.

Effects of other public land uses such as livestock grazing, wild horse grazing, dispersed recreation, and OHV either go unnoticed or the activity would not be considered an undertaking, per se, and is not inventoried. These effects would be mitigated only as they were discovered, on a case-by-case basis. The following analysis of effects is a discussion of both unaccounted-for effects and mitigated effects, and their predicted intensity by alternative. In addition, cumulative effects resulting from the interaction of various management objectives and actions would be discussed. Since not every cultural resource in the Planning Area is known, the different management actions that could indirectly affect cultural resources can be analyzed only by estimation.

4.9.3 Analysis of Alternatives

Direct Effects

4.9.3.1 Alternative A

Under Alternative A, a predictive model to locate significant sites that might be in conflict with other resource uses would not be created, and indirect effects by other resource uses would be mitigated only when found, on a case-by-case basis. Proactive inventories would occur at a rate of approximately 500 acres per year. This would result in a slow, incremental accumulation of cultural resource data. Scientific research could consist of numerous 50 by 50 centimeter test excavations, excavation blocks of up to 100 square meters in extent, and backhoe trenches measuring up to 20 meters long and four meters deep. Under Alternative A, this type of research would be focused on significant cultural sites where other resource conflicts occur. No physical protection measures other than a caretaker at Riddle Brothers Ranch National Historic District would be implemented at significant sites or groups of sites under this alternative. However, law enforcement surveillance and monitoring of certain significant sites and groups of sites within wildland fire areas would occur. Under this alternative, no land acquisitions would occur to bring significant sites into public ownership. Inventory, assessment, and preservation activities (e.g., stabilization, restoration, and reconstruction) at historic sites would occur under this alternative. On-site and off-site interpretation could be implemented under this alternative, and could result in construction of road pull-outs, kiosks or sign bases, and placement of interpretive signs at various locations in the Planning Area.

4.9.3.2 Alternative B

Under Alternative B, a predictive model to locate significant sites that might be in conflict with other resource uses would be limited to recreation use areas in the Planning Area and livestock use areas within the CMPA. Indirect effects by other resource uses would be mitigated only when found, on a case-by-case basis. Proactive inventories would occur at a rate of approximately 500 acres per year. This would result in a slow, incremental accumulation of cultural resource data. Scientific research could consist of numerous 50 by 50 centimeter test excavations, excavation blocks of up to 100 square meters in extent, and backhoe trenches measuring up to 20 meters long and four meters deep. This type of research would be implemented on a limited basis. No physical protection measures would be implemented at significant sites or groups of sites under this alternative; however, law enforcement surveillance and monitoring certain significant sites and groups of sites within wildland fire areas would occur. Under this alternative, land acquisitions to bring significant sites into public ownership would be pursued; the previously private portions of sites would be studied on a limited basis; maintenance of structures within the Riddle Brothers Ranch National Historic District, and inventory and assessment of other historic structures would occur. Active management such as developing restoration plans and

preservation activities (e.g., stabilization, restoration and reconstruction) at historic sites would not occur, and on-site interpretation and interpretive facilities construction would not be implemented under this alternative. Only off-site interpretive displays would be created.

4.9.3.3 Alternative C

Under Alternative C, a predictive model to locate significant sites that may be in conflict with other resource uses would be implemented throughout the Planning Area. Indirect effects by other resource uses could be predicted in the Planning Area and a sample inventory to test the model and locate sites would be implemented in a programmatic fashion. Proactive inventories would occur at a rate of approximately 500 acres per year. This would result in a slow, incremental accumulation of cultural resource data. Scientific research could consist of numerous 50 x 50 centimeter test excavations, excavation blocks of up to 100 square meters in extent, and backhoe trenches measuring up to 20 meters long and four meters deep. Under Alternative C, this type of research would be focused on significant cultural sites where other resource conflicts occur; physical protection measures such as fencing, OHV and road closures, use of caretakers and rip-rap in active shorelines would be implemented at significant sites or groups of sites; law enforcement surveillance and monitoring certain significant sites and groups of sites within wildland fire areas would occur; and land acquisitions to bring significant sites into public ownership would be pursued. Under this alternative, the previously private portions of sites would be studied on an unlimited basis; inventory, assessment and preservation activities (e.g., stabilization, restoration and reconstruction) at historic sites would occur; and on-site and off-site interpretation could be implemented. This type of interpretation could result in construction of road pull-outs, kiosks or sign bases and placement of interpretive signs at various locations in the Planning Area.

4.9.3.4 Alternative D

Under Alternative D, a predictive model to locate significant sites that may be in conflict with other resource uses would be implemented throughout the Planning Area. Indirect effects by other resource uses could be predicted in the Planning Area and sample inventory to test the model and locate sites would be implemented in a programmatic fashion. Proactive inventory would occur at a rate of approximately 500 acres per year. This would result in a slow, incremental accumulation of cultural resource data. Scientific research could consist of numerous 50 x 50 centimeter test excavations, excavation blocks of up to 100 square meters in extent, and backhoe trenches measuring up to 20 meters long and four meters deep. Under Alternative D, this type of research would be focused on significant cultural sites where other resource conflicts occur; physical protection measures such as fencing, OHV and road closures, use of caretakers, and rip-rap in active shorelines would be implemented at significant sites or groups of sites; law enforcement surveillance and monitoring certain significant sites and groups of sites within wildland fire areas would occur; land acquisitions to bring significant sites into public ownership would be pursued; and the previously private portions of sites would be studied on an unlimited basis. Inventory, assessment, and preservation activities (e.g., stabilization, restoration and reconstruction) at historic sites would occur under this alternative. On-site and off-site interpretation could be implemented under this alternative, and could result in construction of road pull-outs, kiosks or sign bases, and placement of interpretive signs at various locations in the Planning Area.

4.9.3.5 Alternative E

Under Alternative E, a predictive model to locate significant sites that may be in conflict with other resource uses would be implemented throughout the Planning Area. Indirect effects by other resource uses could be predicted in the Planning Area, and sample inventory to test the model and locate sites would be implemented in a programmatic fashion. Sample inventory acreage would be increased to account for increased commodity use. Proactive inventory would be increased under this alternative to support increased heritage tourism. Scientific research could consist of numerous 50 by 50 centimeter test excavations, excavation blocks of up to 100 square meters in extent, and backhoe trenches measuring 20 meters long and four meters deep. Under Alternative E, this type of research would be increased at significant cultural sites in order to support increased heritage tourism; physical protection measures such as fencing, OHV and road closures, use of caretakers, and rip-rap in active shorelines would be implemented at significant sites or groups of sites; law enforcement surveillance and monitoring of certain significant sites and groups of sites within wildland fire areas would occur. Land acquisitions to bring significant sites into public ownership would not be pursued in this alternative. Inventory, assessment and preservation activities (e.g., stabilization, restoration and reconstruction) at historic sites would increase under this alternative in order to support increased heritage tourism. On-site and off-site interpretation

would be increased under this alternative. This type of interpretation could result in construction of road pull-outs, kiosks or sign bases, and placement of interpretive signs at various locations in the Planning Area.

4.9.3.5.1 Indirect Effects Common to All Alternatives

The management of the following resources or uses could indirectly affect cultural resources. All could affect cultural resources under all alternatives. Effects vary in magnitude across the alternatives.

Water Resources, Riparian/Wetland, Fish Habitat and Special Status Fish Species Habitat. Management of these resources tends to be intertwined and affect cultural resources (particularly archaeological sites and historic ranches) in a similar fashion. Most management actions that promote better water quality, riparian/wetland health, or fish habitat would likely result in preservation, or at least decreased degradation, of archaeological sites. When designing water developments, inclusion of cultural resources within physical barriers to protect them from livestock is of critical importance. One potential indirect impact caused by increased protection of riparian or wetland areas through physical barriers or decreased use is the commensurate increased use in the uplands. Cultural resources in certain upland locations that previously received little or no livestock use could be subjected to livestock trampling and trailing effects under a more upland-focused grazing system.

Management actions under Alternatives A, C, and D would generally provide similar levels of protection to cultural resources because livestock grazing intensity would be approximately the same in these three alternatives. Water resources and related projects in these three alternatives could indirectly impact cultural resources in upland areas, as grazing would be increasingly forced into those areas. Alternative B would eliminate livestock grazing everywhere in the Planning Area except a portion of the CMPA. The areas still grazed in the CMPA would be open for water resources projects and these could likely indirectly protect cultural sites. With grazing eliminated elsewhere, water resources and related projects would not be necessary except where rehabilitation or restoration of stream system(s) is warranted. These projects in the No Livestock Grazing portions of the Planning Area would not indirectly protect or degrade cultural resources. Alternative E would probably see the most active water resources management because of the focus on commodity extraction. This alternative would likely result in the greatest effects on cultural resources, particularly in upland areas when the riparian areas would be closed to livestock and wild horse grazing.

Special Status Animal Species Habitat, Rangeland Vegetation, and Noxious Weeds. Vegetation management projects would be focused on manipulation of plant communities for various reasons. Most vegetation management actions could result in short- term effects on cultural resources because of increased ground visibility and heightened potential for erosion. However, since vegetation management actions would be intended to increase vegetation cover and provide soil stability, they affect cultural resources over the long term. In general, these projects provide fewer long-term effects than short-term effects to cultural resources.

Vegetation management projects under Alternatives C, D, and E (increased seedings for livestock forage) would probably result in the most acres of changed plant communities and provide the greatest long-term protection to cultural resources. Alternative B would result in the least number of acres converted and provide the least protection for cultural sites. Vegetation management projects under Alternative A would be less numerous than Alternatives C, D, and E, but more than in Alternative B. As a result, cultural resources would be affected most under Alternatives C, D, and E, less under Alternative A and the least under Alternative B.

Woodlands. Juniper woodland treatments can result in effects to archaeological sites, but the primary agent of site damage is the type of fuel treatment after falling the trees. "Drop and leave" or girdling juniper control results in little impact to sites, and provides decreased sediment erosion and protection from illegal collection. "Drop and burn" fuels disposal can result in extensive damage to cultural resources due to high heat outputs. However, both forms of fuels treatment in woodland management would be preferred to no woodland management because they eventually result in greater ground cover and decreased erosion. With many areas of sagebrush-juniper steppe moving in the direction of a juniper woodland ecozone, erosion and increased ground visibility would be likely outcomes. These two results lead to surface and subsurface damage to archaeological sites and increased illegal artifact collecting.

Juniper woodland management would be the most active under Alternatives A, C, D, and E. When downed slash would not be burned or trees were girdled and burned standing, cultural resources would be affected by active woodland management. If downed slash were burned, cultural resources would suffer short-term damage, but be affected over the

long term by increased soil stability and decreased ground visibility. Juniper woodland management under Alternative B would be limited because this alternative relies on natural processes to "manage" these woodlands. This alternative could result in the greatest impact to cultural resources because of increased ground visibility and surface erosion. Increased ground visibility aids illegal collectors, while increased erosion exposes more artifacts for collection and destroys site integrity and scientific data.

Social and Economic Values. Existing socioeconomic values would be primarily focused on consumptive use, with the trend toward increasing emphasis on nonconsumptive uses. As would be expected, effects upon cultural resources would be greater with consumptive uses, since they would be more likely to result in ground disturbance than most nonconsumptive uses or resource management strategies. An exception to this association would be recreation use.

Alternative B would be the least consumptive and affect cultural resources the least. Alternative E, the most consumptive, would affect cultural resources the most. Alternatives C, D, and A, intermediate between B and E, would moderately affect cultural resources.

In general, the fewer restrictions on the exploration and extraction of energy and mineral resources the greater the effect on cultural resources. The amount of time required to complete Section 106 clearances and mitigate effects on significant sites would be variable, depending on the type of mineral and permitting process. In any case, many of the effects resulting from these activities would be mitigated through various means.

Minerals management under Alternative E would be the least restrictive and affect cultural resources to the greatest degree. Alternative A would be the second least restrictive, with Alternatives C and D offering much greater restrictions such as NSO stipulations near National Register of Historic Places eligible and listed sites. Minerals management under Alternative B would be the most restrictive and affect cultural resources the least.

Lands and Realty. Lands and reality management can affect cultural resources, primarily through land exchanges and land sales. These effects would be mitigated through adherence to the National Historic Preservation Act. As with land tenure actions, the effects created by utility line construction would be mitigated. Restriction or elimination of utility corridors reduces effects on cultural resources; the greater the restrictions and the fewer the utility corridors, the fewer effects on cultural resources. Existing (Alternative A) land tenure management emphasis would be increasingly focused on acquiring high value lands and management easements, while utility development would be relatively static.

Acquiring high value cultural properties and meeting cultural resource objectives would be a real possibility under existing management, but would be improved under Alternatives B, C, and D. Lands and realty management under Alternative E would result in the greatest effects on cultural resources due to increased land disposals, potentially greater numbers of utility corridors, and the elimination of land purchases.

Wild horses and Burros. Cultural resources would be affected by wild horse use in a manner similar to livestock grazing. These effects would be trampling, wallowing, and trailing, especially near fenced or unfenced watering areas. Construction of additional water developments to promote an even use of the landscape and to provide for water during drought years could affect cultural resources. Wild horse use of existing water sources, many of which would be near cultural resources, would be reduced. However, one potential effect caused by increased protection of riparian or wetland areas through physical barriers or decreased use would be the commensurate increased use in the uplands. Cultural resources in upland areas that previously received little or no wild horse use could be subjected to trampling and trailing effects in certain locations under an increased upland focused system.

Wild horse use would be approximately the same under all the alternatives because horse numbers would be managed at similar levels. Therefore, magnitude of effects on cultural resources from wild horses would be the same under all alternatives.

Grazing. Livestock grazing use would be a major contributor to archaeological site damage (14 to 18 percent of all sites damaged in the Planning Area). These percentage estimates would likely be too low, as damage would usually be reported only when trampling would be obvious. Since livestock trampling would be widespread, low level trampling would probably be the norm for most sites. Construction of additional water developments to promote an even use of the landscape and to provide for water during drought years could affect cultural resources. Livestock use of existing water sources, many of which would be near cultural resources, would be reduced. However, one potential effect caused

by increased protection of riparian or wetland areas through physical barriers or decreased use would be the commensurate increased use in the uplands. Cultural resources in upland areas that previously received little or no wild horse use could be subjected to trampling and trailing effects in certain locations under an increased upland focused system. In general, the greater the restrictions on livestock grazing, the fewer the effects on cultural resources.

Livestock grazing would be limited to a portion of the CMPA under Alternative B. This alternative would dramatically decrease livestock grazing effects on cultural resources. Alternatives A, C, and D would allow more livestock grazing than Alternative B, and the resultant effects would be greater. Alternative E, maximum commodity production, would result in the most effects on cultural resources. These impacts could be partially offset with increased grass seedings to provide greater soil stability.

Fire Management. Wildland fire and wildland fire suppression affect cultural resources in a number of ways. Obviously, fires destroy burnable cultural resources such as historic buildings and other wooden structures and features. Less obvious would be the destruction of, or damage to, prehistoric rock art, surface scatters of stone artifacts, and waste stone debris. Fire suppression activities such as OHV use, bulldozing of control lines, and occupation of fire camps can damage cultural resources through sediment compaction and artifact displacement. Soil chemistry at archaeological sites can be dramatically changed with the use of fire retardants, especially in areas of low annual rainfall where leaching would be minimal. Wildfire removes ground cover and exposes rock and soil to erosion, subjecting subsurface archaeological sites to damage from wind and water erosion and illegal collecting. In general, even though suppression can damage cultural resources in specific ways, well-planned suppression would be preferable to allowing wildfires to burn unchecked. The resultant erosion, in particular, can result in damage to sites.

Wildland fire and wildland fire suppression affect cultural resources in a number of ways. Obviously, fires destroy burnable cultural resources such as historic buildings and other wooden structures and features. Less obvious would be the destruction of, or damage to, prehistoric rock art, surface scatters of stone artifacts, and waste stone debris. Fire suppression activities such as OHV use, bulldozing of control lines, and occupation of fire camps can damage cultural resources through sediment compaction and artifact displacement. Soil chemistry at archaeological sites can be dramatically changed with the use of fire retardants, especially in areas of low annual rainfall where leaching would be minimal. Wildfire removes ground cover and exposes rock and soil to erosion, subjecting subsurface archaeological sites to damage from wind and water erosion and illegal collecting. In general, even though suppression can damage cultural resources in specific ways, well-planned suppression would be preferable to allowing wildfires to burn unchecked. The resultant erosion, in particular, can result in damage to sites.

Wildfire suppression would be most active under Alternatives A, C, D, and E. Effects to cultural resources from wildland fire and suppression would be at similar levels under these alternatives. Under Alternative B, wildland fire suppression would be limited and fires would be allowed to burn larger areas than under any of the other alternatives. This emphasis on naturalness would affect cultural resources to a greater extent than any of the other alternatives. Greater burned acreage would mean greater exposure of surface sediments to erosion, subjecting subsurface archaeological sites to damage from wind and water erosion and illegal collecting.

Prescribed wildfire would be achieved at similar levels under all the alternatives. Effects on cultural resources from prescribed wildland fire would be at similar levels under all the alternatives.

Transportation and Roads. Roads allow access to cultural resources, which can result in illegal surface collection and excavation. Open vehicular access to cultural resources affords an opportunity for cultural resource monitoring and management.

Alternatives that would dramatically decrease motorized access would be Alternatives B and C. Under these alternatives illegal surface collection and excavation could likely continue at present or higher levels because vandals could ignore road closures. In addition, they might feel more secure in their illicit activities if the BLM was hampered in its monitoring efforts. Alternatives that would only slight reduce or not reduce motorized access would be Alternatives A, D and E. Access to public lands would allow illegal looting and excavation at present rates but would also permit greater access to law enforcement in surveillance operations.

Off-Highway Vehicles. Unrestricted OHV and mechanized vehicle use harms cultural resources, causing compaction, altered surface water drainage and erosion on the landscape and, by extension, to cultural resources. Organized OHV

and mechanized vehicle event locations can be cleared and effects mitigated through adherence to the National Historic Preservation Act, but the effects caused by dispersed OHV activity would not be mitigated unless they were discovered.

Alternatives A and E place the fewest restrictions on OHV and mechanized vehicle use within the Planning Area. Alternative D would be considerably more restrictive than Alternatives A or E, with a limited number of acres designated as open to OHV and mechanized vehicle use. Alternatives B and C offer no open areas for OHV and mechanized vehicle use. Alternative B would be the most restrictive, with OHV and mechanized vehicle use in the majority of the Planning Area limited to designated roads and trails or closed to OHV use. Alternative C designates fewer acres as closed, but still limits OHV and mechanized vehicle use in most of the Planning Area to designated roads, ways, and trails. Alternatives A and E would affect cultural resources to the greatest degree. Alternative D would result in fewer effects than Alternatives A and E. Alternative C followed by Alternative B would result in the fewest OHV- and mechanized vehicle related effects to cultural resources.

Recreation. Recreation development/management would be a double-edged sword in relation to cultural resources. Greater use of interpretive facilities at developed recreation facilities can increase public awareness and education, thereby decreasing illegal collecting and site vandalism. However, increased recreation development generally brings more people to the area; more visitors could mean greater illegal collection and site damage. Developed recreation would be viewed as only slightly less detrimental to cultural resources than dispersed recreation because it tends to concentrate people in small, predictable areas. Dispersed recreation emphasis tends to attract visitors to areas that previously had lower levels of use. This type of use would be much less predictable and measurable. Under Alternatives A and D, recreation development would be very low, and dispersed recreation use would be gradually increasing. Under Alternatives B and C, management emphasis would be on dispersed recreation. Recreation use under Alternative E would likely stress developed recreation facilities in order to accommodate increased visitations. Determining which alternative would affect cultural resources to the most would be difficult. Since dispersed recreation activities would be the most difficult to monitor and control, Alternatives B and C may have the greatest effects on cultural resources.

Areas of Critical Environmental Concern, Wilderness, WSAs and WSRs. With their greater emphasis on natural values, ACECs, Wilderness, and WSAs can affect cultural resources because they reduce the number of land disturbing activities in an area. The greater the number of designated acres, the greater the effects on cultural resources.

Alternative A, with the second largest acreage devoted to ACECs, would affect cultural resources to a greater degree than all the alternatives except Alternative C. The number of acres of either wilderness or WSAs within the Planning Area would be nearly the same for all alternatives. Therefore, cultural resources would be affected to the same degree under all alternatives.

WSR designations, and especially their relationship to livestock grazing management, can indirectly affect cultural resources. Placing few restrictions on grazing in the river corridors would result in effects to cultural resources sites through trampling, trailing, and wallowing. Greater restrictions placed on widespread grazing in the river corridors can result in concentrated livestock use at river crossings and water gaps. Total exclusion of grazing in the river corridor can focus livestock grazing impacts on lightly-used upland areas, resulting in increased effects on cultural sites in the uplands. However, as a general rule, sites with the highest significance tend to occur within the river corridors and near other water sources and not in the uplands. As a consequence, increased restrictions or exclusion of grazing in the WSR corridors would affect cultural resources.

All Alternatives other than Alternative C recommend no additional eligible rivers as suitable for potential designation by Congress as WSRs. Therefore, Alternative C would affect cultural resources to the greatest degree because eligible and suitable river corridors would continue to be managed under more restrictive interim guidance.

The Riddle Brothers Ranch National Historic District would be located on a “wild” section of the Donner und Blitzen WSR. This designation would be recommended to be changed to scenic under Alternative D, and recreational under Alternative E. A scenic classification would be in less conflict with the Riddle Brothers Ranch Cultural Resource Management Plan and would allow for improvement of the access road, as well as construction of one or two visitor parking lots. A recreational classification would allow even greater flexibility for development of visitor amenities such as toilet facilities.

4.9.4 Summary of Effects

With the exception of wildland fire suppression, forest/woodland management, and access management, Alternative B would result in the fewest indirect effects to cultural resources of all the alternatives. With extremely limited suppression efforts and few allowances for prescribed fire, no provision would be made for locating or protecting sites that could sustain damage. Further, fuels reduction would be wholly relegated to natural forces, resulting in more intense fires of longer duration. This type of fire would be known to damage surface archaeological sites. Under this alternative, increased erosion and ground visibility in unmanaged juniper woodlands would result in increased effects to archaeological sites in these areas.

Alternative E would be the least restrictive of all the alternatives and would result in the greatest level of indirect effects on cultural resources. An analysis of the remaining alternatives shows that the next lower level of indirect effects would occur under Alternative A, followed in order by Alternatives D and C. This evaluation would be based on the increased emphasis on natural values and decreased commodity use.

4.9.5 Cumulative Effects

Since most cultural resources would be location-specific, fragile, and nonrenewable, effects would be by nature cumulative. A cultural site can be subjected to grazing pressure, OHV use and illegal collecting. Each instance of degradation reduces the capacity for that site to answer questions about prehistory or history, and eventually the site may be totally destroyed in terms of information potential.

The issue of livestock grazing in riparian corridors recurs repeatedly within different, although related, resources. Water resources, fish and wildlife and their respective habitats, rangeland/grazing use, and WSR management all focus either partially or fully on riparian corridor management. As mentioned above, restricting or excluding livestock grazing in these areas benefits cultural resources because many of the most significant archaeological sites occur near riparian areas. Also mentioned was the potential to increase effects to cultural resources in upland areas when grazing in the riparian areas would be restricted or discontinued. This increase in effects would likely to be widespread and to go unnoticed even if all other resource objectives were being met. Effects that were unnoticed would not be mitigated.

Cultural resources fare best when the uses of public lands would be restricted to those that cause the least ground disturbance.

4.10 Native American Traditional Practices

4.10.1 Goals and Objectives

Goal 1- Protect traditional sites, land forms, burial sites, resources, and other areas of interest in consultation with the Burns Paiute Tribe and other tribes.

Objective 1. Monitor and protect known Burns Paiute Tribal and other tribal interest areas.

Objective 2. Integrate maintenance and protection of native subsistence species into vegetation management activities.

4.10.2 Assumptions

Native American Traditional Practices would be generally tied to a particular natural resource or geographic location within the Planning Area. There may be many locations within the Planning Area where the Burns Paiute or other American Indian people have interests. The BLM would work with the Burns Paiute and other American Indian people to identify important places and protect them.

4.10.3 Analysis of Alternatives

Direct Effects

4.10.3.1 Alternative A

Under Alternative A, the BLM would continue active consultation/coordination with the Burns Paiute Tribe and other tribes to identify traditional practice areas in the Planning Area. Traditional Cultural Properties would be nominated or found eligible for inclusion in the National Register of Historic Places and known burial sites would be monitored and protected. Plants of cultural, traditional and economic importance would be inventoried in cultural and botanical inventories. The Burns Paiute Tribe and other tribes would be consulted on vegetative management projects in order to identify and protect plant gathering locations.

4.10.3.2 Alternative B

This alternative would be the same as Alternative A except the amount of active consultation/coordination and inventory could decrease because of decreased commodity use.

4.10.3.3 Alternative C

This alternative would be the same as Alternative A.

4.10.3.4 Alternative D

This alternative would be the same as Alternative A.

4.10.3.5 Alternative E

This would be the same as Alternative A except the amount of active consultation/coordination and inventory would increase because of increased commodity use.

4.10.3.5.1 Indirect Effects Common to All Alternatives

All Alternatives

The management of the following resources or uses could indirectly affect Native American Traditional Practices. All indirectly could affect cultural resources under all alternatives. Effects vary in magnitude across the alternatives.

Water Resources, Riparian Vegetation, Fish and Special Status Fish Species. Water resources, riparian/wetlands, fish habitat and special status aquatic species, and Native American Traditional Practices areas would often be found in the landscape in the same location. Any management action that enhances or protects water quality would likely result in preservation, or at least decreased degradation, of Native American Traditional Practice areas. Of importance would be the necessity to include Native American Traditional Practice areas within physical barriers to protect them from livestock when designing water developments. One potential indirect effect caused by increased protection of riparian or wetland areas through physical barriers or decreased use would be the commensurate increased use in the uplands. American Indians use traditional plants in upland areas that may have previously received little or no livestock use. These areas could be subjected to livestock trampling and trailing effects in certain locations under a more upland-focused grazing system.

Cultural Resources. Cultural resource management in the form of surface and subsurface testing and excavation would affect Native American Traditional Practices use areas, especially historic/prehistoric camps. These effects would range from surface collection of cultural material to backhoe trenches up to four meters deep and 20 meters long. Consultation with the Burns Paiute Tribe and other tribes would be undertaken prior to implementation of any of these activities.

Cultural resource management would be the most active and produce the most ground disturbing effects on Native American Traditional Practices sites and use areas under Alternative E. Cultural resources management under

Alternatives A, C, and D would be moderately active and show a commensurate decrease in effects on Native American Traditional Practices and use areas. Alternative B would see the cultural resources management program limited primarily to salvage operations where cultural material and information would be lost without action. Under Alternative B, cultural resources management would affect Native American Traditional Practices and use areas the least.

Management actions under Alternatives A, C, and D would generally provide similar levels of protection to Native American Traditional Practices areas because livestock grazing intensity would be approximately the same in these three alternatives. Water resources and related projects in these three alternatives could indirectly affect Native American Traditional Practices use areas in upland areas, since grazing would be increasingly forced into those areas. Alternative B would eliminate livestock grazing everywhere in the Planning Area except a portion of the CMPA. The areas still grazed in the CMPA would be open for water resources projects and these would likely indirectly protect Native American Traditional Practices sites. With grazing eliminated elsewhere, water resources and related projects would not be necessary except where rehabilitation or restoration of stream system(s) would be warranted. These projects in the No Livestock Grazing portions of the Planning Area would not indirectly protect or degrade Native American Traditional Practices areas. Alternative E would probably have the most active water resources management because of the focus on commodity extraction. This alternative would likely result in the greatest effects on Native American Traditional Practices areas, particularly in upland areas when the riparian areas would be closed to livestock and wild horse grazing.

Rangeland Vegetation, Noxious Weeds, Wildlife Habitat, and Terrestrial Special Status Species. Rangeland vegetation, noxious weeds, wildlife habitat, and terrestrial special status species habitat management projects would be focused on plant community manipulation to reach various objectives. Most vegetation management projects, if located where important Native American traditional plants were found, would affect Native American Traditional Practices and use areas because the traditionally, and possibly economically, important plants would be replaced by another target species or plant community. Of additional concern would be noxious weed chemical treatments in traditional plant gathering areas. Care must be taken to communicate with plant gatherers to make them aware of treatment area locations.

Vegetation management projects under Alternatives C, D, and E would probably result in the most acres of altered plant communities and provide the greatest effect on Native American Traditional Practices and use areas. Alternative B would result in the least number of acres converted and provide the greatest protection for Native American Traditional Practices and use areas. Vegetation management projects under Alternative A would be less numerous than Alternatives C, D, and E, but more than in Alternative B.

Woodlands. Juniper woodland treatments could result in effects to Native American Traditional Practices areas, particularly adjacent to root gathering areas. Affected would be prehistoric/historic root campsites and prehistoric/historic religious sites. "Drop and burn" fuels disposal in root beds could result in effects on traditionally collected plants unless slash would be disposed of during the cooler part of the year in late fall, winter, or early spring.

Juniper woodland management would be the most active under Alternatives A, C, D, and E. The greatest effects would be seen under Alternative E, primarily if juniper becomes a commodity. Juniper woodland management under Alternative B would be limited because Alternative B relies on natural processes to "manage" these woodlands. Alternative B would produce the least effect to Native American Traditional Practices areas.

Social and Economic Values. Current socioeconomic values would be focused primarily on consumptive use with the trend toward increasing emphasis on nonconsumptive uses. Many aspects of Native American Traditional Practice would be related to gathering traditional food and medicine plants. Effects upon Native American Traditional Practice areas would be greater with consumptive than nonconsumptive use because consumptive use in rangelands usually involves ground disturbance and vegetation community changes.

Native American Traditional Practices (especially root and other plant gathering) can be considered consumptive and could be in competition with other consumptive uses or active management strategies, particularly under Alternative E. Alternatives A, C, and D would affect Native American Traditional Practices at a much lower level than Alternative E. Alternative B, the least consumptive of the alternatives, would most likely result in the fewest effects on Native American Traditional Practices areas.

Minerals and Energy. In general, the fewer restrictions on the exploration and extraction of energy and mineral resources, the greater the effect to Native American Traditional Practices areas because energy and mineral resource consumption usually involves intensive ground disturbance and destruction of existing vegetation communities.

Minerals management under Alternative E would be the least restrictive and affect Native American Traditional Practices to the greatest degree. Alternative A would be the next least restrictive, with Alternatives C and D offering much greater restrictions. Minerals management under Alternative B would be the most restrictive and would affect Native American Traditional Practices and use areas the least.

Lands and Realty. Lands and reality management can affect Native American Traditional Practices areas, most significantly in land exchanges and land sales where traditionally used areas could be lost. Restrictions or elimination of utility corridors would reduce effects on Native American Traditional Practices areas, particularly root gathering or medicinal plant gathering sites. The greater the restrictions and the fewer the utility corridors, the fewer effects on Native American Traditional Practices areas. Existing land tenure management emphasis would be increasingly focused on acquiring high value lands and management easements, while utility development would be relatively static. Acquiring high value Native American Traditional Practices areas and meeting Native American Traditional Practices management objectives would be a real possibility under existing management, but would be improved under Alternatives B, C, and D.

Wild Horse and Burro. Native American Traditional Practices areas would be affected by wild horse use in a manner similar to livestock grazing. Currently, these effects would be mitigated on a case-by-case basis when discovered. Construction of more water developments to provide more even use of the landscape and to provide for water during drought years could affect Native American Traditional Practices areas. One potential effect caused by increased protection of riparian or wetland areas through physical barriers or decreased use would be the commensurate increased use of the uplands. Native American Traditional Practices areas in upland areas that receive little or no wild horse use could be subjected to trampling and trailing effects in certain locations under a more upland focused livestock grazing system.

Wild horse use would be approximately the same under all the alternatives because horse numbers would be managed at similar levels. Effects on Native American Traditional Practices areas from wild horses would, therefore, be the same under all alternatives.

Grazing Management. Native American Traditional Practices areas, particularly edible root and medicinal plant gathering areas, would be affected by livestock grazing. These effects would be trampling, wallowing, and trailing, especially near fenced or unfenced watering areas. Currently, these effects would be mitigated on a case-by-case basis when discovered. In some cases, grazing projects can take pressure off of Native American Traditional Practices areas and distribute livestock use over a wider area. In other cases, the projects can result in increased effects on gathering areas in new locations. In general, the more livestock grazing would be restricted, the fewer effects on Native American Traditional Practices areas.

Livestock grazing would be limited to a portion of the CMPA under Alternative B. This alternative would decrease livestock grazing effects on Native American Traditional Practice areas. Alternatives A, C, and D would allow more livestock grazing than Alternative B and the resultant effects would be greater. Alternative E, maximum commodity production, would result in the most effects on Native American Traditional Practice areas.

Fire Management. Wildland fire and wildland fire suppression affect Native American Traditional Practices areas in various ways. Suppression activities such as OHV use, bulldozing control lines, and occupation of fire camps can damage Native American Traditional Practices areas through sediment compaction and altering surface water drainage. Wildfire removes ground cover and exposes rock and soil to erosion, subjecting traditional use prehistoric/historic campsites to damage from wind and water erosion and illegal collecting.

Wildfire suppression would be most active under Alternatives A, C, D, and E. Effects on Native American Traditional Practices areas from wildland fire and suppression would be similar under these alternatives. Under Alternative B, wildland fire suppression would be limited and fires would be allowed to burn larger areas than under any of the other alternatives. This emphasis on naturalness would not affect most Native American Traditional Practices areas to a greater extent than any of the other alternatives. However, fire effects on historic/prehistoric campsites would be heightened

under Alternative B. Greater burned acreage would mean greater exposure of surface sediments to erosion, subjecting campsites to damage from wind and water erosion and illegal artifact collecting.

Prescribed burning can affect burnable components (such as camp trees and kitchen structures) of Native American Traditional Practices campsites. If heat is high enough and duration long enough, prescribed fire can affect the surface prehistoric/historic component of these campsites by causing artifact shatter and damage to hydration rinds on obsidian artifacts. Prescribed fire can affect the archaeological component of these sites by increasing short-term ground surface visibility. This greater visibility makes artifacts more accessible and can lead to increased illegal artifact collection. These short-term effects would be mitigated through prior cultural inventory, systematic surface artifact collection and/or post-fire monitoring. After a few seasons of plant growth, ground cover decreases ground visibility. Decreased visibility can affect these campsites through decreased potential for illegal collecting. Prescribed fire management actions would usually be planned to target a certain plant species or plant association, while preserving other portions of the plant community. Under this prescription, Native American Traditional Practices areas such as root plant populations would not be substantially affected. However, if the burn plan calls for extreme heat generation to eliminate a target plant species that would be difficult to remove, Native American Traditional Practices areas could be affected. Nonetheless, most important Native American traditionally used plants would be located in rocky, fire resistant plant communities. These lithosols would commonly be used as fire breaks in fire control efforts. Even more important would be that many of these species such as biscuit root(s), bitterroot, and Indian carrot would be dormant before the height of the fire season or prescribed burning season in the fall and would not be affected except where ground fuels were thick enough to allow the fire to cook the soil.

Prescribed burning would be most active under Alternatives A, C, D, and E. Effects on Native American Traditional Practices areas from prescribed fire would be at similar levels under these alternatives. Prescribed burning could be limited under Alternative B. Thus, Native American Traditional Practices areas would be less affected by short-term ground surface visibility, exposure of surface rock and soil to wind and water erosion, and destruction or damage of artifacts at historic/prehistoric campsites.

Transportation and Roads. Roads allow access to Native American Traditional Practices areas. Closing roads as part of a road management plan can effect Native American Traditional Practices because traditional access may be cut off. Opening new roads could effect traditional practices by improving access for root/medicinal/other plant gathering, religious worship, and maintaining ties to traditional camps. Open access to Native American Traditional Practices areas affords the BLM an opportunity to monitor plant use and prehistoric/historic camps.

Active road closures would be most likely under Alternatives C and D. Alternative B, which relies on natural processes and restricts most commodity use, would probably result in fewer open road miles than Alternatives C and D. Alternative E would likely see increased road miles to benefit commodity access and would allow greater access to Native American Traditional Practices areas than the remaining alternatives. With the Steens Act in place, access under Alternative A has been reduced with the designation of the Steens MountainWilderness. Nonetheless, Alternative A would produce the least effect to road access of Alternatives A, B, C, and D.

Off-Highway Vehicles. OHV and mechanized vehicle use affects Native American Traditional Practices areas by compacting sediments, altering surface water drainage, increasing erosion, and crushing economically important plants. Additionally, these effects could be seen in historic/prehistoric camps and sacred places where OHVs and mechanized vehicles would be allowed. Organized OHV and mechanized vehicle event locations can be cleared and any effects mitigated through adherence to the National Historic Preservation Act, but the effects caused by dispersed OHV and mechanized vehicle activity would not be mitigated unless they were discovered. Under Alternative A, the majority of the Planning Area would be designated as open to OHV and mechanized vehicle travel, affecting Native American Traditional Practices areas. Alternative E would be the least restrictive of all the alternatives in terms of OHV policy and would result in the greatest effects to Native American Traditional Practices areas. Low to moderate levels of damage to Native American Traditional Practices areas would be incurred under existing management and would decrease under Alternatives B, C, and D.

Recreation. Recreation development and use can affect Native American Traditional Practices areas. Greater use of interpretive developments can increase public awareness and education, resulting in decreased vandalism of traditional campsites. However, increased development and general use brings more people to the area. Increased visitor use could damage existing camps, disturb people gathering traditional plant and animal resources, and disturb people involved in

other Native American spiritual or religious activities. It has been noted in locations outside of Andrews Resource Area that Indian people would abandon a traditionally used area when competing uses create a situation where the Indian people could not practice their traditions without coming into contact with non-Indians. When comparing the effects of dispersed recreation with developed recreation, developed recreation may be preferred because it can specify the locations that would be used. A focus on dispersed recreation directs users into undeveloped areas and away from developed sites. For this reason, it would be likely that dispersed recreation would effect Native American Traditional Practices and practice areas more than developed recreation.

Recreation under Alternative B would focus on dispersed use. The same would be true to lesser degree for Alternatives C, D, and A. Under Alternative E, developed recreation would be maximized. Dispersed recreation would probably increase as well, thus affecting Native American Traditional Practices and use areas to a greater degree than other alternatives.

Areas of Critical Environmental Concern, Wilderness, WSAs and WSRs. ACEC, wilderness, WSAs, and WSR designations, with their greater emphasis on natural values, would be a benefit to Native American Traditional Practices areas because they restrict the amount of human-caused ground disturbing activity. However, wilderness, WSA, and WSR designations can affect access to Native American Traditional Practices and use areas due to road closures within these areas.

Alternative A, with the second largest acreage devoted to ACECs, would result in fewer effects to Native American Traditional Practices areas than all the alternatives except Alternative C. Under Alternatives B and E, ACEC acreage would be nearly zero and would have the least effect on Native American Traditional Practices and use areas. Alternative D would designate ACEC acreage at a level between Alternative A and C, and thus have a moderate affect on Native American Traditional Practices and use areas. Acres of wilderness and WSA designation would be essentially the same for all alternatives and would equally affect Native American Traditional Practices and use areas. All Alternatives except Alternative C recommend no eligible rivers as suitable for potential designation as WSRs by Congress. Therefore, Alternative C would have the greatest effect on Native American Traditional Practices areas because eligible and suitable river corridors would continue to be managed under more restrictive interim guidance.

4.10.4 Summary of Effects

With the exception of potential road closures and increased dispersed recreation use, Alternative B would result in the fewest cumulative effects on Native American Traditional Practices and use areas of all the alternatives. Economic, social, and spiritual needs of the Native American community could be thwarted through widespread road closures under Alternative B and to a lesser extent under Alternatives C and D. Increased dispersed recreation use may bring outside visitors into contact with Native American traditional users. While this contact could be instructive, particularly for the recreation user, increased contacts might encourage traditional users to abandon areas that have been used for thousands of years. Much of Native American traditional use would be intertwined so that root gathering, though seen as economic, would be a blend of economic, social, and spiritual activity. Disturbing this activity inhibits the ongoing heritage of the Burns Paiute and other tribes. Alternative B, though not perfect, would result in the fewest effects on the practice and continuation of Native American heritage in the Planning Area.

Alternative E would be the least restrictive of all the alternatives and would result in the greatest number of effects on Native American Traditional Practices and use areas. An analysis of the remaining alternatives shows that fewer effects would occur under Alternative A, followed in order by Alternatives D and C. This would be based on the increased emphasis on natural values and decreased commodity use.

4.10.5 Cumulative Effects

Since most Native American Traditional Practices use areas would be in specific and fragile locations, effects would be, by nature, cumulative. Native American Traditional Practices use areas can be subjected to grazing pressure, OHV use and disturbance from dispersed recreation users. Each instance of degradation reduces the capacity for that use area to meet traditional economic, social and/or spiritual needs of Native American people and the potential exists for specific areas to be abandoned if cumulative effects reach threshold levels.

A recurring issue, seen repeatedly within different, though related, resources, would be the issue of livestock grazing management, particularly in riparian corridors. Water resources, fish and wildlife and their respective habitats, rangeland/grazing use, and WSR management all focus either partially or fully on riparian corridor management. As mentioned above, restricting or excluding livestock grazing in these areas benefits Native American Traditional Practices use areas because many of these uses occur in or near riparian areas. Also mentioned was the potential to increase effects to Native American Traditional Practices use areas, particularly root gathering areas in the uplands, when grazing the riparian areas would be restricted or discontinued. This increase in effects to traditional use areas would be widespread and would likely go unnoticed even if all other resource objectives were being met. Effects that were not noticed could not be mitigated.

4.11 Visual Resources

4.11.1 Goals and Objective

Goal - Manage public land actions and activities in a manner consistent with VRM class objectives.

Objective 1. Protect, maintain, improve, or restore visual resource values by managing all public lands in accordance with the VRM system.

4.11.2 Assumptions

The FLPMA requires that public lands be managed to protect the quality of scenic values and, where appropriate, to preserve and protect certain public land in its natural condition. VRM inventory classes (I, II, III, and IV) would be determined on the basis of the landscape's scenic qualities, public sensitivity toward the landscapes, and the visibility of the landscape from travel routes or observation points. Inventory classes would be informational in nature and provide the basis for considering visual values in the RMP process. They do not establish management direction and should not be used as a basis for constraining or limiting surface disturbing activities. VRM Classes (I, II, III, and IV) would be designated through the land use planning process, and the assignment of VRM classes would be based on the management decisions made in RMPs. However, visual values must be considered throughout the RMP process. All actions proposed during the RMP process must consider the importance of the visual values and the effects the project may have on these values. Management decisions in the RMP should reflect the value of visual resources and may be the driving force for some management decisions. For example, highly scenic areas that need special management attention may be designated as scenic ACECs and as VRM Class I based on the importance of the visual values. All of the alternatives take into consideration the determination of VRM classes, except where a VRM Class I has been assigned to areas such as wilderness, the wild sections of WSRs, and other congressional and administrative designations. The Steens Mountain Wilderness, all wild WSRs, and all WSAs would be designated as VRM Class I.

4.11.3 nalysis of Alternatives

4.11.3.1 Effects Common to All Alternatives

Direct Effects

Designation of the Steens Mountain Wilderness, all wild WSRs, and all WSAs as VRM Class I would protect the existing scenic values and preserve the existing landscapes.

Indirect Effects

Recreation. The siting and design of recreation developments, facilities, and projects could affect visual resources through the introduction of forms, lines, colors, and textures that contrast with the characteristic landscape. However, these developments, facilities, and projects would be planned to minimize any potential contrasts and to meet the VRM objectives of the area. Dispersed recreation activities could strengthen existing line, form, and color contrasts through the use of existing roads, trails, and camp sites. Closure and/or rehabilitation of undeveloped sites would restore the visual resources of specific sites.

4.11.3.2 Alternative A

Direct Effects

Planning Area
Maintaining the existing VRM classes would allow a variety of management actions that could or would affect existing visual resources, depending on the VRM class. Moderate and major landscape modifications would be allowed in some areas. Designation of the Steens Mountain ACEC as VRM Class I would preserve and protect the visual resources of the ACEC that would not be in the Steens Mountain Wilderness, a wild WSR or a WSA.

Indirect Effects

Planning Unit
Riparian and Wetlands. Improvements to riparian vegetation, including increased vegetative density, structure, and cover could occur at specific locations with a proportional effect to visual resources, particularly in the vicinity of WSRs. The ecological status of terrestrial native plant communities would be maintained or improved. Plant density and coverage would be maintained or increased in these communities and could affect visual resources by creating changes in color or texture.

Woodlands. Late-seral stage ecological characteristics of old growth western juniper woodlands would be maintained by mechanical removal of younger trees. The effects to visual resources would depend upon the amount of juniper removed and whether the removal would be accomplished by mechanical means or by prescribed fire. The effects to visual resources would vary depending on the VRM class of the area.

Noxious Weeds. The current integrated management of weeds would continue. Control on disturbed areas would be emphasized, as would inventories of new infestations. Noxious weeds could affect visual resources by replacing native vegetation and creating changes in form, color, or texture.

Grazing Management. Whenever existing grazing management practices on public lands would be determined to be contributing to nonattainment of resource objectives, appropriate actions would be implemented. Changes in management may be implemented that would result in increased riparian and upland vegetation density and structure, consequently reducing erosion, increasing streambank stability, and increasing shade, and thereby affecting visual resources through changes primarily in color and texture. Range improvements could affect visual resources through the addition of forms, lines, colors, and textures that would not be found in the surrounding landscape.

Energy and Minerals. Management actions relating to the extraction of mineral materials; oil and gas and geothermal exploration; renewable energy development; and the development and production of locatable minerals would affect the natural character of the landscape. The greatest amount of public land would be available for energy and minerals exploration and development; however, the potential for large-scale development relating to mining would be considered to be low. Existing laws, regulations, and policies would minimize the effects from energy and mineral activities to visual resources through mitigation. Effects could also be reduced by utilizing VRM class objectives to provide the basis for allowable changes in form, line, color, and texture.

Wildland Fire Management. All wildland fires would be suppressed. Although fire suppression could have short-term effects to visual resources, in the long term, larger, hotter fires could occur that could cause greater effects to visual resources because of the amount of the greater acreage burned and resulting changes to t spatial arrangements, colors, patterns, and vegetation mosaics. Other specific long-term actions that could affect visual resources would be addition of linear features from fire line construction and vehicles driving cross-country.

Lands and Realty. The management actions associated with authorizations of new ROWs, utilities, and permits for large-scale powerlines, fiberoptic cables, and pipelines would be conducted consistent with existing land use planning, regulation, and law. ROWs would be located within designated corridors on a case-by-case basis. Siting additional disturbances within previously disturbed sites, such as designated powerline corridors, could reduce effects to visual resources. Lands and realty actions generally add vertical lines and linear and complex forms to the landscape.

Transportation and Roads. The potential effects of the operation and maintenance of roads to visual resources, would vary depending on the location and the VRM class of the area.

Off-Highway Vehicles. OHVs would continue to be managed in accordance with the existing open, limited, and closed OHV designations. In the CMPA, the Steens Mountain Wilderness would be closed to OHV use. In the AMU and CMPA, OHV use would be limited to designated roads, ways, and trails in WSAs. OHV activities can affect to visual resources if these uses cause vegetation loss, soil exposure, or erosion. Visual resources could be most affected in those areas designated as open (675, 918 acres in the Planning Area) because cross-country travel can add different colored, linear forms that contrast with the forms and colors of the characteristic landscape. OHV and mechanized vehicle use on designated or existing roads, ways, and trails could increase color contrasts between the travel surface and the surrounding vegetation through continued vegetation loss and soil erosion.

4.11.3.3 Alternative B

Direct Effects

Planning Unit
Designation of almost half of the Planning Area as VRM Class II would retain the existing character of the landscapes and would allow natural process to change the landscapes. Over time, landscapes would appear more natural as the signs of management activities become less obvious. Management actions for the protection of other resources would be allowed if VRM Class II objectives would be met. Moderate and major landscape modifications would not be allowed.

Indirect Effects

Riparian and Wetlands. The management goals and objectives for riparian habitat and wetlands would produce the same effects as described in Alternative A.

Woodlands. Fuel treatments would not occur. Old growth western juniper woodlands would be allowed to burn. Short-term effects could include larger black areas; however, a long-term effect would be the replacement of woodlands by shrubs, grasses, and undesirable species, thus changing all visual elements of the landscape.

Noxious Weeds. The management goals and objectives for noxious weeds would produce effects to visual resources the same as those described in Alternative A; however, the potential for weed invasion might also be greater because fewer control methods would be proposed. With the elimination of vegetative treatments, visual resources could be affected through decreased control of noxious weeds, which would allow for increased weed invasion in some areas, affecting the color and texture of many landscapes.

Grazing Management. No livestock grazing would be authorized in the AMU. Livestock grazing would occur in the CMPA consistent with the Steens Act, but administrative solutions would be emphasized,, thereby reducing the need for rangeland projects and the introduction of new forms, lines, colors, and textures into the landscape. Removal of nonfunctional projects would enhance visual resources through the removal of improvements or structures that may contrast with the landscape.

Energy and Minerals. Commodity uses such as mining, grazing, and other resource consumptive uses would not be allowed and the potential for effects to visual resources would be reduced.

Wildland Fire Management. Effects to visual resources relating to initial attack and fire suppression would be increased because a minimal level of time or resources would be used for these actions. Wildland fires that threaten property, human life, or significant resources would be suppressed. Suppression of other wildland fires would be evaluated and managed with minimal suppression actions. In dry years, large wildland fires could change the landscape from sagebrush steppe to annual grassland, thereby affecting visual resources. If increased fire cycles lead to permanent establishment of grassland, the effects to visual resources would be high.

Lands and Realty. This alternative would recommend withdrawal of the entire Planning Area from public lands laws, including the mining laws. All public lands would be retained and public holdings would be increased. The entire

Planning Area would be considered a ROW and realty use exclusion area. This management action would eliminate any potential effects to visual resources from such activities as described in Alternative A.

Transportation and Roads. Only roads required by law would be constructed and road maintenance would decrease. Road closures would be the most extensive and effects to visual resources would be minimal.

Off-Highway Vehicles. With the Planning Area designated as either closed or limited designated roads and trails for OHV and mechanized vehicle use, the effects to visual resources would either be reduced from an overall reduction in use or increased from more concentrated use. Restricting OHV and mechanized vehicle use to a limited number of designated routes, with no reduction in use, would result in increased color contrasts between the travel surface and the surrounding vegetation through continued vegetation loss, soil exposure, and soil erosion. The visual contrasts associated with areas designated as open, as described in Alternative A, would not occur.

Planning Unit
Visual resources would be managed to protect natural values. Designation of the Steens Mountain ACEC as VRM Class I would preserve and protect the visual resources of the ACEC that would not be in the Steens Mountain Wilderness, a wild WSR or a WSA. Designation of the four parcels found to contain wilderness values as VRM Class II would protect the visual resources and naturalness of these parcels. Designating the rest of the Planning Area as VRM Classes II and III would retain the existing landscape character in some areas, while allowing moderate changes in others. Major landscape modifications would not be allowed.

CMPA
Designating the WJMA as VRM Class III would allow the moderate landscape changes that would be needed to implement the purposes of the area. Designation of the remainder of the CMPA as VRM Class II would retain the existing landscape while allowing the implementation of small, non evident management changes.

AMU
Designating the AMU as VRM Classes II and III would retain the existing landscape character in some areas, while allowing moderate changes in others.

4.11.3.4 Alternative C

Direct Effects

Planning Unit
Visual resources would be managed to protect natural values. Designation of the Steens Mountain ACEC as VRM Class I would preserve and protect the visual resources of the ACEC that would not be in the Steens Mountain Wilderness, a wild WSR or a WSA. Designation of the four parcels found to contain wilderness values as VRM Class II would protect the visual resources and naturalness of these parcels. Designating the rest of the Planning Area as VRM Classes II and III would retain the existing landscape character in some areas, while allowing moderate changes in others. Major landscape modifications would not be allowed.

CMPA
Designating the WJMA as VRM Class III would allow the moderate landscape changes that would be needed to implement the purposes of the area. Designation of the remainder of the CMPA as VRM Class II would retain the existing landscape while allowing the implementation of small, nonevident management changes.

AMU
Designating the AMU as VRM Classes II and III would retain the existing landscape character in some areas, while allowing moderate changes in others.

Indirect Effects

Riparian and Wetlands. This alternative would be similar to Alternative B; however, the rate of improvement in riparian/wetland areas and upland vegetation would be expected to increase because both active and passive measures would be used. Visual resources would be maintained or improved.

Woodlands. The overall effects relating to initial fire attack and suppression of wildland fires would be the same as Alternatives A and E. This alternative would allow removal of up to 90 percent of the post-settlement western juniper trees. Fires would be allowed to burn in old growth western juniper stands when there would be no threat to life or significant resource values. This level of treatment would cause a higher level of effects to visual resources.

Noxious Weeds. The effects of management actions for noxious weeds would be the same as those described for Alternative A.

Grazing Management. Protection of natural values would be emphasized in the AMU while providing for minimal sustainable livestock grazing that meets allotment management objectives. Grazing in the CMPA would be allowed consistent with the Steens Act, but natural resource objectives would be emphasized. These management actions would reduce effects to visual resources. Range improvements could affect visual resources through the addition of forms, lines, colors, and textures that would not be found in the surrounding landscape. Removal of nonfunctional projects would enhance visual resources through the removal of improvements or structures that may contrast with the landscape.

Energy and Minerals. The potential effects of energy and minerals to visual resources would be reduced, since ACECs and existing and potential BLM recreation sites have been withdrawn from various types of energy and mineral development. There would be less potential for effects to occur because consumptive uses would not be encouraged.

Wildland Fire Management. Effects to visual resources would be the same as Alternative B.

Lands and Realty. All ACECs, WSAs, WSRs, the Steens Mountain Wilderness, and the CMPA would be designated as ROW and realty use authorization exclusion areas. The feasibility of consolidating existing parallel ROW facilities would be evaluated. Federal agency requests for new withdrawals would be recommended for approval only if they would protect natural values. These management actions, along with others for Alternative C, would minimize visual effects.

Transportation and Roads. Transportation systems would be managed to meet resource goals and objectives consistent with emphasizing the protection of natural values. To the extent that this results in road closures, seasonal closures, and other limitations, disturbance effects to visual resources would be minimized and would be more like those in Alternative B than under Alternative A.

Off-Highway Vehicles. With the Planning Area designated as either limited to designated roads, ways, and trails or closed for OHV and mechanized vehicle use, visual resources would not be affected. The visual contrasts associated with areas designated as open, as described in Alternative A, would not occur. OHV and mechanized vehicle use would be spread out through the Planning Area so the color contrasts associated the heavy use of a limited number of designated roads and trails, as described in Alternative B, would not occur.

4.11.3.5 Alternative D

Direct Effects

Planning Unit
Visual resources would be managed to improve natural values. Designating parts of the Planning Area as VRM Classes II and II would retain the existing landscape character in some areas, while allowing moderate changes in others. Major landscape modifications would be allowed in those areas designated as VRM Class IV.

CMPA
Designating lands within ½ mile of the Steens Mountain Loop Road in the WJMA as VRM Class III would allow moderate landscape changes. Designation of the remainder of the WJMA as VRM Class IV would allow major landscape modifications. Designating the remainder of the CMPA as VRM Classes II and III would retain the existing landscape character in some areas, while allowing moderate changes in others.

AMU
Maintaining the existing VRM classes would allow a variety of management actions that could or would affect existing visual resources, depending on the VRM class. Moderate and major landscape modifications would be allowed in some areas.

Indirect Effects

Riparian and Wetlands. The effects to visual resources would be the same as Alternative C.

Woodlands. Although the management actions for woodlands would be different under Alternative D than under Alternatives A, B, and C, the effects to visual resources would be the same as described under those alternatives.

Noxious Weeds. The effects of management actions for noxious weeds would be the same as those described for Alternative A. However, additional actions would be more likely to affect visual resources than Alternatives A, B, and C. These actions include giving priority to high quality natural resource areas, and emphasizing prevention, restoration, research, and expanded efforts to inventory for and detect new infestations,

Grazing Management. Grazing management prescriptions in both the AMU and the CMPA would be developed to meet natural resource objectives. Range improvements could affect visual resources through the addition of forms, lines, colors, and textures that would not be found in the surrounding landscape.

Energy and Minerals. Effects to visual resources would be reduced with respect to Alternatives A or E, but would increase with respect to Alternatives B and C.

Wildland Fire Management. Effects to visual resources would be the same as Alternative C.

Lands and Realty. The acquisition of land with high public resource values would be emphasized. All large scale facilities would be encouraged to locate in the designated corridors. Failure to do so would increase effects to visual resources. WSRs and the Steens Mountain Wilderness would be designated as ROW and realty use authorization exclusion areas. All WSAs and ACECs would be designated as ROW and realty use authorization avoidance areas. New withdrawals and modifications would be considered on a case-by-case basis.

Transportation and Roads. For existing transportation and roads management, this alternative would result in management that meets resource goals and objectives, but strikes a balance between cultural, economic, ecological and social values.

Off-Highway Vehicles. With most of the Planning Area designated as closed or as limited to existing or designated roads, ways, and trails for OHV and mechanized vehicle use, visual resources could be affected. The visual contrasts associated with an area being designated as open, as described in Alternative A, would not occur because the only area designated as open would be a dry lake bed. OHV and mechanized vehicle use would be spread out through the Planning Area so the color contrasts associated the heavy use of a limited number of designated roads and trails, as described in Alternative B, would not occur. Cooperative management of OHVs and mechanized vehicles could benefit visual resources through the education of users and increased compliance with the OHV and mechanized vehicle designations.

4.11.3.6 Alternative E

Direct Effects

Planning Unit
A variety of management actions that could or would affect existing visual resources, depending on the VRM class, would be allowed. Moderate and major landscape modifications would be allowed in some areas.

CMPA
Designation of the WJMA as VRM Class IV would allow major modification of that landscape. Retaining the existing VRM classes in the remainder of the CMPA would allow a variety of management actions that could or would affect existing visual resources, depending on the VRM class. Moderate and major landscape modifications would be allowed in some areas.

AMU
Keeping the VRM Class II areas in the Trout Creek Mountains and around Denio Creek would retain the existing landscape character in these areas. Management actions for the protection of other resources would be allowed if VRM Class II objectives would be met. Designating the majority of the AMU as VRM Class IV would allow a variety of management actions that would affect visual resources. Major landscape modifications would be allowed in VRM Class IV areas.

Indirect Effects

Riparian and Wetlands. The effects to visual resources would be the same as Alternative A.

Woodlands. The effects to visual resources would be the same as Alternative A.

Noxious Weeds. The effects of noxious weed treatments would be the same as Alternative D.

Grazing Management. Livestock grazing opportunities would be maximized under this alternative. Range improvements would affect visual resources through the addition of forms, lines, colors, and textures that would not be found in the surrounding landscapes.

Energy and Minerals. Effects to visual resources from management actions relating to the extraction of mineral materials, oil and gas and geothermal exploration, and development and production of locatable minerals would have a slightly higher potential to change the natural character of the landscape than under Alternatives A, B, C, or D because these consumptive actions would be encouraged.

Wildland Fire Management. All wildland fires would be suppressed using appropriate management actions. The effects to visual resources would be same as Alternative A.

Lands and Realty. Acquisition of land with high commodity values would be emphasized over lands with high natural resource values. In the long term, effects to visual resources would increase if commodity uses increase. The overall effects to visual resources would be greater than Alternatives A, B, C, or D. WSRs and the Steens Mountain Wilderness would be designated as ROW and realty use authorization exclusion areas. All WSAs and ACECs would be designated as ROW and realty use authorization avoidance areas.

Transportation and Roads. Transportation and roads would be managed for the benefit of commodity production. Road closures would be the least extensive and maintenance requirements would be higher. New road development would be encouraged.

Off-Highway Vehicles. With the majority of the Planning Area designated as open or as limited to existing or designated roads, ways, and trails for OHV and mechanized vehicle use, visual resources could be affected. The visual contrasts associated with an area being designated as open, as described in Alternative A, would occur because most of the Planning Area would be designated as open to OHV and mechanized vehicle use. OHV and mechanized vehicle use on existing and designated roads, ways, and trails would be spread out through the Planning Area so the color contrasts associated the heavy use of a limited number of designated roads and trails, as described in Alternative B, would not occur.

4.11.4 Summary of Effects

The management goals for visual resources, which would be to manage public land actions and activities consistent with VRM objectives, could be met for all alternatives. Potential effects could occur under all alternatives, on a site-specific basis, from activities such as proposed development, grazing, woodland treatments, OHV and mechanized vehicle uses, mining, recreation, and fire suppression. However, by following BMPs and mitigations for specific projects, the degree or level of effects to visual resources would be minimized.

The greatest protection for visual resources would occur under Alternative B. Alternative E is the commodity driven alternative and would have the greatest potential for effects to visual resources. Alternatives C and D would be similar

in terms of the potential for effects to visual resources. However, Alternatives C and D would provide a greater level of protection for visual resources than Alternatives A and B.

4.11.5 Cumulative Effects

The western United States continues to experience increases in population growth with a corresponding increase in the potential for proposed development, consumptive uses, recreation activities (motorized and nonmotorized), and the continuation of existing uses such as grazing. Any increase in traffic or additional use of resources that would affect line, form, color, or texture of a given area could have a cumulative effect to visual resources.

4.12 Social and Economic Values

4.12.1 Goals and Objectives

Goal 1 - Manage public lands to provide social and economic benefits to local residents, businesses, visitors, and future generations.

Objective 1. Work cooperatively with private and community groups and local government, the Burns Paiute Tribe, and other tribal governments to provide for customary uses consistent with other resource objectives and to sustain or improve local economies.

Objective 2. Maintain and promote the cultural, economic, ecological, and social health of the Steens Mountain area.

4.12.2 Assumptions

Social and economic values, as well as natural resource protection and commodity production from public lands must, at minimum, meet the mandates of management policy and law such as the FLPMA, the Wilderness Act, the WSA IMP and the Steens Act.

The federal government collects revenues when commodities would be used. Commodity use on public lands generates revenues for the federal government and private economic activity in the local, regional, national, and in some cases international economies. Business activities of federal agencies also generate economic activity in the local, regional, and national economies both as an employer and as a purchaser of goods and services.

Public lands provide or contribute to numerous environmental amenities, such as clean water, scenic quality, and recreational opportunities. These amenities enhance local communities and tourism. Recreational use of public lands generates local economic activity through purchases of food, fuel, lodging, and other goods and services from local businesses.

Public lands also contribute financially to local governments through provisions to share commodity collections with local governments and through PILT, which compensates counties for loss of local property tax due to exemption of public lands from property taxes.

4.12.3 Analysis of Alternatives

Social and economic values would be affected by the management actions specific to this resource as well as the management activities of a number of other resources/uses. The management actions outlined for the resources/usesdiscussed below would not all have implications on social and economic values. General effects have been summarized in this introduction, whereas specific effects are discussed under each alternative in the following sections.

4.12.3.1 Effects Common to All Alternatives

Water resources, wildlife, vegetation, and special status species management all affect social and economic values through the level (passive/active) and type (natural, low use versus active, high use) of management. Active, high use

management requires more funding, equipment, and labor than management based on natural processes and emphasizing low use. However, active, high use management may yield greater revenues for the BLM and the local economy. Management and use levels increase for all of these resources from Alternative B through Alternative E. The effects to social and economic values from increasing the management and use of these resources would be increased management costs, increased contracting/employment and increased revenues from the commodity and recreational use of these resources. Effects to the natural and intrinsic (inherent, nonmarket) values would also increase from Alternative B through Alternative E, and may lead to a decrease in specific recreation uses, thus precluding some of the expected increases in overall use and revenues. The Wild Horse and Burro program has a limited effect on the local economy since the adoption fees go to the national program, and the contractors used would be from out of the area. However, the rare horse breeds and adoption activities do attract visitors and attention to the area and lead to spending locally that would not otherwise occur.

4.12.3.2 Alternative A

Direct Effects

Under this alternative, contracts for services and sale of products would continue to be available to local residents as need and conditions permit. Public and private partnerships to achieve shared economic objectives would also continue.

Indirect Effects

Under this alternative, commodity use would continue at existing levels. Natural resources and facilities would be managed as outlined in existing land use plans and the Steens Act. No new or additional effects would result from this alternative.

Current management practices would continue for all resources and uses under Alternative A; therefore, no new or additional indirect effects should result. Employment, livestock grazing, fire, lands and realty, transportation, OHV, mechanized vehicle, and recreation management and use levels would continue, thus supporting the existing conditions outlined in Chapter 3 and summarized below.

Energy and Minerals. There would be no energy or minerals facilities currently operating in the Planning Area; therefore, no fees would be collected and no money would be contributed to the local economy from these uses.

Grazing Management. The number of livestock grazing public land in the Planning Area would continue to be about 24,500 head. Grazing fee collections would be about $132,993 annually if the current fee remains the same for the life of the plan. About 62 percent of the grazing fees would be returned to Harney County to fund rangeland improvement projects. Beef sales in Harney County were greater than $41 million in 2001, and the current sales would be expected to be close to that total. Currently, 35 permittees on 72 allotments are permitted for a total of 107,011 AUMs and utilizing 1,593,623 acres. The average amount of annual grazing fees collected would be approximately $145,000. The current stocking levels would continue subject to results of monitoring, and range improvement projects would be consistent with past management; thus, the economic effects of grazing should not change under this alternative.

Wildland Fire Management. Approximately 55 to 60 temporary firefighters would be employed each year and an average of $100,000 would be spent on contracting for fuels management in the Planning Area each year. The Burns District may also spend from $25,000 in a mild fire season to $275,000 in a severe season on temporary hires that come mostly from the local communities. Under this alternative, current spending and hiring practices would continue and there would be no change in the effects on the local economy.

Lands and Realty. Under this alternative would be the following classified acres: Zone 1 (Retention/Acquisition) - 1,533,505; Zone 2 (Exchange) - 108,219; Zone 3 (Disposal) - 7744. In the past ten years, the average annual fees collected by the BLM for realty use authorizations were $15,000 per year. Property taxes collected in Harney County in 2002 totaled $4.9 million, of which 26.5 percent went to the County General Fund. Harney County also received $518,880 in PILT in 2002, which should also remain approximately the same. Under this alternative the historical trend of a net loss of public lands in Harney County (See Cumulative Impacts) would be expected to continue into the future. This trend would be expected to diminish somewhat as public lands would be disposed of over time; therefore, less lands and opportunities would be available. The overall effect would be a slight net loss of public lands in the Planning Area

over the life of the plan, though not as much as the last 20 years, resulting in a corresponding increase in county tax revenues. Some of these conveyed public lands would be converted to alfalfa, crested wheatgrass or other development that would not have occurred in public ownership. Conversion of lands to a higher commodity value should result in a higher assessed value on the land, further improving County tax revenues.

Designation of ROW corridors provides project planners with some assurance that their proposals would be possible in a given area. Such assurance would result in reduced costs to the proponent that could then be passed on to the consumer.

Transportation and Roads. Under this alternative road maintenance on the Steens Loop Road in the CMPA would continue to be made available for bid to local companies, which amounts to an average annual contracting expense of $40,000 (based on five year average). The Steens Loop Road would be 52.59 miles in length. The BLM spent $78,302 on contracting for road maintenance in the CMPA in 2002. On the average, road maintenance would be contracted out at approximately $760 per mile. The snow line on the North Steens Loop Road would continue to be accessed by motorized vehicles during the winter months, which would provide recreational opportunities with economic ramifications for local businesses and service providers.

Off-Highway Vehicles. No data were available on expenditures by OHV and mechanized vehicle enthusiasts in the local economy, but it would be logical that this group spends money on food, gas, and possibly lodging in the local communities. OHV and mechanized use would remain at current levels under this alternative; therefore, the effects on the local economy should not change.

Recreation. Travel-related spending in Harney County in 2001 was $18,300,000 and was responsible for 7.4 percent of employment. Revenues from travel accounted for $3,900,000 in earnings.

Heritage tourism (e.g. visits to the Riddle Brothers Ranch) contributes to the local economy, but that contribution has not been quantified. Under this alternative, heritage tourism would likely continue at least at the current rate.

No new facilities or recreation development would be proposed and current use levels would be expected to continue. In addition, SRPs would continue to be issued at current levels and no measures to promote tourism/visitation would be planned; therefore, there should not be any change in the effect on the local economy.

Wilderness. There were 1,224 registered visitors to the Steens Mountain Wilderness in 2002; however, there would be no information on the total number of visitor days. The average value derived from recreation benefits would be $40 per visitor day and visitor expenditures average $30 per day. Ecological services (watershed protection, carbon storage, nutrient cycling, and fish and wildlife habitat) would be additional benefits associated with wilderness. No measures to promote tourism/visitation would be planned and the wilderness would remain under the current management and boundary; therefore, there should not be any change in the effect on the local economy.

4.12.3.3 Alternative B

Direct Effects

This alternative emphasizes natural processes and limits commodity production to that required by law. No grazing, SRPs, or OHV and mechanized use beyond that stipulated in the Steens Act would be allowed, and the Planning Area would be closed to minerals exploration or development as well as to energy and minerals leasing. The entire Planning Area would be an exclusion area for ROWs, realty use authorizations, and renewable energy development; emphasis would be on retention of lands. Recreation and tourism would be allowed but not promoted. Road closures resulting in decreased access and maintenance could inhibit recreational activities.

The effects to social and economic values associated with this alternative include the potential loss of revenues from mining, energy, agricultural production, and disposal of lands as well as a decline in revenues from recreation and tourism. Local contracts and employment would decline, resulting in indirect effects to the retail and service industries. Intrinsic and natural values would also be affected by this alternative. However, such effects on the natural environment may enhance environmental amenities such as scenic qualities and protection of cultural resources, thereby conserving

natural resources for future generations while promoting dispersed or primitive recreation, solitude, and Native American Traditional Practices. The increase in these values may offset any revenues lost from recreation and commodity production.

With adoption of this alternative, commodity production on public land within the Planning Area would be sharply curtailed. With the exception of those resource values assured by the Steens Act, most social and economic values would cease to be viable. Cattle production, mineral extraction, and energy development would not be allowed outside the CMPA, thereby affecting the economic base of Harney County. Tourism and recreation would be discouraged and restricted where possible; tourism and recreation dollars targeted for local businesses would be minimal.

Indirect Effects

Energy and Minerals. Under this alternative, there would be no opportunity for future development, which would limit any future economic gains; however, since there would be no economic benefits under the existing management, no change would occur in the current effects on the local economy.

Grazing Management. Grazing use would be eliminated within the AMU, which would mean a decrease in the total AUMs, a decrease in the total number of livestock grazed in the county and a decline in beef sales. No range projects would be proposed for the Planning Area, thus eliminating the current amount spent on. The number of livestock grazing within the Planning Area would decrease from the existing situation. There would be no collection of grazing fees from the AMU due to the complete elimination of livestock grazing from that area. In the CMPA, livestock grazing would be reduced from the present situation and the collection of grazing fees would be equally reduced. County revenues for range improvement funds would be greatly reduced, as would the sale of beef in Harney County due to decreased grazing in the Planning Area.

Wildland Fire Management. Actions requiring personnel and contractors would be similar to the current situation, causing no change in the effects on the economy.

Lands and Realty. Under this alternative, all lands would be Zone 1. There would be a slight net gain of public lands in the Planning Area resulting in a loss to county tax revenues since all acquisition would be by purchase or donation with no disposal of public lands. Complete retention and exclusion of ROWs and land use authorizations would also limit opportunities for the expansion of private commodity based enterprises. The converse could occur resulting in an offsetting effect on tax revenues. With less public lands available for disposal, more conversion and development of existing private lands may be expected, resulting in higher assessed values on those lands, thus higher property tax revenues.

Transportation and Roads. Under this alternative156 miles of roads would be closed in the CMPA and no longer require maintenance. Eighteen miles of the Steens Loop Road would be closed. This would decrease the amount spent on maintenance contracts by approximately $13,700. In addition, the remaining open sections of the Steens Loop Road would be maintained at a lower level. This could affect access for public land users leading to possible decreased tourism and loss of tourism dollars that contribute to the local economy. This alternative would mandate the closure of the Steens Loop Road during winter months. Winter recreation would effectively be discouraged during those times when the snowline would be at a distance from the gates resulting in possible lost revenue to the economy.

Off-Highway Vehicles. OHV and mechanized vehicle use would be limited and the closed areas would be maximized. This would result in decreased use and the correlating expenditures.

Recreation. Recreation and tourism would not be encouraged. No recreation or tourism oriented facilities would be constructed resulting in limited opportunities, and it would be anticipated that a decline in visitation could occur. This could mean losses in revenues to local businesses and service providers. In addition, the SRPs in the AMU would be revoked resulting in a decrease of fees collected by the BLM for SRPs. With closure of a stretch of the Steens Loop Road there would be a possible effect on heritage oriented tourism resulting in an effect on the local economy.

Wilderness. A five percent increase in the length of stay could result in a five percent increase in visitor days and the value derived from recreation benefits ($40 per visitor day) and visitor expenditures (average $30 per day).

4.12.3.4 Alternative C

Direct Effects

Under this alternative, commodity production would be restricted to increase protection of natural values. Commodity use would be allowed at levels that can be maintained through time and that contribute to the stability of the local livestock and mining industries. Local contracts would be targeted for services to restore and maintain natural systems. Management would continue to facilitate commodity uses and continued access and availability of natural resource amenities. Renewable energy authorizations, ROWs, and realty use authorizations would be considered on a case-by-case basis in the AMU outside of ACECs, WSRs and WSAs. Land tenure would be limited, and emphasis would be on acquisition of lands with natural or cultural values. OHV and mechanized vehicle use, SRPs, and some forms of recreation could be restricted. Road closures would decrease access for recreation or commodity production.

This alternative allows more use than Alternative B and provides for stability in the local economy; nevertheless, it would still have some effects on commodity production, realty use authorizations, land tenure, renewable energy, and recreation, thereby resulting in a decline of revenues from these uses. As with Alternative B, intrinsic and natural values would be affected. Improvements to the natural environment may enhance environmental amenities such as scenic qualities and protection of cultural resources. This may lead to increases in dispersed or primitive recreation, solitude, and Native American Traditional Practices. The increase in these values may offset any revenues lost from recreation and commodity production. In addition, the emphasis on targeting local contracts would benefit the local economy.

This alternative would result in restrictions on commodity production when natural resources were threatened. Local contracts for goods and services would be available primarily for projects designed for protection, conservation, restoration and maintenance of natural resources. Tourism and recreation would be managed as far as possible with an emphasis on low impact to natural values and on education concerning those values.

Indirect Effects

Energy and Minerals. Under this alternative, opportunities for future development would be limited and this would limit any future economic gains; however, there would be no economic benefits under the existing management so there would not be any change in the current effects on the local economy

Grazing Management. Grazing management and range improvements would be similar to the existing management with the exception that some grazing permits may be discontinued. Eliminating permits and AUMs would result in decreased fees (reduction of AUMs would reduce fees) and could reduce the total number of livestock grazed (reduction of AUMs equates to reduction of livestock and therefore of beef sales). The reduction in livestock grazing would decrease the amount of grazing fees collected from the existing level. This would reduce the amount the county would receive for range improvement funds. The sale of beef in Harney County would be reduced from the existing level.

Wildland Fire Management. Actions requiring personnel and contractors would be similar to the current situation so there would be no change in the effects on the economy.

Lands and Realty. Under this alternative Zone 1 lands would include 1,202,317 acres; Zone 1A lands would include 171,019 acre; Zone 1B lands would include 257,136 acres; Zone 2 lands would include 15,158 acres; and the Zone 3 lands would include 3,837 acres. There would be a slight net gain of public lands in the Planning Area with a corresponding loss in county tax revenues, since private lands and values acquired would exceed the values of public lands being disposed.

Designation of ROW corridors provide project planners with some assurance that their proposals would be possible in a given area. Such assurance would result in reduced costs to the proponent, which could then be passed on to the consumer.

Transportation and Roads. Twenty-nine miles of roads would be closed and no longer require maintenance. This would decrease the amount spent on contracted maintenance by approximately $22,000. In addition, this could affect access

for public land uses which contribute to the local economy. The Rooster Comb portion of the Steens Loop Road (three miles) would be permanently closed. This could affect tourist numbers bringing about decreased spending in the region. The existing gate system would be used for access to the snowline on the North Steens Loop Road for nonmotorized recreation only. There could be a reduction in winter recreation as a result.

Off-Highway Vehicles. OHV and mechanized vehicle use would be similar to current levels with a few additional closures, which may result in some decreased use and expenditures.

Recreation. Recreation and tourism would be similar to Alternative A with some additional limitations and it would be anticipated that a decline of visitation may occur. This could mean losses in local revenues. Heritage tourism could possibly be affected by the closure of the Rooster Comb section of the Steens Loop Road with some effect on tourist dollars.

Wilderness. A 15 percent increase in the length of stay for the Gorges and a ten percent increase in the length of stay for the plateau could result in a ten to 15 percent increase in visitor days and the value derived from recreation benefits ($40 per visitor day) and visitor expenditures (average $30 per day).

4.12.3.5 Alternative D

Direct Effects

This alternative attempts to balance social, economic, cultural, and ecological components while incorporating cooperative management. Sustainable commodity use and resource protection that promotes tourism would be encouraged. Renewable energy, ROWs, and realty use authorizations would not be as restrictive as Alternatives B or C, and the retention and acquisition of lands would focus on lands within specially designated areas such as the Steens Mountain Wilderness, WSAs, and ACECs. Recreation would be promoted and new sites developed. OHV and mechanized vehicle use would be allowed on most roads, ways, and trails in the Planning Area.

This alternative would be less restrictive on commodity uses than Alternatives B and C and would have more effects on the natural environment such as soils, vegetation, water resources, and wildlife than either Alternative B or C. The effects to commodity production, realty use authorizations, land tenure, renewable energy, and recreation would not be as great as Alternatives B and C and may favor the local economy. Intrinsic values would also be effected by this alternative.

Emphasis under this alternative would be placed on local cooperative, collaborative processes and cooperative agreements involving services products available locally. These processes and agreements would be aimed at providing for a sustainable and diverse local economy. This economy would be stable and result in long term economic viability for the regional populace. Tourism and recreation would be encouraged such that local businesses would benefit from money brought into the region. Emphasis, however, would be on establishment of steady, year around business that would provide consistent economic benefit to the area.

Indirect Effects

Energy and Minerals. This alternative would allow for increased development potential, which this would increase any future economic gains; however, there would be no economic benefits under the existing management so there would not be any change in the current effects on the local economy.

Grazing Management. Grazing management and range improvements would be similar to the existing management to promote sustainable grazing levels. Under this alternative, the number of livestock numbers and beef sales would be expected to remain at the current levels. Contract expenses would also remain at current levels. The permitted use would be nearly the same as in the present situation so the number of livestock grazing Public Land and the grazing fees collected would be nearly the same. The amount of funds that Harney County would receive for rangeland improvements would be about the same as in the present situation. The sales of beef in Harney County would be nearly the same as in the present situation at first and increase over the life of the plan due to inflation.

Wildland Fire Management. Emphasis on the suppression of fires that threaten area of economic values and managing for cultural, economic, ecological and social values may require additional staffing and contractors. An increase in staffing and an increase in contracting would mean an increase of revenue to the local economy.

Lands and Realty. Under this alternative Zone 1 lands would include 845,282 acres; Zone 1A lands would include 171,019acre; Zone 1B lands would include 257,136 acres; Zone 2 lands would include 364,771 acres; Zone 2A lands would include 1,319; and the Zone 3 lands would include 9,940 acres.

Generally, over the long term there would be no expected change in the ratio of public lands to private lands in the Planning Area due to a balanced variety of land tenure actions including both acquisitions and disposals. Due to additional public land disposals in neighboring Planning Areas there would continue to be an overall net loss of public lands in Harney County consistent with the historical trend. For this reason county tax revenues would be expected to increase. Property tax revenues would be further enhanced by disposal of public lands, some of which would be converted to commodity production such as seedings or alfalfa fields under private ownership, which should resulting in higher assessed values on those lands.

Designation of ROW corridors provide project planners with some assurance that their proposals would be possible in a given area. Such assurance would result in reduced costs to the proponent that could then be passed on to the consumer.

Transportation and Roads. Under this alternative none of the Steens Loop Road would be closed and contracting maintenance of the Steens Loop Road would continue. This could provide an average of $40,000 to the local economy. Within the CMPA 7 miles of roads would be closed and no longer require maintenance. This would possibly decrease tourism and could affect the local economy. This alternative would allow motorized winter access through the North Steens Loop Road gate for both motorized and nonmotorized recreation maintaining and possibly increasing the influx of recreation oriented money into the County.

Off-Highway Vehicles. Increased OHV and mechanized vehicle opportunities would result in increased use and correlating expenditures within the community.

Recreation. Recreation and tourism would be promoted and it would be anticipated that an increase in visitation could occur. This could mean gains in local revenues. Heritage tourism would be encouraged with emphasis on the historic social structure of Harney County.

Wilderness. A 20 percent increase in the length of stay for the Gorges and a 15 percent increase in the length of stay for the plateau could result in a 15 to 20 percent increase in visitor days and the value derived from recreation benefits ($40 per visitor day) and visitor expenditures (average $30 per day).

4.12.3.6 Alternative E

Direct Effects

Under this alternative, commodity production, local contracts, and tourism would be emphasized. Grazing and minerals exploration and development would be maximized, while renewable energy would be managed the same as under Alternative D. Land tenure would be focused on acquisition of lands with commodity producing values. ROW and corridor management would be similar to Alternative D but with fewer restrictions. New roads would be constructed and new recreation facilities would be developed. Recreation and OHV and mechanized vehicle use would be maximized and over half of the AMU would be designated as open for OHV and mechanized vehicle use.

This alternative would be the least restrictive on commodity uses and would have more effects than any other alternative on the natural environment such as soils, vegetation, water resources, and wildlife. This alternative would have minimal limiting effects on commodity production, land authorizations, land tenure, renewable energy, and recreation, since commodity production and public lands use would be maximized. Intrinsic values would be affected the most by this alternative. This alternative could, if enacted, provide the maximum production of goods and services. Contracts would

be targeted for local businesses and individuals to the extent possible. Tourism and recreation would be managed to bring in maximum dollars. Industries would be courted that would most enhance the regional economy.

Indirect Effects

Energy and Minerals. This alternative would maximize the potential for development and future revenues from minerals and energy.

Grazing Management. Grazing management and range improvements would be maximized under his alternative and the number of livestock numbers and beef sales would be expected to increase. An increase in AUMs would result in increased beef sales. Range improvement projects would result in an increase in contracting dollars. The permitted use would increase in the Planning Area, which would result in an increase in the number of livestock grazing public land and the amount of grazing fees collected. Harney County would receive more funds for range improvement projects providing a positive effect for the economy. Beef sales in Harney County would be greater than in the present situation and increase over the life of the plan with inflation.

Wildland Fire Management. Managing for resource and economic benefit may require additional staffing and contractors. Increase in staffing and an increase in contracting would mean an increase in financial support to the local economy. In addition, post fire seedings would focus on maximum economic gain, which may support additional livestock grazing and increase AUMs and beef sales.

Lands and Realty. Under this alternative Zone 1 lands would include 705,072 acres; Zone 1A lands would include 171,019acre; Zone 1B lands would include 257,136 acres; Zone 2 lands would include 503,947 acres; and the Zone 3 lands would include 12,296 acres. This alternative maximizes the potential for disposal of lands as well as ROWs and realty use authorizations. Land disposal would also increase opportunities for the expansion of private commodity based enterprises and the increased opportunities for ROWs and realty land authorizations, would also have effects on the economy. Although relative acreage in Zones 1, 1A, and 1B would generally remain constant, there would be the potential for an overall net loss of public lands in the Planning Area due to liberalized disposal possibilities in other zones. A corresponding increase in county tax revenues could occur. Further, tax revenues would be enhanced by disposal of public lands, some of which would be converted to commodity production such as seedings or alfalfa fields under private ownership, which should resulting in higher assessed values on those lands.

Designation of ROW corridors provide project planners with some assurance that their proposals would be possible in a given area. Such assurance would result in reduced costs to the proponent that could then be passed on to the consumer.

Transportation and Roads. Emphasis on local contracting in addition to possible new road construction and increased road maintenance would lead to increased spending on maintenance and local contracting. Under this alternative winter recreation access would be expanded. Motorized access to the snowline on the north would continue for both motorized and nonmotorized recreation. Winter access to the South Steens Campground would be instituted thereby increasing recreational opportunities and increased business opportunities.

Off-Highway Vehicles. OHV and mechanized vehicle use would be maximized and promoted, which would result in increased use and correlating expenditures within the community.

Recreation. Recreation and tourism would be maximized and it would be anticipated that an increase in visitation may occur. This could me increased revenues for local business and service providers. There would be increased emphasis on heritage tourism aimed at encouraging visitation to the region subsequently increasing income to local businesses and service providers.

4.12.4 Cumulative Effects

Economic activities conducted on the lands adjacent to the Planning Area (BLM, USFS, state, USFWS and private lands), as well as economic development or recession within the county, would produce cumulative effects on social and economic values. Anticipated recreation growth would increase the demand for recreation across all ownerships. Alternatives that close lands in the Planning Area to OHV or other recreational use, or that limit access, may place

additional pressure on surrounding lands. Increased recreation and tourism would also provide opportunities for growth in the retail and service sector and would reduce unemployment. Growth in recreation and tourism would also lead to increased traffic, effects to the rural character of the region, and diminished opportunities for solitude or primitive experiences.

Agricultural production in the region could be affected by reducing AUMs under Alternatives B and C, which would either put additional pressure on private lands or lead to a reduction in overall production, thereby affecting the agricultural sector of the economy. Increased recreation and commodity production in the Planning Area and surrounding lands may offset losses in the agricultural sector, but such a shift would be based on yet unknown commodity projections.

Minerals and energy would not be expected to be a major economic contributor to the region. Other BLM programs including land tenure, realty use authorizations, local contracting, purchasing, and employment would have cumulative effects when combined with the activities of private industry, the USFS, USFWS, and state and local governments.

4.13 Energy and Minerals

4.13.1 Goals and Objectives

Goal 1 - Provide opportunities for the exploration and development of locatable minerals in a culturally- and environmentally-sound manner.

Objective 1. Identify land with federal mineral estate available to locatable mineral exploration and development.

Goal 2 - Provide opportunities for the leasing and development of oil and gas, geothermal, and solid leasable mineral resources in a culturally- and environmentally-sound manner.

Objective 1. Identify leasing categories for the land.

Goal 3 - Provide opportunities for the production of saleable minerals by local, state and federal agencies and the public in a culturally- and environmentally-sound manner.

Objective 1. Permit development of mineral materials sources on a case-by-case basis in areas where development does not conflict with significant resource values.

4.13.2 Assumptions

No locatable mineral exploration and development activities would be authorized within the Steens Mineral Withdrawal Area. The Steens Mineral Withdrawal Area covers 45 percent of the Planning Area; designated WSRs, the Steens Mountain Wilderness, and some WSAs would be completely within the Steens Mineral Withdrawal Area. WSAs outside of the Steens Mineral Withdrawal Area cover 27 percent of the Planning Area. These two areas total 72 percent of the Planning Area (1,181,361 acres). As a result, 28 percent of the Planning Area (468,109 acres) would be available for designation as open or closed to locatable, leasable, and saleable mineral exploration and development.

Only a small percentage of the land in the Planning Area that would be available for designation as open or closed (land outside of the Steens Mineral Withdrawal Area, designated WSRs, wilderness, and WSAs) has high potential for locatable mineral resources. Table 2.4 shows available acres with high potential for the various categories of locatable minerals. Available land that has high potential for hot springs gold and mercury comprises two percent of the Planning Area (32,284 acres); 0.08 percent of the Planning Area (1,313 acres) would be available land that has high potential for porphyry copper, gold, and molybdenum; and only one acre would be available land that has high potential for diatomite. There would be no acres of BLM land outside of the Steens Mineral Withdrawal Area, designated WSRs, Wilderness and WSAs with high potential for uranium or vein gold.

Only a small percentage of the available land in the Planning Area has high potential for leasable mineral resources. Table 2.4 shows available acres with high potential for various categories of leasable minerals. There would be no

available acres with high potential for oil and gas resources, 332 available BLM acres in the Planning Area with high potential for geothermal resources, and no acres with high potential for sodium or potassium mineral resources.

Land available for saleable minerals development would be slightly different than the land available for leasable, and locatable minerals in that the Steens Mineral Withdrawal Area would be closed to mineral materials development by Congressional action and the WSA IMP except at those sites specifically identified in the Steens Act, which would be permitted for road maintenance use only. The Steens Act identifies sites comprising a total of 513 acres for development of mineral materials sources within the Steens Mineral Withdrawal Area. Table 2.4 shows land available for designation as open or closed as part of this land management analysis and does not include the 513 acres designated as open by Congressional action and the WSA IMP.

This planning document in its draft form identifies areas open to locatable, leasable and saleable energy and minerals exploration and development under the various alternatives. This planning document in its final form would identify the areas that would be open to energy and minerals exploration and development as a result of this environmental analysis.

Additional environmental analysis would be prepared prior to development of each new locatable mineral mine in areas open to locatable mineral exploration and development to address the specific proposal with the most current resource inventory information in order to identify mitigation needed. Additional environmental analysis would also be required for exploration activities that disturb more than five acres, bulk sampling that would remove 1,000 tons or more of presumed ore for testing, or for and surface disturbing operations greater than casual use proposed in areas within the WSRs, areas designated for potential addition to the WSRs, ACECs, Steens Mountain Wilderness, WSAs, areas designated "closed" to off-road vehicle use, and any lands or waters known to contain federally proposed or listed T&E species or their proposed or designated critical habitat. Locatable mineral exploration may be done under a notice and reclamation bond with no additional NEPA analysis if no more than five acres would be disturbed. Abandoned mine sites in WSAs in the Planning Area would be remediated based on site-specific sampling data and additional NEPA analysis.

Competitive and noncompetitive lease sales would be processed in areas open to leasing as identified by the final version of this planning document, with areas closed to leasing, areas where a NSO stipulation would be applied, and areas where seasonal and/or other special stipulations would be applied as determined as part of the environmental analysis in this planning document. Additional environmental analysis would be prepared prior to permitting exploration and development on a lease to address the specific proposal with the most current resource inventory information in order to identify mitigation needed that would be within the lease terms.

Additional environmental analysis would be prepared prior to development of each new saleable mineral materials source in areas open to mineral materials development to address the specific proposal with the most current resource inventory information in order to identify mitigation needed and to consider not permitting the proposed mineral materials development.

4.13.3 Analysis of Effects

4.13.3.1 Effects Common to All Alternatives

Direct Effects

The direct effects of energy and mineral exploration and development would be removal of the locatable, leasable, or saleable mineral commodity. Geothermal heat would be replenished by natural processes over a period of approximately 100 years; however, water removed containing geothermal heat may not be reinjected to intercept the heat source; therefore, water replenishment in a geothermal system could take longer in this semiarid climate.

Indirect Effects

Energy and mineral exploration and development incorporates site-specific mitigation measures required of the company to reduce or eliminate effects on other resources. Areas to be disturbed may require inventories or special studies to determine the extent of impacts on other resources. The operator may be required to complete the inventories or studies and hire a contractor to conduct the EA under guidelines provided by the BLM.

Common mitigation measures for locatables, nonenergy leasables, and saleable mineral materials can be found in BLM Handbook H-3809-1. For energy leasables, common mitigation measures can be found in the standard lease terms and conditions stated on the lease forms for oil and gas (Form 3110-11) and geothermal resources (Form 3200-4). Relocation of not more than 660 feet (0.125 mile) or the prohibition of new surface disturbance for not more than 60 days would be

generally consistent with lease rights. BMPs also serve as a source of site-specific mitigation measures and can be found in Best Management Practices for Reclaiming Surface Mines in Washington and Oregon, released as Oregon Department of Geology and Minerals Industries Open-File Report O-96-2.

The following paragraphs provide specific exploration and development constraints required to protect resources:

Air Quality. All operators would comply with applicable federal and state air quality standards, including the Clean Air Act. Common dust abatement measures would be watering dirt and gravel roads and having crushing equipment inspected and permitted by the DEQ.

Water Resources. All operators would comply with applicable federal and state water quality standards, including the Federal Water Pollution Control Act, as amended. Spill containment and cleanup measures would be required for toxic substances or petroleum products used in operations. The operator would take measures to isolate, remove, or control toxic materials. The operator would take measures to control erosion and prevent offsite water runoff.

Soils and Biological Soil Crusts. At the earliest feasible time, the operator would reclaim the area disturbed, except to the extent necessary to preserve evidence of mineralization for locatable minerals. Reclamation would include saving of topsoil for final application after reshaping of disturbed areas has been completed.

Riparian and Wetlands. The operator would take such action as may be needed to prevent adverse impacts to habitat of threatened or endangered species. Reclamation would include revegetation of disturbed areas.

Woodlands. The operator would take such action as may be needed to prevent adverse impacts to habitat of threatened or endangered species. Reclamation would include revegetation of disturbed areas.

Wildland Juniper Management Area. There would be neither mining claims nor minerals leases in the WJMA. Development of saleable minerals would be limited to the 120-acre site named Juniper Materials Source at T. 32 S., R. 32 3/4 E., Section 28 W2NW and Section 29 E2E2NE.

Rangelands. Operators may be required to construct a fence around their operations. Reclamation would include revegetation of disturbed areas.

Plants. A plan of operations and site-specific NEPA analysis would be required prior to exploration and development on a mining claim located on any lands or waters known to contain federally proposed or listed T&E species or their proposed or designated critical habitat. The operator would take such action as may be needed to prevent adverse impacts to threatened or endangered species, and their habitat that may be affected by such operations. Reclamation would include revegetation of disturbed areas.

Noxious Weeds. The operator may be required to take mitigation measures to reduce the spread of noxious weeds. Examples include requiring certified weed-free seed in reclamation, spraying weed infestations when they were discovered, and rinsing equipment at a commercial car wash prior to entering BLM administered lands.

Fish and Wildlife. A plan of operations and site-specific NEPA analysis would be required prior to exploration and development on a mining claim located on any lands or waters known to contain federally proposed or listed T&E species or their proposed or designated critical habitat. The operator would take such action as may be needed to prevent adverse impacts to threatened or endangered species, and their habitat that may be affected by such operations. Reclamation would include rehabilitation of fisheries and wildlife habitat. Operators may be required to construct a fence around their operations. Operators may be required to develop an alternate water source for use by wildlife if the operations affect an existing water source.

Paleontological Resources. Operators would not knowingly disturb or destroy any scientifically important paleontological remains. If they were encountered, the operator would immediately notify the authorized officer and would leave the discovery intact until told to proceed by the authorized officer. The authorized officer would take action to protect or remove the resource and allow operations to proceed within ten working days after notification. For locatable minerals operations, the federal government would bear the cost of investigations and salvage of paleontological values discovered after a plan of operations has been approved.

Native American Traditional Practices. Operators would not knowingly disturb or destroy any scientifically important historical or archaeological site or object. If they were encountered, the operator would immediately notify the authorized

officer and would leave the discovery intact until told to proceed by the authorized officer. The authorized officer would take action to protect or remove the resource and allow operations to proceed within ten working days after notification. For locatable minerals operations, the federal government would bear the cost of investigations and salvage of cultural values discovered after a plan of operations has been approved.

Visual Resources. VRM class objectives would affect mineral and energy development for both short- and long-term operations. Surface disturbing activities would not be allowed in VRM Class I areas (Wilderness, WSAs, wild WSRs, RNAs). Operations in VRM Class II areas would subject to stringent mitigation measures or stipulations to reduce the impacts to visual resources both during and after the development. Operations in VRM Classes III and IV would also be subject to mitigation measures or stipulations, but they would vary from VRM Class II mitigation measures or stipulations in degree, manner, and duration. Examples include, but would not be limited to, recontouring disturbed areas to match existing landforms, adding rock stains to freshly broken rock faces, painting above ground structures to blend with the landscape, and screening operating areas.

Social and Economic Values. The social and economic demand for locatable, leasable, and saleable minerals would be partially met by development of energy and mineral resources in the Planning Area.

Wild Horses and Burros. Reclamation would include revegetation of disturbed areas. Operators may be required to construct a fence around their operations or develop an alternate water source for use by wild horses and burros if the operations affect an existing water source.

Grazing Management. Operators may be required to construct a fence around their operations. Operators may be required to develop an alternate water source for use by cattle if the operations affect an existing water source.

Wildland Fire Management. The operator would comply with all applicable federal and state fire laws and regulations, and would take all reasonable measures to prevent and suppress fires in the area of operations.

Lands and Realty. Under the FLPMA, at Section 206, land exchanges may include the mineral estate if the values and objectives of the land that would leave federal ownership would not be greater than the values and objectives of the land that would be acquired. Under the FLPMA, at Section 209, land sales may include the mineral estate if there would be no known mineral values in the land, or nonmineral development would be more beneficial than mineral development subject to fair market value of the interests being conveyed. Recent land exchanges and sales in the Planning Area kept the mineral estate and surface estate united for ease in management of the land while maintaining compliance with the requirements of FLPMA. It would be expected that future land exchanges and sales would also keep the mineral and surface estates united under one owner.

Transportation and Roads. The authorized officer may require the operator to use existing roads to minimize the number of access routes. Alternatively, construction of a new road may be required to avoid conflicts with other users. Seasonal road closures may be necessary due to road degradation under wet conditions or use of an area as big game winter range. Access roads would be planned for only the minimum width needed for operations and would follow natural contours, where practicable, to minimize cut and fill. For locatable minerals activities under a notice or plan of operations, the location of access routes would be specified. When commercial hauling is involved and the use of an existing road is required, the authorized officer may require the operator to make appropriate arrangements for use and maintenance of the existing road.

Areas of Critical Environmental Concern. There would currently be no mining claims, mineral leases, nor saleable mineral materials sites in ACECs in the Planning Area. A plan of operations and site-specific NEPA analysis would be required prior to exploration and development on a mining claim located in an ACEC.

Wilderness. There would be no mining claims, mineral leases, or saleable mineral materials sites in Wilderness in the Planning Area. Wilderness is closed to location of new claims, mineral leases, and saleable mineral materials sites by Congressional action and the WSA IMP.

Wilderness Study Areas. There would be currently no mining claims, mineral leases, or saleable mineral materials sites in WSAs in the Planning Area except for Red Point School Materials Source, which is grandfathered under the WSA IMP and would not be permitted to extend west of the powerline. No new leases or saleable minerals sites would be permitted in WSAs. Mining claims may be filed in WSAs but no surface disturbing activities would be allowed until Congress designates the WSA as Wilderness or releases the area from WSA status. Abandoned mine sites in WSAs would be remediated based on site-specific sampling data and NEPA analysis. This information belongs in Chapter 3.

Ongoing management of the existing WSAs and the incorporation of less than 400 acres into two WSAs would not further affect energy and mineral development.

Wild and Scenic Rivers. There would currently be no mining claims, mineral leases, or saleable mineral materials sites in WSRs in the Planning Area. WSRs would be closed to location of new claims, mineral leases, and saleable mineral materials sites by Congressional action. Locatable minerals exploration and development would require a plan of operations and site-specific NEPA analysis in areas designated for potential addition to the WSRs.Alternative A

Direct Effects

Twenty-eight percent of the Planning Area is available for designation as open or closed; under this alternative all twenty-eight percent would be open to locatable and leasable mineral exploration and development.

Two percent of the Planning Area would be open to mineral exploration and development that has high potential for hot-springs gold and mercury; less than 0.1 percent of the Planning Area that has high potential for other locatable minerals would be open.

Only 332 acres in the open area have high potential for leasable minerals, and they would be open to leasing with standard lease stipulations.

Twenty-eight percent of the Planning Area would be open to consideration for saleable mineral materials development on a case-by-case basis. Development may not be permitted where it conflicts with resource values, as determined by the BLM Authorized Officer.

Indirect Effects

Indirect effects to minerals and energy could occur from ACECs, WSAs, or wilderness through exclusions of mining and renewable energy activities. Other SMA designations, special status species, visual resource concerns, cultural and historical sites, critical wildlife habitat, wetland/riparian habitat, water and fisheries issues and other resource values limit the number and type of renewable energy use authorizations, and generally constrain renewable energy development. At a minimum, these resource values may require costly mitigation or relocation of a proposal and at a maximum may prohibit the project altogether.

Indirect Effects

Indirect effects to locatable, leasable, and saleable energy and mineral exploration and development could occur from mitigation measures for other resources. At a minimum, these resource values may require redesign or relocation of a proposal and at a maximum may prohibit the project altogether.

4.13.3.2 Alternative B

Direct Effects

Under this alternative, the entire Planning Area would be closed to mineral exploration and development except where required by law or where essential to protect human safety, such as road construction under critical or emergency conditions.

Indirect Effects

There would be no indirect effects because the entire area would be withdrawn from locatable, leasable, and saleable energy and mineral activities.

4.13.3.3 Alternative C

Direct Effects

Under this alternative, which emphasizes protection of natural values, 13 percent of the Planning Area would be open to locatable and leasable mineral exploration and development as a result of withdrawals under this alternative in addition to the currently existing Congressional withdrawals in addition to Congressional action and the WSA IMP.

Less than 0.5 percent of the Planning Area that has high potential for locatable minerals would be open.

Only 43 acres in the Planning Area with high potential for leasable minerals would be open to leasing. They would be open with standard lease stipulations.

Thirteen percent of the Planning Area would be open to consideration for saleable mineral materials removal on a case-by-case basis. Development may not be permitted in the open area where it conflicts with resource values, as determined by the BLM Authorized Officer.

The result of this alternative would be to discourage exploration and development of energy and mineral resources.

Indirect Effects

Indirect effects to minerals and energy would occur from resource values that at a minimum may require redesign or relocation of a proposal and at a maximum may prohibit the project altogether.

4.13.3.4 Alternative D

Direct Effects

Twenty-seven percent of the Planning Area would be open to locatable mineral exploration and development; 1.5 percent of the Planning Area that has high potential for hot springs gold and mercury would be open; and less than 0.1 percent that has high potential for other locatable minerals would be open.

Twenty-eight percent of the Planning Area would be open to leasable mineral exploration and development. Only 332 acres in the Planning Area with high potential for leasable minerals would be open, of which 281 acres would be open for leasing with seasonal or other special stipulations and 43 acres would be open to leasing with standard lease stipulations.

Twenty-seven percent of the Planning Area would be open to consideration for saleable mineral materials removal on a case-by-case basis. Development may not be permitted in the open area where it conflicts with resource values, as determined by the BLM Authorized Officer.

Indirect Effects

Indirect effects to energy and minerals could occur from other resource values that may require mitigation or relocation of a proposal at a minimum and at a maximum may prohibit the project altogether.

4.13.3.5 Alternative E

Direct Effects

Minerals management would be conducted the same as under Alternative A; therefore, the effects would be the same.

Indirect Effects

Indirect effects to energy and minerals exploration and development could occur from other resource values. At a minimum, other resource values may require mitigation or relocation of a proposal and at a maximum may prohibit the project altogether.

4.13.4 Summary of Effects

Alternatives A and E would close the least amount of public land to locatable, leasable, and saleable mineral exploration and development and would therefore offer the greatest opportunity for these activities. Alternative B would close the entire Planning Area. Alternatives C and D would be intermediate in their overall effects to locatable, leaseable, and saleable mineral exploration and development with Alternative C more restrictive.

4.13.5 Cumulative Effects

A relatively small amount of locatable mineral exploration, mining, and occupancy have occurred in the past, is occurring now, and is expected to occur in the future under Alternatives A, C, D, and E despite the large amount of land in the Planning Area that is withdrawn from mineral entry by Congressional action and the WSA IMP. With every additional mining claim, notice, plan of operations, or occupancy, the cumulative effects to resources of the area would increase. Compliance with relevant laws, regulations and policy would minimize cumulative effects on those resources.

The potential for oil and gas resources and solid leasable minerals activity is low. There has only been sporadic interest in oil and gas exploration in the past, and no resource has been discovered. There has been no serious interest in solid leasable minerals in over a century, and now the high potential area is within the area closed to leasing by Congressional action and WSA IMP guidance. Almost all of the land in the Planning Area with high potential for geothermal resources is closed to leasing by Congressional action and the WSA IMP. Constraints placed on leasing and lease operations under the various alternatives would discourage exploration and development; however, they would have little cumulative impact on development of oil and gas, solid leasable minerals, and geothermal resources because there is moderate to low potential for those resources in the area available for leasing.

There would always demand for saleable minerals for use in road maintenance, and development generally conflicts with one or more resources. Constraints placed on development of rock sources under the various alternatives would be subject to the judgement and final decision of the BLM Authorized Officer (Andrews Field Manager), and as time goes by those decisions may be harder to make. It may be necessary at times to accept resource impacts such as visual impacts in a relatively pristine area because of the need to obtain rock from a saleable mineral materials source. Since the Steens Act of 2000 had a provision to allow development of existing saleable mineral materials sources for road maintenance use, the Steens Mineral Withdrawal Area designated in the Steens Act would not have a cumulative impact on saleable minerals development until the existing sources would be exhausted.

4.14 Wild Horses and Burros

4.14.1 Goals and Objectives

Goal 1 – Manage and maintain healthy wild horse herds in established HMAs at AMLs to ensure a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values

Objective 1. Designate HMAs.

Objective 2. Designate/retain Herd Areas in inactive status

Objective 3. Designate AMLs for each HMA and allocate year long forage for wild horses

Objective 4. Manage wild horse numbers within established HMAs to ensure a thriving natural ecological balance.

Objective 5. Provide adequate year-round water sources to sustain wild horse herds.

Objective 6. Maintain herd viability and genetic diversity.

4.14.2 Assumptions

When removed from the herds, wild horses in excess of the minimum AML would be placed in the BLM's adoption program or other long-term care. Under Alternative E, increases in livestock grazing would not result in improper rangeland management.

Wild horses and their habitat would be monitored to determine the timing and implementation of gatherings, and to either support the existing AMLs or to refine and adjust AMLs as needed. This monitoring process should ensure the maintenance of a thriving ecological balance between wild horses and other resource objectives and uses. Monitoring would include the following: 1) periodic horse counts to identify age and sex composition of herds; 2) identification of areas used by livestock and horses; 3) collecting climate data; 4) conducting vegetation utilization studies; and 5) determining vegetation condition and trend.

4.14.3 Analysis of Alternatives

4.14.3.1 Effects Common to All Alternatives

Direct Effects

Viable herds of wild horses and their herd characteristics would be maintained within the boundaries of all HMAs through the use of perimeter fences. Wild horses straying outside HMA boundaries would be removed or returned to the HMA, thereby confining effects from wild horses to the HMAs. Gates in interior pasture division fences would be managed to maximize horse access to the HMA.

Indirect Effects

Rangelands. Few nonnative seedings occur within HMA boundaries. The effect of restoring native species such as sagebrush to nonnative seedings or the action of disking or brushbeating nonnative seedings would have little to no effect on the availability of forage for wild horses.

Noxious Weeds. Noxious weed prevention and control would continue to be a priority in all alternatives. Noxious weed invasion of native plant communities results in loss of forage availability, and degraded plant community structure, cover, composition, and diversity. The priority on noxious weed prevention and control would reduce these effects on wild horses.

Special Status Species. Management actions designed to protect special status species may limit opportunities to improve conditions for wild horses and may conflict with the needs of wild horses, especially if protective fencing would be used.

Grazing Management. Whenever existing grazing management practices on public land would be determined to be contributing to nonattainment of resource objectives, appropriate actions would be implemented that would achieve habitat and other resource objectives. In areas where grazing would be determined to be contributing to nonachievement of S&Gs changes in management could be implemented that would result in increased plant density and cover that could increase available forage for wild horses.

Wildland Fire Management. Areas burned by wildland or prescribed fire would be rested from livestock grazing for a minimum of two growing seasons, with grazing resumed only when monitoring data support achievement of objectives. This practice would allow vegetation to increase in density and vigor and could potentially increase forage availability. Increased vegetation could provide potential increases in suitable forage for wild horses.

4.14.3.2 Alternative A

Direct Effects

The acreage of the existing HMAs would remain the same. The Steens Act legislated land exchanges between private and public lands. Retaining the current HMA boundaries would result in two HMAs, the Kiger and South Steens, encompassing more private property. That BLM goals and objectives for wild horses would be met by private landowners could not be assumed. Failure to adjust the HMA boundaries could result in difficulties meeting BLM goals and objectives for the Kiger and South Steens HMAs. The Alvord-Tule Springs HMA would not be combined with the Coyote Lake HMA. The two HMAs would continue to be managed separately by the Burns and Vale Districts, respectively. Since the current HMAs would be retained, no adjustments to the current Herd Areas would be necessary.

The current AMLs would be retained for all HMAs. The AMLs would be based on the number of acres of BLM land and available forage in an HMA. The number of acres of public land in the Kiger and South Steens HMAs was reduced due to land exchanges. Private land owners could use available forage on these recently transferred lands for their

livestock. Failure to consider adjustments of the AMLs in these two HMAs could result in resource damage such as excess forage utilization, which might then result in undesirable rangeland trends.

Forage needs of wild horses would be met under current management strategies. Alternative A does not provide any management actions to adjust current AMLs other than those stated in the herd management plans. However, as conditions vary in the future, events such as drought might require temporary adjustments in horse numbers in order to meet other resource objectives. If vegetation management objectives would not be met, permanent adjustments in AMLs might also be necessary.

As wild horses increase in number above AMLs with no corresponding reduction in livestock numbers, key areas can become overgrazed, with associated decline in forage production and availability. These effects would be compounded during periods of drought, resulting in decreased health of wild horses. If horses would not be gathered when the upper limit of the AML would be reached, horses consume more than the allocated forage, leading to overgrazing and a decline in forage production and availability.

In order to maintain a thriving natural ecological balance within HMAs, wild horses would continue to be gathered every three to four years. Exceptions to current gathering practices include severe threats to the survival of wild horses or the health of rangeland resources. Under the current gathering schedule and AML, horses in the Riddle Mountain HMA have consumed more than the allocated forage during four out of nine years, suggesting that changes might be warranted.

Current public lands water sources would be maintained. Legal access to critical private water sources currently used by wild horses, other than those identified in existing herd management plans, would not be pursued. If horses were excluded from private water sources at some time in the future, herd health could decline, especially during droughts, and horses would probably need to be gathered more frequently.

Indirect Effects

Riparian and Wetlands. The meadows and wetlands associated with riparian areas provide forage for wild horses. Current management actions to maintain and/or improve riparian vegetation would provide stable or increased forage production and availability for horses to the extent that these measures maintain or improve meadow and wetland habitat. Existing grazing systems would be designed to maintain or improve the health of these sites, improving forage production and availability. Exclosures on streams, springs, and riparian/wetland areas, while excluding wild horses from forage, may provide water for horses over a longer period of the year.

Roads within or affecting riparian areas would be maintained; additional roads in riparian areas would be developed in conformance with existing laws and regulations. The effects of roads on wild horses would continue, including temporary displacement due to vehicle noise and human disturbance, and in some places, loss of meadow habitat. Although roads could be designed to minimize the effects of habitat loss for wild horses, the development and management of roads would be based on all resource management objectives.

Woodlands. Woodlands do not provide any critical habitat component for wild horses. The management actions associated with woodlands might temporarily displace any wild horses that were present, but horses could return after activity ceased. Suppression of all lightning- and human-caused fires would eliminate the short-term potential effects of fire, such as loss of forage (e.g., grass and forb understory). Management actions to reduce western juniper in quaking aspen and mountain mahogany would help to maintain and increase forage production for horses through subsequent growth of understory grasses and forbs. Management actions to remove younger western juniper trees from sagebrush habitats would also increase the availability of forage for wild horses through increased growth of grasses and forbs.

Rangelands. The ecological status of native plant communities would be maintained or improved. Plant density and coverage in these communities would be maintained or increased, allowing AMLs to be maintained.

Management actions that restore areas burned by wildland fire or prescribed fire, could prevent conversion of the burned landscape into one dominated by cheatgrass. This would reduce future habitat loss and maintain or improve forage productivity and diversity for wild horses.

Noxious Weeds. The current integrated management of weeds would continue. Control on disturbed areas would be emphasized, as would inventories of new infestations. Limiting the spread of noxious weeds would help maintain forage species needed by wild horses.

Fish and Wildlife. In coordination with the USFWS, ODFW, and permittees, approximately 9,000 acres of deer winter range, which would be in unsatisfactory condition, would be reseeded with sagebrush and a mix of other native and nonnative species. To the extent that these actions would occur within HMAs, additional acreage of suitable forage for wild horses could be available.

Opportunities for the improvement/restoration of fish and wildlife habitat through vegetation manipulation, water developments, etc., would be identified and undertaken. Some improvements such as water development might provide additional resources for horses. However, if the improvements used exclusionary fencing, horses might be restricted from using the improvements.

Forage for wildlife would be allocated at management objective levels. Forage needs of wildlife would be met under current management strategies.

Energy and Mineral Development. Management actions under Energy and Mineral exploration and development, depending on the size, nature, and location of the development, could affect wild horses through displacement from the immediate area and surroundings; interruption of normal movement patterns; and changes in normal areas of use.

Grazing Management. Existing grazing management actions should ensure that livestock use would be balanced with forage production, assuring that horses would have adequate year long forage. Adequate forage would help maintain herd health and viability. Livestock grazing would be managed under a variety of systems on an allotment basis, and where necessary, takes into account the year-round presence of wild horses.

Wildland Fire Management. All wildland fires would be suppressed. This would reduce short-term loss of forage and habitat associated with wildland fire. However, in some locations aggressive fire suppression could contribute to long-term conditions that would allow larger, hotter fires to develop. Such fires would contribute to long-term changes in the vegetation community through a more frequent fire cycle and a consequent decrease in the value of forage plants due to increased presence of undesirable nonnative plant species.

Mechanical treatments and/or prescribed fire to reduce fuel loading in areas where the fire regime has been altered would reduce forage availability in the short term until vegetation recovered from the initial disturbance. Long-term effects of this practice would be reduced dominance of woody vegetation and release of desirable plants. Plant diversity and productivity of herbaceous species would be maintained or increased. An increase in herbaceous vegetation would increase forage availability for horses. Reductions in fuel loading would also decrease the likelihood of catastrophic fire, thereby reducing the potential loss of large areas of wild horse habitat.

Burned areas would be assessed for rehabilitation, which could be accomplished using a combination of mechanized and nonmechanized equipment. In areas where natural recovery would be limited, a mixture of native and desirable nonnative plant species would be used to rehabilitate burned areas. These actions would promote the development of viable plant communities that provide forage for horses, and would help to limit the spread of noxious weeds, which provide little forage value for horses.

Transportation and Roads. This alternative would maintain existing transportation and roads management while implementing the provisions of the Steens Act. The operation and maintenance of the existing roads would be unlikely to cause any additional displacement or disturbance to wild horses, assuming that they have already adapted to the presence and use of these roads.

Off-Highway Vehicles. OHVs and mechanized vehicles would continue to be managed in accordance with the existing open, limited, and closed OHV designations. OHV and mechanized vehicle use along specific routes would temporarily displace wild horses, but would be unlikely to result in long term loss of habitat. Where OHV or mechanized vehicle use would be limited and overlaps with HMAs, no disturbance or displacement to wild horses would be expected.

Recreation. Some disturbance and displacement of wild horses would be expected from existing recreation use. To the extent that unlimited dispersed recreation increases and consistently overlaps with high horse-use areas, horses could temporarily alter their use patterns or be permanently displaced.

4.14.3.3 Alternative B

Direct Effects

Combining the current 343,201 acre Alvord-Tule Springs HMA with the Coyote Lake HMA would result in the 588,420 acre newly-named Alvord-Tule Springs-Coyote Lake HMA. The HMA would then be managed as one unit by the BLM's Vale District. The Kiger HMA would be reduced from its current 38,359 acres to 26,873 acres. The South Steens HMA would be reduced from its current 127,838 acres to 102,342 acres.

To maintain an administrative record of the historic location of horses in the Kiger HMA, a Kiger Herd Area would be created, depicting the loss of public lands resulting from the Steens land exchanges. An adjustment in the South Steens Herd Area would be necessary in response to changes in the HMA due to the loss of public land from the Steens land exchanges. The existing Herd Area would be increased to reflect the decreased size of the HMA.

The current AMLs and wild horse forage allocations would be retained in all HMAs. However, management actions would allow for consideration of permanent increases or decreases, thereby providing greater management flexibility in response to changing environmental conditions and modified HMA size. Allowing for permanent adjustments in AML would help to meet objectives for wild horses while maintaining healthy herds and a thriving ecological balance and meeting the objectives for other resources. The effects of any adjustments in AML on gathering frequency would be analyzed on a case-by-case basis.

The decreased size of the Kiger and South Steens HMAs would warrant consideration of downward adjustments in the AMLs and forage allocations. Failure to do so could result in overgazing, a decline in range condition, poor horse health, and consequently, more frequent gathering. However, any adjustments in AML would need to take into account historic and current use patterns of horses within these HMAs. Any adjustments in the AMLs and forage allocations for the Alvord-Tule Springs-Coyote Lake HMA would need to be coordinated with the BLM's Vale District.

The addition of herd health as one of the measures to consider before initiating herd gathering would provide greater management flexibility than actions provided by alternative A. Besides gathering, other approved methods of population control would be allowed. If these additional methods would be effective, the 20 percent average annual increase in herd numbers would possibly decline, thereby increasing the current time interval of three to four years between gathers, and reducing stress to horses caused by gathering. The assumption would be that these additional methods would be implemented during gathers, which would minimize stress directly attributable to the other methods of population control.

The management action to "normally" reduce herd numbers to the low end of the AML would provide more options for herd management than would occur under alternative A. This flexibility would be important as the efficacy of additional methods of population control would be implemented and evaluated. New methods might alter the need for reducing horse numbers to the low end of the AML as a standard practice.

Water would be more limiting than forage within HMAs. The management action to develop additional water sources could allow for better health of horses during periods of drought, and distribute horse use thereby reducing the likelihood of overgrazing.

The management action to acquire legal access to critical private water sources that wild horses use, would help to provide more stable water sources. If horses were excluded from these water sources at some time in the future, herd health could decline, especially during droughts.

Gathering excess horses would continue, but the time period between gatherings could be potentially increased. The option to modify the male/female sex ratio from 50:50 to 60:40 could increase the time between gatherings due to a slower annual population growth rate than the average of 20 percent. Allowing for the introduction of horses from outside the HMA could help to improve herd health by increasing genome diversity.

Indirect Effects

Riparian and Wetlands. The effects of management actions under this alternative would be the same as in Alternative A except forage availability would increase in the AMU. Reliance on natural maintenance and recovery processes in riparian/wetland areas and adjacent upland areas could result in slower development of improved forage conditions.

Upland vegetation communities adjacent to riparian areas would be managed to reduce fire frequency and intensity, with an emphasis on native vegetation. This would help maintain forage availability for horses.

Active restoration of upland and riparian communities would be limited to sites that would not attain advanced ecological status in 20 to 50 years. In the short term, the reliance on passive measures for other areas could reduce the availability of forage for wild horses and in some locations, could increase the risk of weed invasion.

Woodlands. Management actions associated with the maintenance, restoration, and improvement of quaking aspen and mountain mahogany stands would rely on natural processes and could take a long period of time to achieve goals. If natural processes result in an increase in western juniper a decrease in the amount of understory forage suitable for wild horses could occur. Mechanical removal of all younger western juniper trees from riparian and sagebrush habitats would result in an increase in understory forage suitable for wild horses.

Rangelands. Rangeland management would emphasize passive methods and natural processes to achieve goals and objectives. In some places, management emphasizing passive methods and natural processes could result in less suitable forage for wild horses due to invasive weeds and other undesirable species such as cheatgrass. Management actions would not include the rehabilitation of burned areas, which could result in decreased forage for wild horses due to undesirable nonnative species invasion. Providing for and restoring degraded and decadent shrublands would reduce the dominance of woody vegetation and release desirable plants, which could result in increased growth of grasses and forbs, providing forage for wild horses.

Noxious Weeds. The management actions would produce similar effects to those described in alternative A. However, the potential for weed invasion might also be greater than in other alternatives because fewer methods of control would be authorized.

Fish and Wildlife. The management actions associated with the goals and objectives for fish and wildlife include using sagebrush in seed mixes to reseed 9,000 acres of deer winter range. Sagebrush does not provide forage for wild horses and to the degree that sagebrush replaces herbaceous species, forage availability for wild horses could decline.

Opportunities would be identified and undertaken for the improvement/restoration of fish and wildlife habitat through the use of wildland fire, fence removal, or other mainly passive methods. The effects of this action would be similar to Alternative A. Any removal of fences within designated HMAs would reduce impediments to movement and maximize the area available to wild horses.

Forage for wildlife would be allocated above management objective levels and wildlife populations would be allowed to expand naturally.

Minerals and Energy. None of the potential effects due to energy and mineral exploration, and development, as described in alternative A would occur because the entire Planning Area would be recommended for withdrawal from locatable, leasable and saleable mineral entry.

Grazing Management. No livestock grazing would be authorized in the AMU. The elimination of livestock could lead to increased forage availability for wild horses. The AMLs for affected HMAs could be increased, with a thriving ecological balance still being maintained. Grazing on the CMPA would be allowed consistent with the Steens Act; nonconsumptive uses would be emphasized, as would natural resource objectives. The AMLs for herds in this area could potentially increase. Since permitted use would be discontinued in all allotments where permits would be relinquished, and to the extent this occurs within HMAs, increases in forage availability and in wild horse AMLs could occur.

Wildland Fire Management. Wildland fires that threaten property, human life or significant resource values would be suppressed. Other wildland fires would be evaluated and managed with minimal suppression actions. Suppression of wildland fires in areas with high resource value would preserve the habitat's availability for wild horses. However, over the long term, such activities could possibly contribute to the occurrence of larger, hotter fires, a loss of suitable habitat, increased fire cycle, and invasion of undesirable nonnative species.

All burned areas would be evaluated for rehabilitation actions. A mixture of native plant species would be used to rehabilitate burned areas where natural recovery would be limited. The lack of flexibility regarding choice of seed mix might extend the length of time for rehabilitation. An increased period of time to achieve restoration would represent a loss of forage for wild horses during that period of time. If a substantial portion of an HMA were burned, loss of forage could contribute to the need for emergency gathers.

Transportation and Roads. Only roads required by law would be constructed, and road maintenance would not occur. Road closures would be the most extensive under this alternative. Disturbance effects to wild horses from transportation and roads would be minimal under this alternative.

Off-Highway Vehicles. Areas designated as closed would be maximized. Disturbance from OHV and mechanized vehicle use would be reduced.

Recreation. Visitor use would be managed for dispersed recreation opportunities through closures, regulations, and minimal development. Some undeveloped recreation sites would be closed where natural processes would be jeopardized, which could improve suitable habitat conditions for wild horses. Wild horses would be unlikely to be disturbed by recreational use, unless use would be concentrated in areas preferred by the horses.

4.14.3.4 Alternative C

Direct Effects

The direct effects of Alternative C would be the same as those described for Alternative B.

Indirect Effects

Riparian and Wetlands. Under this alternative both active and passive measures would be used to manage livestock in riparian/wetland areas. Active measures could also be used to accelerate the progress of riparian/wetland areas to an advanced ecological status. The effects on wild horses would be that additional forage may be available but would probably not be allocated to wild horses in order to protect natural values.

Woodlands. Although the management actions for woodlands would be different under Alternative C than for Alternative A, the potential disturbance effects on wild horses would be the same. The effects of allowing natural and human ignited wildland fire to reduce the influence of western juniper on sagebrush and riparian habitats would be the same as those described for Alternative B. Using prescribed fire as well as wildland fire to reduce the influence of western juniper on sagebrush and riparian plant communities would result in long-term increases in suitable forage for wild horses. The option of using prescribed fire would allow resource managers an additional method to achieve goals and could result in the development of suitable forage for wild horses sooner than would occur with wildland fire only.

Rangelands. Management actions would minimize the emphasis on commodity production of herbaceous and shrubby vegetation and would emphasize natural values associated with diverse composition and structure of native vegetation. If this action resulted in less suitable forage for livestock, increased competition between livestock and wild horses for native plant species could occur.

Areas dominated by cheatgrass or an overstory of sagebrush with a few herbaceous plants would be treated. These habitat types provide less forage for wild horses. Following treatment of these habitats, more forage would be available for use by wild horses.

The rehabilitation of plant communities dominated by undesirable invasive species or invasive juniper would increase forage availability for wild horses. Other management actions, including reduction of woody vegetation and management of big sagebrush habitat, would also increase forage availability. Reductions in fuel loading (i.e., reduction of woody vegetation) would decrease the likelihood of catastrophic fire, which would reduce the potential loss of large portions of wild horse habitat. Management actions would not include the rehabilitation of burned areas, which could reduce forage availability for wild horses in the short term.

Noxious Weeds. The management actions would produce similar effects to those described in Alternative A.

Fish and Wildlife. Throughout the Planning Area, as many acres as possible of low diversity native vegetation in deer winter range would be inter-seeded to establish native plant species. Other desirable nonnative plant species may be used on a limited basis. Livestock grazing could be used to suppress competition and allow sagebrush to become established. This could result in some increase in forage productivity for wild horses, but livestock use could reduce its availability to wild horses. Sagebrush does not provide forage for wild horses and to the degree that sagebrush replaces herbaceous species, forage availability for wild horses could decline.

Opportunities to improve/restore fish and wildlife habitat through wildland fire and other vegetation manipulations, limited fence removal, water developments, etc. would be identified. The effects of this action would be similar to Alternative A. Any limited removal of fences within HMAs would reduce impediments to allow for greater unrestricted movement of wild horses.

Forage for wildlife would be allocated above management objectives and wildlife populations would be allowed to expand naturally or through limited transplants. This might decrease the likelihood the wild horse AMLs could be increased.

Energy and Minerals. Many special management areas would be withdrawn from various types of energy and mineral development. These areas would include ACECs, RCAs, and areas containing critical habitat for special status species. The potential effects would be the same as those described for Alternative A, but would be reduced to the extent that additional acres would be excluded from project activity.

Grazing Management. Nonconsumptive uses would be emphasized in the AMU while providing for minimal sustainable livestock grazing that meets allotment management objectives. This management action would increase the likelihood that wild horse AMLs could potentially be increased in the AMU. Grazing within the CMPA would be allowed consistent with Steens Act, but nonconsumptive uses as well as natural resource objectives would be emphasized. The AMLs for herds in the CMPA could potentially be increased. Other management actions to meet natural resource objectives, including discontinued use in vacant allotments that have resource conflicts, could increase potential forage availability for wild horses to the extent that livestock use would be decreased.

Wildland Fire Management. Wildland fires that threaten property, human life, or significant resource values would be suppressed. To the extent that these areas coincide with areas used by wild horses, suitable forage and habitat would be maintained. However, it would also be possible that over the long-term, such activities could contribute to the occurrence of larger, hotter fires, and a loss of suitable habitat and increased fire cycle and weed invasion. Suppression of other wildland fires would be evaluated and managed with minimal suppression actions if they would be appropriate for resource benefits. All burned areas would be evaluated for rehabilitation actions. A mixture of native plant species would be used to rehabilitate burned areas where natural recovery would be limited. The effects of this management action would be similar to those described under Alternative B.

Transportation and Roads. Transportation systems would be managed to meet resource goals and objectives consistent with emphasizing the protection of natural values. To the extent that this results in road closures, seasonal closures, and other limitations, disturbance effects to wild horses would be minimized.

Off-Highway Vehicles. The effects of OHV designations on wild horses would be the same as described for Alternative B.

Recreation. Protection of natural values while providing for developed and dispersed types of recreation could reduce disturbance to wild horses. To the extent that recreational use would be directed away from preferred horse use areas disturbance would be reduced. Some disturbance and displacement of wild horses would be expected from existing recreation. In some locations, concentrated recreation use could result in some loss of wild horse habitat but the amount lost would be relatively small. To the extent that dispersed recreation increases and consistently overlaps with high horse-use areas, horses could temporarily alter their use patterns or be permanently displaced.

4.14.3.5 Alternative D

Direct Effects

The effect of boundary and acreage adjustments for Objective 1 would be the same as for alternative B, with the following exception: The South Steens HMA would be reduced in acreage from its current 127,838 acres to 126,732 acres.

To maintain an administrative record of the historic location of horses in the Kiger HMA, a Kiger Herd Area would be created, depicting the loss of public lands resulting from the Steens land exchanges. An adjustment in the South Steens Herd Area would be necessary in response to changes in the HMA. The existing Herd Area would be increased to reflect the decreased size of the HMA resulting from the Steens land exchanges.

The effects of all other management actions would be the same as those described for alternative B. However, the management emphasis on balanced uses and cooperative management practices means that wild horses would not be given preference over other uses for increasing forage allocations, and thus AMLs. Horses might need to be gathered more often in order to meet the objectives for other resources.

Indirect Effects

Riparian and Wetlands. Similar to Alternative C, management of existing grazing systems would be directed toward improvements to maintain PFC and promote an advanced ecological status. The rate of progress toward achieving an advanced ecological status for restoration of riparian and upland vegetation would be expected to increase because both active and passive measures would be used. In some locations this might require exclusionary fencing to keep horses out of these habitat types, resulting in a temporary loss of suitable habitat. The ecological status objectives would be dependent on meeting multiple resource objectives. In some locations, this could result in increased forage for wild horses, while in other areas restrictions due to compliance with the CWA, ESA, and Executive Orders might require temporary or permanent changes in areas used by wild horses.

Woodlands. The effects of management actions for woodlands on wild horses would be the same as those described under Alternative C.

Rangelands. Grazing systems and range improvements designed to improve ecological conditions would have similar effects as those described in Alternative A. Since the emphasis would be on balanced, cooperative management practices, increased forage could be used by wild horses as well as livestock. The ecological status of native plant communities would be maintained or improved. Consistent with resource objectives, actions would be implemented that would diversify the structure and composition of selected nonnative seedings. These actions would also maintain or improve available forage for wild horses.

The management actions of restoring plant communities that do not meet the DRC due to dominance by undesirable nonnative species, and using prescribed fire and wildland fire to create a mosaic of multiple successional stages, reduce the dominance of woody vegetation, and release suppressed desirable plants. These actions could reduce forage availability in the short term, but in the long term they would increase the amount and diversity of suitable forage for wild horses.

Noxious Weeds. The management actions would produce effects similar to those described in Alternative A.

Fish and Wildlife. Throughout the Planning Area, most of the acres of native vegetation with low diversity in deer winter range would be interseeded to establish native plant species. Nonnative plant species could be used where appropriate. Livestock grazing would be used to suppress competition and allow sagebrush to become established. This would result in some increase in forage productivity for wild horses, but livestock use could reduce its availability to wild horses. Sagebrush does not provide forage for wild horses and to the degree that sagebrush replaces herbaceous species, forage availability for wild horses could decline.

The effects of improvements to and/or restoration of fish and wildlife habitat through wildland fire, other vegetation manipulations, water developments, etc., would be the same as those identified in Alternative A. However, fence removal would not be completed due to livestock grazing. The area available for horses would remain the same as under the current management situation.

Forage for wildlife would be allocated above management objective levels and wildlife populations would be allowed to expand naturally or through limited transplants. The effects of this management action would be the same as those described for Alternative A.

Energy and Minerals. Many special management areas, including ACECs, would be withdrawn from locatable mineral development. Seasonal and/or special stipulations would be implemented for big game winter range, areas containing federally listed species and their designated critical habitat, and within 0.6 mile of identified sage grouse leks. The effects of disturbance to wild horses would be reduced since acreage open to exploration and development would be reduced.

Grazing Management. Nonconsumptive uses would not be emphasized in the development of grazing management prescriptions both in the AMU and the CMPA as in Alternatives B and C, but allotments would be managed to meet natural resource objectives. Any adjustments in AML and livestock use would likely be proportional.

Wildland Fire Management. Management actions and their effects on wild horses would be similar to Alternative C. However, a mixture of native and introduced species would be used to enhance economic and natural resource values for the rehabilitation of burned areas and areas altered by fire suppression. This could allow greater options for resource managers, the possibility of more rapid rehabilitation of sites, and consequently more available forage for wild horses.

Transportation and Roads. The transportation management system would be managed to meet resource goals and objectives that strike a balance between cultural, economic, ecological, and social values in a manner that encourages cooperative management practices. In some locations this could result in continued or increased levels of disturbances to wild horses, while in other locations such effects could be reduced or eliminated. The potential effects would be analyzed on a site-by-site basis.

Off-Highway Vehicles. OHV and mechanized vehicle use would be managed in accordance with Alternative D OHV designations. The BLM would seek cooperative agreements with OHV and mechanized vehicle clubs and other users. Potential effects to wild horses would be the same as described in Alternative A.

Recreation. Tourism and recreation opportunities would be allowed only if consistent with meeting other resource objectives, thereby minimizing any disturbances to wild horses. Development of new recreation sites would also be consistent with the protection of natural values, which would further reduce disturbances to wild horses.

4.14.3.6 Alternative E

Direct Effects

The effect of boundary and acreage adjustments for Objective 1 would be the same as those described for Alternative B, with the following exception: The South Steens HMA would be increased in acreage from its current 127,838 acres to 182,485 acres. This would affect wild horses by opening up more area for the same number of animals as the current AML that would increase the amount of available forage and water. Thriving ecological balance would be easier to maintain within the HMA. The area being returned to active HMA status would be located on the East side of the Steens and would be steep with many small drainages. This would make gathering the horses out of this area difficult with numerous safety hazards. Fences in this area would not keep horses in the HMA. Horses accessing private land and other grazing allotments would create unnecessary gathers that would stress horses. This would use funds that could otherwise be used to gather horses in other HMAs within the Planning Area and postpone those gathers that may affect maintaining thriving ecological balance in those HMAs.

The effects of all other management actions would be the same as those described for Alternative B. Since management emphasizes commodity production, differences in preference mean that any excess forage could be allocated to livestock and/or economically important wildlife rather than to wild horses. Vegetation treatments would benefit livestock and wildlife more than wild horses. Competition for available forage would be increased. Permanent adjustments in AMLs may be necessary as more emphasis would be placed on forage use by livestock.

The effects of Objective 5 would be the same as those for Alternative B with the following exception. Management actions to acquire legal access to critical private water sources would not be conducted. Wild horses currently use these private water sources. Lack of guaranteed legal access to private water sources could make wild horses more susceptible to the effects of drought. If insufficient water would be available during droughts, horses might need to be gathered more often. If horses were excluded from private water sources at some time in the future, herd health and long-term viability could decline.

Indirect Effects

Riparian and Wetlands. Management of existing grazing systems would be directed toward providing maximum use while maintaining or progressing toward PFC. Active restoration of both upland and riparian communities would be pursued to provide sustainable livestock forage, soil stability, and aesthetics, and would not emphasize attainment of an advanced ecological status. Since the management actions would benefit livestock more than wild horses, competition for available forage would be increased and adjustments in wild horse AMLs might be required.

Management of roads in riparian areas would be similar to Alternative A, with emphasis on the development of additional roads to promote commodity production and public uses. Potential effects to wild horses due to disturbance such as temporary displacement, would be more likely to occur under this alternative. If new roads were located in meadow habitat, loss of suitable forage for wild horses could occur.

Woodlands. The effects of management actions would be similar to those described for all other alternatives. The management action to develop markets for the by-products of juniper removal could result in additional disturbances to wild horses in certain locations, and would be analyzed on a case-by-case basis.

Rangelands. Production of native herbaceous and shrubby vegetation for commodity uses within the constraints of other resource management objectives would be emphasized. Areas dominated by cheatgrass or an overstory of sagebrush with a few herbaceous plants would be rehabilitated with species providing optimal forage and vegetative cover. Following treatment of these habitats, more forage would be available, but competition from livestock or wildlife could limit its use by wild horses.

Plant communities dominated by undesirable invasive species or invasive juniper would be rehabilitated with species that would provide optimal forage and vegetative cover. This could increase forage availability for wild horses. Other management actions, including reduction of woody vegetation and management of big sagebrush habitat, would also increase forage availability. Reductions in fuel loading (i.e., reduction of woody vegetation) would decrease the likelihood of catastrophic fire, which would reduce the potential loss of large portions of wild horse habitat.

Noxious Weeds. The management actions would produce similar effects to those described in Alternative A.

Fish and Wildlife. Throughout the Planning Area, some acres of native low diversity vegetation in deer winter range would be interseeded to establish native and other desirable nonnative plant species. Livestock grazing would be used to suppress competition and allow sagebrush to become established. Some increase in forage productivity and availability for wild horses would occur; however, livestock could reduce forage availability for wild horses. Sagebrush does not provide forage for wild horses and to the degree that sagebrush replaces herbaceous species, forage availability for wild horses could decline in the long term.

Opportunities would be identified and undertaken to improve/restore fish and wildlife habitat through wildland fire, other vegetation manipulations, limited fence removal, water developments, etc. These improvements would also benefit livestock. The effects of these actions would be similar to Alternative A; however, competition from livestock might limit the degree to which wild horses could use these improvements, especially if fences around improvements were to exclude horses.

Forage for wildlife would be allocated at management objective levels, but could be increased concurrent with improved range conditions and other improvements. This could result in forage being maintained or a decrease in available forage for wild horses.

Energy and Minerals. Energy and mineral development would be based on the current management framework and only areas closed by Congressional action would be excluded from development. No special designations would be excluded from leasing or entry. Certain stipulations could be applied by an ID team prior to leasing. Potential effects of such activities would be the same as those described for Alternative A. Because of the emphasis on commodity production and fewer closed locations, the likelihood of such effects occurring would be much greater under this alternative than all other alternatives.

Grazing Management. Livestock grazing opportunities would be maximized under this alternative. Depending on the location of increased use, some decline in forage availability for wild horses could occur. Competition between wild horses and livestock for available forage would increase. Since more emphasis would be placed on livestock use of forage, periodic adjustments including decreases in AMLs might be necessary. Although S&Gs would be used to guide management, this alternative does not provide for the emphasis on other resource objectives in allotment planning.

Wildland Fire Management. All wildland fires would be suppressed using appropriate management actions. The effects of these management actions would be the same as those described under Alternative A. Rehabilitation of all burned areas with a mixture of native and desirable nonnative plant species would be used to provide maximum economic production. This would provide suitable forage for wild horses. A plan to manage fires for resource and economic benefit would be developed. Although economic benefits would be prioritized under this alternative, other resources such as big game winter habitat would be likely to receive a similar high priority. Suitable habitat for wild horses would be protected to the degree that horses use the prioritized habitat types.

Transportation and Roads. Transportation and roads would be managed for the benefit of commodity production. Road closures would be the least extensive under this alternative, and maintenance requirements would be greater. New road

development would be encouraged. Under this alternative, the operation and maintenance of roads would be more likely to cause disturbance effects to wild horses such as temporary displacement. The extent of the disturbance would vary depending on the proximity of new roads to habitat regularly used by horses.

Off-Highway Vehicles. Management actions would maximize OHV and mechanized vehicle use. The potential for disturbance to wild horses from OHVs and mechanized vehicles would be highest under this alternative.

Recreation. Increased recreation and tourism would result in greater disturbances to wild horses. To the extent that new recreational developments or increased dispersed recreation occurs in areas regularly used by horses, horses could be permanently displaced from important habitat.

4.14.4 Summary of Effects

Under Alternative A, the objectives would be met with viable populations of wild horses maintained in all HMAs. AMLs would remain unchanged in the HMAs. In some cases, conflicts with livestock production and special status species may occur.

Under Alternative B, AMLs could be maintained within the CMPA and could be maximized within the AMU due to reduced competition from livestock grazing. Viable healthy herds of horses would be maintained. Few conflicts with other resources would occur.

Under Alternative C, the objectives for wild horses would be met and viable populations of wild horses would be maintained. Conflicts could occur on a site-specific basis. Herd health would be improved. The AMLs could be maintained or potentially increased.

Under Alternative D, the objectives for wild horses would be met and viable populations of wild horses would be maintained. Conflicts could occur on a site-specific basis. Herd health would be maintained or improved. The AMLs could be maintained or potentially increased or decreased, based on other resource objectives.

Under Alternative E, AMLs could be decreased because forage would be allocated to livestock before wild horses. Gathering of excess horses might occur more often in order to meet objectives for commodity production. Increased gathering would increase stress on the herds.

4.14.5 Cumulative Effects

Cumulative effects under all alternatives would result in an annual average increase in horse numbers of 20 percent. Over time, horses would be expected to adapt to changes such as increased vehicle use and recreational use. Horses would be expected to adapt to changes in availability and distribution of habitat components of food, shelter, water, and space. Since the horses would be monitored and gathered periodically under all alternatives, they should be able to remain healthy within their existing Herd Areas and in HMAs where boundaries would be modified. Increases in livestock numbers above those described in Alternative E could affect wild horse numbers in the long term and might require a decrease in AMLs.

4.15 Grazing Management

4.15.1 Goals and Objectives

Goal - Manage for a sustainable level of livestock grazing while maintaining healthy public land resources.

Objective 1. Provide for a sustained level of livestock grazing in the AMU while meeting resource objectives and requirements for S&Gs.

Objective 2. Promote viable and sustainable livestock grazing operations in the CMPA while meeting resource objectives and requirements for S&Gs.

4.15.2 Assumptions

This text assumes that, for all alternatives, the "existing conditions" before the application of the management in the Alternative would be with the No Livestock Grazing Area already implemented.

4.15.3 Analysis of Alternatives

4.15.3.1 Effects Common to All Alternatives

Direct Effects

There would be no effects common to all alternatives.

Indirect Effects

ACECs. Managing the existing and designating new ACECs would have no effect on grazing management. Areas that need to be excluded have already been fenced or would be topographically excluded. Dropping the designation on existing ACECs would not have any effect on grazing unless previously excluded areas were opened to grazing and available forage was increased.

Wild Horses. The AML for the three wild horse HMAs would not change throughout the range of alternatives, so wild horse management would have little or no effect on livestock grazing management.

4.15.3.2 Alternative A

Direct Effects

The authorization of TNR grazing use during years of favorable growing conditions would provide additional forage for use by livestock.

Indirect Effects

Water Resources. Water resources would be managed to prevent degradation to water quality so many areas of open water would be unavailable to livestock. The forage that would be excluded along with the water would also be unavailable for grazing by livestock.

Riparian and Wetlands. Management actions developed for riparian and wetlands would have no effect on current livestock grazing management in this alternative.

Woodlands. The reduction of western juniper in big sagebrush, quaking aspen, and mountain mahogany communities would stimulate the growth of herbaceous plant species and provide more forage for livestock. The quality of forage would also improve that would have a direct effect on the health and weight gains of the livestock. Exclosures for post-treatment recovery of quaking aspen and/or mountain mahogany stands that have been invaded by juniper would result in minimal reductions in available forage for livestock.

Rangelands. The application of prescribed fire and mechanical removal of woody vegetation would reduce the dominance of woody species in those areas. Fire treatment areas would require two years of rest from grazing during the growing season, which would result in a short-term forage loss to livestock. Herbaceous species would be released with the reduction in woody species and available livestock forage would eventually be increased. Interseeding of approximately 200 acres of big sagebrush in nonnative seedings may reduce the herbaceous component of the vegetation but would not affect permitted use.

Noxious Weeds. Management actions for the control of noxious weeds would benefit the natural diversity of vegetation communities where noxious weeds have been introduced. By maintaining the natural diversity, livestock grazing would not be affected because the native forage species would still be present.

Fish and Wildlife. Reseeding approximately 9,000 acres of deer winter range with a mixture of sagebrush and other native and nonnative species would probably improve the amount of available livestock forage in the target areas. Other management actions for fish and wildlife would have little impact to livestock grazing.

Visual Resources. Maintaining the existing VRM classes would have little or no effect on livestock grazing or implementation of new range improvements.

Energy and Minerals. Mineral exploration and development may reduce forage production in localized areas within the AMU, but overall, impacts across the landscape would be unnoticable.

Wildland Fire Management. The suppression of all wildland fires could affect the health of plant communities and the quantity and quality of forage available to livestock. Where wildfire reduces woody species from the plant community, forage production would increase. Rest or deferment of grazing following fire and emergency rehabilitation would temporarily reduce available forage in localized areas.

Lands and Realty. The current trend of land acquisition and disposal shows that more acres would become private land and fewer acres would become public land. This trend would generally lower the number of acres and available forage in grazing allotments and consequently lower the amount of revenue gained from grazing public land.

4.15.3.3 Alternative B

Direct Effects

Alternative B would discontinue grazing use in the AMU; therefore, it would preclude the achievement of Objective 1 as stated above. Viable livestock grazing operations would be relatively unlikely in the areas of the CMPA where grazing would continue if grazing levels were reduced to "minimal" as stipulated under Alternative B. Therefore, Objective 2 would also probably not be met.

TNR grazing use would not be authorized. Livestock forage in nonnative seedings could become decadent and forage quality would deteriorate. Grazing use would not exceed the amount of permitted use in the CMPA.

Indirect Effects

Water Resources. The effect of management to improve water quality on grazing management would be the same as in Alternative B.

Riparian and Wetlands. Active and passive grazing management would be initiated in the entire Planning Area to promote further changes in the riparian and wetland areas toward PFC. The changes in grazing use and effects on livestock would be the same as in Alternative B.

Woodlands. Active management to control the advance of western juniper would be in the form of mechanical removal, burning, and cutting and burning. Those actions would stimulate the growth of herbaceous plant species and provide more forage for livestock. Exclosures for post-treatment recovery of quaking aspen and/or mountain mahogany stands that have been invaded by juniper would result in minimal reductions in available forage.

Rangelands. Emphasis on commodity production would be minimized by actions to diversify structure in nonnative seedings. Native species, including big sagebrush would be seeded on approximately 20,000 acres of nonnative seedings, which would eventually reduce the nonnative herbaceous component and also the amount of livestock forage. In the short term, grazing could be increased to suppress herbaceous plant competition and allow for big sagebrush establishment. Wildland fire, prescribed fire and mechanical methods would be used to improve the ecological status of native vegetation communities, which would increase the herbaceous component and benefit livestock grazing.

Noxious Weeds. Management of noxious weeds would be the same as in Alternative B. The effects to livestock grazing would also be the same.

Fish and Wildlife. The interseeding of 35,000 acres of primarily native plant species in deer winter ranges with low species diversity would initially provide an increase in livestock use as they graze the herbaceous species to allow the sagebrush to establish. Once the sagebrush would be established, the amount of herbaceous forage would be reduced through competition. Livestock grazing would eventually drop in the long term. Forage allocations for wildlife would increase and allocations for livestock would decrease.

Visual Resources. Designating the rest of the Planning Area as VRM Classes II and III would retain the existing landscape character in some areas, while allowing moderate changes in others. Range improvement projects that could be designed to meet the VRM Class II and III objectives could be implemented. Major landscape modifications would not be allowed.

Energy and Minerals. A large portion of the Planning Area would be proposed to be withdrawn from mineral exploration and development. The effect of minerals activity in the open area to livestock grazing would be very slight.

Wildland Fire Management. The effects of management actions would be the same as those described in Alternative B except that the benefits to herbaceous plant species and livestock grazing would be realized in the AMU as well as the CMPA.

Lands and Realty. The management actions for acquisition and disposal of lands would not affect livestock grazing on public lands.

4.15.3.4 Alternative C

Direct Effects

Alternative C would reduce grazing use in the CMPA and AMU to "minimal sustainable," which would be interpreted to mean at a level that allows livestock grazing operations to continue to be economically viable.

TNR grazing use would not be authorized. Forage quality would decline in nonnative seedings. Grazing use would not exceed the amount of permitted use in the Planning Area.

Indirect Effects

Riparian and Wetlands. Under this alternative both active and passive measures would be used to manage livestock in riparian/wetland areas. Active measures could also be used to accelerate the progress of riparian/wetland areas to an advanced ecological status. The effects on wild horses would be that additional forage may be available but would probably not be allocated to wild horses in order to protect natural values.

Woodlands. Although the management actions for woodlands would be different under Alternative C than for Alternative A, the potential disturbance effects on wild horses would be the same. The effects of allowing natural and human ignited wildland fire to reduce the influence of western juniper on sagebrush and riparian habitats would be the same as those described for Alternative B. Using prescribed fire as well as wildland fire to reduce the influence of western juniper on sagebrush and riparian plant communities would result in long-term increases in suitable forage for wild horses. The option of using prescribed fire would allow resource managers an additional method to achieve goals and could result in the development of suitable forage for wild horses sooner than would occur with wildland fire only.

Rangelands. Management actions would minimize the emphasis on commodity production of herbaceous and shrubby vegetation and would emphasize natural values associated with diverse composition and structure of native vegetation. If this action resulted in less suitable forage for livestock, increased competition between livestock and wild horses for native plant species could occur.

Areas dominated by cheatgrass or an overstory of sagebrush with a few herbaceous plants would be treated. These habitat types provide less forage for wild horses. Following treatment of these habitats, more forage would be available for use by wild horses.

The rehabilitation of plant communities dominated by undesirable invasive species or invasive juniper would increase forage availability for wild horses. Other management actions, including reduction of woody vegetation and management of big sagebrush habitat, would also increase forage availability. Reductions in fuel loading (i.e., reduction of woody vegetation) would decrease the likelihood of catastrophic fire, which would reduce the potential loss of large portions of wild horse habitat. Management actions would not include the rehabilitation of burned areas, which could reduce forage availability for wild horses in the short term.

Noxious Weeds. The management actions would produce similar effects to those described in Alternative A.

Fish and Wildlife. Throughout the Planning Area, as many acres as possible of low diversity native vegetation in deer winter range would be inter-seeded to establish native plant species. Other desirable nonnative plant species may be used on a limited basis. Livestock grazing could be used to suppress competition and allow sagebrush to become established. This could result in some increase in forage productivity for wild horses, but livestock use could reduce its availability

to wild horses. Sagebrush does not provide forage for wild horses and to the degree that sagebrush replaces herbaceous species, forage availability for wild horses could decline.

Opportunities to improve/restore fish and wildlife habitat through wildland fire and other vegetation manipulations, limited fence removal, water developments, etc. would be identified. The effects of this action would be similar to Alternative A. Any limited removal of fences within HMAs would reduce impediments to allow for greater unrestricted movement of wild horses.

Forage for wildlife would be allocated above management objectives and wildlife populations would be allowed to expand naturally or through limited transplants. This might decrease the likelihood the wild horse AMLs could be increased.

Energy and Minerals. Many special management areas would be withdrawn from various types of energy and mineral development. These areas would include ACECs, RCAs, and areas containing critical habitat for special status species. The potential effects would be the same as those described for Alternative A, but would be reduced to the extent that additional acres would be excluded from project activity.

Grazing Management. Nonconsumptive uses would be emphasized in the AMU while providing for minimal sustainable livestock grazing that meets allotment management objectives. This management action would increase the likelihood that wild horse AMLs could potentially be increased in the AMU. Grazing within the CMPA would be allowed consistent with Steens Act, but nonconsumptive uses as well as natural resource objectives would be emphasized. The AMLs for herds in the CMPA could potentially be increased. Other management actions to meet natural resource objectives, including discontinued use in vacant allotments that have resource conflicts, could increase potential forage availability for wild horses to the extent that livestock use would be decreased.

Wildland Fire Management. Wildland fires that threaten property, human life, or significant resource values would be suppressed. To the extent that these areas coincide with areas used by wild horses, suitable forage and habitat would be maintained. However, it would also be possible that over the long term, such activities could contribute to the occurrence of larger, hotter fires, and a loss of suitable habitat and increased fire cycle and weed invasion. Suppression of other wildland fires would be evaluated and managed with minimal suppression actions if they would be appropriate for resource benefits. All burned areas would be evaluated for rehabilitation actions. A mixture of native plant species would be used to rehabilitate burned areas where natural recovery would be limited. The effects of this management action would be similar to those described under Alternative B.

Transportation and Roads. Transportation systems would be managed to meet resource goals and objectives consistent with emphasizing the protection of natural values. To the extent that this results in road closures, seasonal closures, and other limitations, disturbance effects to wild horses would be minimized.

Off-Highway Vehicles. The effects of OHV designations on wild horses would be the same as described for Alternative B.

Recreation. Protection of natural values while providing for developed and dispersed types of recreation could reduce disturbance to wild horses. To the extent that recreational use would be directed away from preferred horse use areas disturbance would be reduced. Some disturbance and displacement of wild horses would be expected from existing recreation. In some locations, concentrated recreation use could result in some loss of wild horse habitat but the amount lost would be relatively small. To the extent that dispersed recreation increases and consistently overlaps with high horse-use areas, horses could temporarily alter their use patterns or be permanently displaced.

4.15.3.5 Alternative D

Direct Effects

The management actions under Alternative D relating to the application of livestock management practices, administrative solutions, rangeland projects, and relinquished permits would provide more flexibility in the use of available grazing resources than under Alternatives A, B, and C, and would therefore be expected to increase the utilization of available grazing resources.

Water Resources. The effect of management to improve water quality on grazing management would be the same as in Alternative B.

Riparian and Wetlands. Effects to livestock grazing management would be changes in grazing use including frequency, intensity and season of use. The changes in grazing use could result in a temporary decrease in the quality of forage and available water for livestock but would eventually result in improved riparian and wetland condition. This could result in improved health and better weight gain for livestock in the long term.

Woodlands. The effects of western juniper management would be the same as Alternative C.

Rangelands. The emphasis to diversify nonnative seedings would still be a major management action but the emphasis would be on about 10,000 acres. Desirable nonnative forage species would also be seeded, but the result would probably be a reduction in livestock forage in the areas treated. Wildland fire, prescribed fire and mechanical methods would be used to improve the ecological status of native vegetation communities, which would increase the herbaceous component and benefit livestock grazing.

Noxious Weeds. Noxious weed management would include high quality natural resource lands as well as roads, ROW, and recreation sites. The control methods would include manual, biological and the herbicide application, depending on the site. Grazing would benefit from noxious weed controls on existing infestations and the expanding efforts to detect new infestations.

Fish and Wildlife. Reseeding of 20,000 acres of deer winter range with sagebrush and nonnative species may be beneficial or detrimental to livestock grazing depending on how much herbaceous forage becomes established. Other management actions for fish and wildlife would have little impact to livestock grazing.

Visual Resources. The VRM classes proposed in this alternative would be nearly the same as in Alternative A. The effects to livestock grazing and planned range improvements would be the same as Alternative A.

Energy and Minerals. The effect of minerals activities on livestock grazing would be the same as in Alternative C.

Wildland Fire Management. The effects of management actions would be the same as those in Alternative C.

Lands and Realty. The effects of management actions would be the same as those in Alternative C.

4.15.3.6 Alternative E

Direct Effects

This alternative would maximize the amount of livestock grazing on public land, creating more revenue from grazing fees and more income for grazing permittees. More range improvements would be constructed, creating more jobs for contractors.

Indirect Effects

Water Resources. The effect of management to improve water quality on grazing management would be the same as in Alternative A.

Riparian and Wetlands. Grazing would be implemented in riparian and wetland areas to provide maximum use that would allow livestock to graze higher quality forage and have access to more water sources. Health and weight gain would improve unless the condition of the riparian and wetland areas decreases.

Woodlands. The effects of western juniper management on livestock grazing would be the same as Alternative C except that following the treatments, some of the areas would be seeded. This would provide additional quality forage available to livestock grazing.

Rangelands. Emphasis would be placed on the production of native, herbaceous vegetation as well as restoring and establishing new nonnative seedings, which would increase available forage for livestock. About 2,000 acres of nonnative seedings would be reseeded with sagebrush and other native and desirable nonnative species, but this would have little or

no effect on livestock grazing. Wildland fire, prescribed fire and mechanical methods would be used to improve the ecological status of native vegetation communities that would increase the herbaceous component and benefit livestock grazing.

Noxious Weeds. The effects of noxious weed management would be the same as Alternative D.

Fish and Wildlife. Reseeding approximately14,000 acres of native vegetation and nonnative seeding in deer winter range to native and desirable nonnative species would be beneficial to livestock grazing if the herbaceous component of the seed mix would be greater than the sagebrush component. Allocations for wildlife would not increase, but allocations to livestock could increase if additional forage becomes available.

Visual Resources. A variety of range improvements that could or would affect existing visual resources, depending on the VRM class, would be allowed. Moderate and major landscape modifications would be allowed in some areas.

Energy and Minerals. Mineral exploration and development in the AMU could reduce forage production in localized areas, but impacts across the landscape would be unnoticable.

Wildland Fire Management. The effects of management actions would be the same as those in Alternative C.

Lands and Realty. The management actions focus on keeping Zone 1 lands and disposing of Zone 2 and 3 lands that would increase public land in the high recreation areas but probably lower the acreage in grazing allotments in lower quality recreation areas. Areas available for livestock grazing in Zone 1 areas would benefit but areas in Zones 2 and 3 would not.

4.15.4 Summary of Effects

Implementation of the management actions planned in juniper woodlands, rangelands, and noxious weed control in Alternative A would be beneficial to livestock grazing management primarily due to the expected increase in the amount and quality of livestock forage. The management actions for other resources would not have an effect on livestock grazing management.

In Alternative B, livestock grazing would be reduced in the CMPA and totally removed from the AMU, which would greatly reduce the grazing fees collected and the number of cattle sold each year by ranchers in Harney County. By allowing natural processes to control the ecology of plant communities and by reseeding sagebrush on deer winter range, woody plant species would dominate plant communities and reduce the amount of herbaceous forage plants. Allowing noxious weeds to spread in some areas would also reduce the abundance of herbaceous forage plants.

Livestock grazing would be reduced in Alternative C and TNR grazing use would not be permitted. Actions to improve the ecology of the rangelands and woodlands would make more herbaceous forage available to livestock grazing. Seeding areas to improve deer winter ranges and managing noxious weed infestations would slightly improve forage for livestock in the Planning Area. Range improvements for the benefit of livestock grazing would be constructed only if they meet the VRM class objectives.

In Alternative D, the emphasis to diversify nonnative seedings could reduce the amount of available forage for livestock. The use of fire to manage the ecology of native plant communities dominated by western juniper would be beneficial to livestock forage in the long term. The effects of VRM on the construction of range improvements would be the same as in the existing situation.

Livestock grazing would be maximized in Alternative E with additional revenues being received from grazing fees, more income for permittees, and more jobs for contractors constructing range improvements. Livestock would have greater access to more palatable and nutritious forage resultingin higher weight gains.

4.15.5 Cumulative Effects

Current effects to livestock grazing management would be negligible in Alternative A and when considered cumulatively, would probably not affect grazing in the future.

Cumulative effects to grazing in Alternative B would be negligible because livestock numbers would already be reduced greatly.

In Alternative C, grazing allotments that would be located in areas containing special status plants, special status wildlife, aquatic habitat, and riparian areas may be impacted cumulatively if restrictions would be needed to protect those special

resources. Areas may eventually be closed to livestock grazing that would reduce the permitted use and affect the amount of grazing fees collected. Eventually, the reduction in livestock would affect the grazing permittee financially.

The cumulative effects of other resources on livestock grazing in Alternative D would be negligible and would not affect the permitted use.

The effect of increases in available forage provided by prescribed fire, brush control and other methods in Alternative E, in conjunction with range improvements, would promote grazing use in areas not currently grazed. The cumulative effect may be increases in forage quality and quantity and in permitted use.

4.16 Wildland Fire Management

4.16.1 Goals and Objectives

Goal 1 - Provide an appropriate management response to all wildland fires emphasizing firefighter and public safety.

Objective 1. Implement appropriate fire suppression actions in the WUI or areas identified to possess significant values.

Objective 2. Implement the appropriate management actions upon discovery of wildland fires in areas outside of the designated WUI or areas that possess significant values.

Goal 2 - Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses.

Objective 1. Implement management actions across the Planning Area that maintain or return plant communities to the historic fire regime where changes to the biophysical environment have not been significant enough to limit the return. Find an appropriate fire regime based on current conditions in areas where the biophysical environment has been significantly changed and return to the historic fire regime would not be possible.

Objective 2. Assess burned areas for appropriate biological and physical rehabilitation activities.

Goal 3 - Identify areas that qualify for suitable fuels reduction treatments to protect urban interface, developments, and other resource values.

Objective 1. Develop a management strategy that specifically identifies the WUI, resource values, and developments throughout the Planning Area.

4.16.2 Assumptions

Areas with significant resource value would be those areas that contain unique or desirable attributes. These values may be related to biologic, physical, ecologic, or socially defined attributes. Under certain conditions, wildfire may adversely affect these attributes. Suppression actions would be taken to protect or minimize the effects to these attributes from wildfire.

The appropriate management response would utilize the most effective suppression actions while considering life safety, property protection, potential resource damage, and suppression costs.

4.16.3 Analysis of Alternatives

4.16.3.1 Effects Common to All Alternatives

Direct Effects

Under all alternatives, wildland fires that burn within or threaten the WUI or areas with significant resource values would be given the highest priority for suppression actions. These actions alone would permit fuels to continue to accumulate in these areas. To reduce the threat of wildfires, these fuels would be treated. The primary goal of the fuels reduction treatments in these areas would be to reduce the threat of catastrophic wildfires. In some instances this would require that the plant community be altered to a condition not consistent with the historic fire regime.

Indirect Effects

Increases in fuels treatment activity throughout the resource area may help to augment the local economy by providing contracting opportunities for local workers. Reduction in the occurrence of large catastrophic wildfire would help to maintain plant communities in conditions beneficial for multiple uses. Fires of lower intensity and severity would be similar to conditions under which many of the native herbaceous and shrubby vegetation evolved. Maintenance of native vegetation would maintain or increase the value of habitat for numerous wildlife species. Forage for domestic livestock would also be enhanced following most fires in native plant communities or in areas seeded with desirable introduced perennial grasses and forbs.

Water Resources. Implement BMPs to reasonably prevent degradation of water quality. Fire management activities would minimize the amount of surface disturbance on all suppression, stabilization, rehabilitation, and restoration activities. The use of aerial retardant detrimental to aquatic communities on streams, lakes, ponds and riparian systems would be avoided. Existing features would be used as fuel breaks where possible.

Soils and Biological Soil Crusts. Implement BMPs on all potential soil surface disturbing activities. Surface disturbing activities would be minimized during suppression, stabilization, rehabilitation, and restoration activities. Natural features would be used, where possible, for fuel breaks in place of constructed fireline if human life safety would not be compromised.

Riparian and Wetlands. Implement or continue management prescriptions designed to maintain, restore and/or improve attributes of riparian/wetland function to maintain or progress toward attainment of PFC. Maintaining and/or improving riparian and wetland function would help to return riparian and wetlands to historic fire regimes and fire return intervals. Riparian and wetlands areas typically burned at a lower frequency than adjacent plant communities. Movement toward PFC would help to reduce the current frequency of fire in these communities and help to provide natural fuel breaks facilitating other suppression actions.

Special Status Species. Manage special status species and their habitats so management actions do not contribute to their decline or listing as T&E. Fire rehabilitation projects would consider the presence, or the potential for presence, of special status species prior to initiation of rehabilitation treatments.

Cultural Resources. Locate significant sites that may be in conflict with other resource uses. Clearances would be obtained prior to any ground disturbing activities related to emergency stabilization and rehabilitation following wildfire. Stabilization and rehabilitation actions would be modified to minimize damage to identified cultural resources.

Visual Resources. Designation of the Steens Mountain Wilderness and the WSAs as VRM Class I would require more intensive planning to ensure that projects designed to restore and maintain the integrity of ecosystems would meet VRM Class I objectives. Methods used for fire control, stabilization, and rehabilitation would be modified in order to meet VRM Class I and II objectives in those areas.

Recreation. Emphasis on dispersed recreation may increase the risk to human life from wildfires because of increased use outside of developed areas. More aggressive suppression actions may need to be taken in areas where there would be normally little to no risk to human life. The presence or absence of the public in remote areas must be determined early on in the decision making process. If there were threats to human life, suppression actions would be taken until the threats would be removed.

Wilderness. The Wilderness act prohibits the use of motorized vehicles within the wilderness. Firefighting within the wilderness would rely on lower impact tactics such as crews, smokejumpers, helicopter repelers, and arial resources. These resources would continue to be effective on smaller fires under favorable weather conditions. However, fires burning under unfavorable weather conditions (high temperatures, low relative humidity, high winds) would have the potential to quickly grow beyond the capabilities of these resources. These fires would have a high probability of threatening the wilderness boundary and adjacent private lands because of the fuel types and loadings.

4.16.3.2 Alternative A

Direct Effects

Suppression of all wildfires would maximize short-term public safety, protection of private lands and areas with important resource values. Short-term firefighter safety would also be increased because initial attack would be given

a priority in this alternative. Areas burned by wildfire would be minimized due to the aggressive suppression of wildfires. Long-term firefighter and public safety could be compromised because of the accumulation of fuels due to suppression. Continued suppression of all wildfires would continue to allow accumulation of fuels throughout the Andrews RA. Wildfires that escape initial attack would have a greater potential to burn larger areas at high intensities causing severe alterations to plant and animal communities in and adjacent to the burned area.

Fuels treatments conducted under this alternative would treat only the highest priority areas where high threats exist to firefighter and/or public safety and private property. With fuels treatments, average fire size in the drier Wyoming big sagebrush plant communities would decrease from current levels. Fuels treatments may have little effect on the average fire size in the higher elevation plant communities because of the aggressive suppression action. However, prescribed fire activity in these plant communities would reintroduce fire into the system, and overall acreage burned would increase over current levels.

All areas burned by wildfire would be evaluated for emergency stabilization and rehabilitation. Native and desirable introduced plant species would be utilized in fire rehabilitation. The decision to use native or desirable introduced species would be based on site-specific characteristics and through the ID Team process. The overall goal of all fire rehabilitation seedings would be to protect the soil from erosion. Seeding would provide large and small grazing animals with additional forage until woody vegetation establishes and grows to the point where competition begins to suppress herbaceous plant growth. The time required for this to occur depends on inherent site conditions and post-fire management. In general, the time required for herbaceous plant dominance would be longer on drier sites.

Fire management under this alternative would have little direct effect on undesirable introduced plant species, especially cheatgrass. The emphasis on suppression would help to reduce the area burned in locations dominated by introduced annuals. However, the emphasis on suppression may lead to an increase in the amount of ground disturbed through suppression actions (e.g., dozer line, engine travel, fire camp, etc.). Equipment, whether local or from out of the area, may potentially transport undesirable plant seeds to these disturbed areas, increasing the risk of weed establishment in these disturbed areas.

Fuels reduction treatments would reduce the influence of woody vegetation on the associated herbaceous understory. Herbaceous plant cover and density would increase after fuels treatment (mechanical and/or prescribed burning). Increases in herbaceous plant cover and density would benefit large and small grazing animals. However, the converse could also occur. Animals that utilize the woody vegetation for part or all of their life cycle would utilize the existing habitat, or would be forced to move to adjacent areas where woody plants still occur. The length of time until woody plants begin to suppress the herbaceous plants would depend on site characteristics and post-fire or treatment management. Drier sites would take longer to attain woody plant dominance than wetter sites.

Indirect Effects

Air Quality. Cooperate with federal, state and local governments on smoke management issues related to prescribed fire. Local and state agencies would be informed on all prescribed fires. Total number of acres in the treatment areas and estimated volume of smoke would be included in the plan.

Riparian and Wetland Vegetation. Establishment of localized riparian tree and shrub source material would help to increase the success of stabilization and rehabilitation of riparian and wetland plant communities burned in wildfire. Localized plant materials would be better adapted to site-specific conditions and their chance of establishment and survival can be greater than other plant material acquired from off-site.

Maintenance of roads and development of additional roads would aid in suppression by providing fuel breaks for most low and moderate intensity fires. The roads would also allow travel of fire fighting equipment to fires.

Woodlands. Removal of western juniper established after 1870 in quaking aspen, mountain mahogany, mountain big sagebrush and old growth juniper woodlands would help to decrease the increasing fuel loads in these communities. Fire intensity and severity would be reduced by cutting these trees, thereby helping to facilitate suppression. Cut areas would also function as fuel breaks, helping to reduce the size of wildfires occurring in the treatment areas.

Prescribed burning in the quaking aspen and mountain big sagebrush plant communities would help to reduce fuel loading and reduce the potential for large wildfires. Treated areas would act as a fuel break in the adjacent untreated vegetation.

Rangelands. Maintaining or improving the ecological status of native plant communities would help to restore the historic fire regime and fire return interval. Brushbeating and/or disking in nonnative seedings would create fuel breaks in continuous vegetation. Fire size would be reduced and suppression actions potentially reduced.

Prescribed fire to reduce the influence of woody vegetation and to release suppressed understory plants would also help to create fuel breaks. The multiple successional stages would act further to restore historic fire regimes and frequencies.

Noxious Weeds. Application of integrated management for the control of noxious weeds would help to reduce their spread following wildfire. Fire management equipment, such as engines, dozers, pickups, etc., coming from off the District would be cleaned prior to deployment on fire incidents. Local fire equipment would be cleaned after operating in locations where large populations of noxious weeds have been identified.

Fish and Wildlife. Reseeding approximately 9,000 acres of deer winter range that would be in unsatisfactory condition with sagebrush and a mixture of native and nonnative species would help to reduce the fire frequency in areas dominated by cheatgrass or other nonnative annual plants. Rates of spread and ultimate fire size would be reduced as the perennial plants begin to dominate the reseeded areas.

Social and Economic Values. The emphasis on fire suppression increases the need for locally available contract firefighting resources, which would increase local economic stability by providing additional jobs and economic opportunities. The Burns Interagency Fire Zone responds to an average of 64 fire incidents a year in the Andrews RA. Multiple incident days would be common and require that contract resources be utilized.

Off-Highway Vehicles. Continued OHV traffic would maintain the existing two-track roads, increasing their effectiveness in limiting the fire spread of low intensity fires. Fire suppression efforts may not require additional construction of firelines and the number of fires that go out without suppression action could increase.

Wilderness. Continued suppression of wildfires throughout the Planning Area would allow fire sensitive woody species to continue to dominate plant communities. The woody vegetation would increase fuel loading and the risk of large catastrophic wildfires. Placing no restrictions on campfires could increase the risk of human caused fires within the wilderness. Utilization of fire rings may help to reduce the threat of wildfire.

4.16.3.3 Alternative B

Direct Effects

This alternative places the lowest priority on fire suppression throughout the Planning Area. Firefighter and public safety would still be the number one priority for suppression. Only fires that directly threaten firefighter or public safety, private property or areas of significant resource values would be suppressed. Other fires would be evaluated for resource benefits and managed accordingly. Fire rehabilitation actions could be greater because of the reduced suppression activity and potentially larger fire size. However, these actions would rely primarily on passive methods where possible. Reliance on native plant species would increase the cost of rehabilitation treatments, but broadcast seeding methods would be used, helping to keep costs down. The rate of recovery in areas where native seedings would be used may be longer compared to desirable introduced perennial plants. This can be important in areas where native perennial seedlings may have to compete with undesirable, introduced annual plant species.

Identification of wildland urban interface (WUI) would help fire managers prioritize suppression response during periods where multiple fires occur. Prioritization of suppression efforts would help assure that firefighting resources would be properly and effectively assigned to fires. Rehabilitation costs may be kept down by quickly suppressing fires that would require extensive post-fire stabilization and rehabilitation. The number of acres converted to undesirable, annual plant communities may also be reduced by this action.

Development of a plan to manage wildfires for resource benefits would also help to prioritize firefighting efforts. Partnerships and cooperative agreements with adjacent private and public landowners would be sought to more effectively manage wildland fires for resource benefits. Cooperation with neighbors would increase the likelihood of utilizing natural barriers and reduce the need for large scale suppression efforts if the fire threatens the management area

boundary. Woody vegetation may increase at the expense of associated understory plants and modify the habitat of many wildlife species. As woody vegetation dominates the sites, understory species may be lost from the plant community or suppressed to the point that the plants could not recover following fire. The dominance of woody vegetation also would increase the intensity of the fire, making suppression difficult if action must be taken.

Indirect Effects

Under Alternative B, the environmental consequences would be similar to those under Alternative A, with the following exceptions:

Soils and Biological Soil Crusts. Allow natural processes to affect soil conditions in the Planning Area except where management would be necessary to arrest excessive soil movement on critical sites. Emergency stabilization following wildfire would only occur on critical sites. Soil loss may occur following wildfire in noncritical sites. Loss of soil from these sites would reduce the potential for rehabilitation in subsequent years.

Riparian and Wetlands. Management of upland vegetation communities to reduce wildland fire intensity and frequency emphasizing native vegetation would help to improve firefighter and public safety and protect private property adjacent to public lands. Management to reduce fire frequency would also help to create an appropriated fire regime consistent with wildland fire and riparian and wetland management. Targeting reaches that would not achieve or progress toward attainment of advanced ecological status within 20 to 50 years may allow other areas to degrade or move away from current conditions.

Reduction in the number of roads could limit access to areas during wildfires. The reduction in number of roads could also increase the necessity for mechanically built firelines or increase the size of fires. Roads would be effective barriers to fire movement under moderate to low fire intensities.

Woodlands. Allow natural processes to determine structure and composition of old growth western juniper woodlands, quaking aspen stands, mountain mahogany stands and mountain big sagebrush plant communities. Only fires that threaten human life and private property where no cooperative agreement exists would be suppressed. Younger western juniper would continue to establish and grow within the old growth stands. As younger trees begin to occupy and grow in the interspace, the risk of larger wildfire increases. Historically one to five trees in a stand were typically affected by fires in old growth stands due to the sparse fuel and poor fuel continuity. With the younger trees occupying the interspace the risk of burning the whole old growth stand increases. A similar effect could occur in the other plant communities, but the rate of western juniper establishment would be faster due to better inherent site productivity.

Prescribed fire would be utilized to reduce the influence of western juniper in quaking aspen, mountain big sagebrush, and riparian plant communities. Only stands with an understory component capable of carrying a fire would be treated with prescribed fire, or have wildfires managed for resource benefits. Plant communities with a dense overstory of western juniper and a sparse understory would be maintained in a woodland until the site would be burned in a catastrophic wildfire. Understory plants would most likely be killed if they were present under these wildfire conditions. Rehabilitation efforts would be required to reintroduce species displaced by western juniper.

Rangelands. Allow natural processes to define the vegetation composition across the landscape. Only wildland fires that threaten human life and private property without cooperative agreements would be suppressed. Fuels would continue to accumulate within the rangelands plant communities until reduced by wildfire. Average fire size would increase as fuels accumulate and vegetation becomes structurally homogeneous. As native species reestablish in nonnative seeding, the risk of fire would increase in these areas. Fire in nonnative seeding would be less frequent than in native rangeland communities. Increase in shrub density and cover would also increase the intensity of wildfires and prescribed fires. Fires suppression actions would need to be adjusted to compensate for these conditions. Fire size may increase as more indirect attack tactics would be implemented.

Special Status Species. Allow natural processes determine habitat for special status plants and animals except for management of critical habitat as identified in a final rule or essential habitat in a recovery plan for federally listed species. Similar effects to rangelands and woodlands would occur. Vegetation would become more homogenous, increasing the risk of larger, more severe fires.

Grazing Management. Emphasis would be on non consumptive uses in the AMU, but minimal sustainable livestock grazing that meets allotment management objectives and S&Gs would be allowed. Similar to Alternative B, the reduced

emphasis on livestock grazing would allow for the buildup of fine fuels above the previous levels. The potential for large fires would increase under this alternative. Flame lengths and fireline intensity would also increase with the increased fuel load. Indirect attack strategies would be used more frequently under these conditions, also increasing average fire size.

Off-Highway Vehicles. Reduced OHV traffic would allow many of the existing two-track roads to revegetate, reducing their effectiveness in limiting the fire spread of low intensity fires. Closing the Steens Loop Road from the Kiger Overlook Road to west of Blitzen Crossing, Fish Creek, Cold Springs and Indian Creek Roads; the WSAs, and WSA cherrystem roads would limit access to areas under fire conditions. Initially these roads would be present, but as some revert back to natural conditions new routes may be inadvertently established during fire suppression efforts. Fire suppression efforts may also require additional construction of firelines and the number of fires that go out without suppression action could increase.

Wilderness. All wildfires that do not threaten human life, private property, or important resource values would be evaluated for resource benefits. Fires that were judged to improve or maintain wilderness characteristics would be managed for resource benefits. Fires that threaten private lands with wildland fire use agreements would be managed on a landscape basis.

4.16.3.4 Alternative C

Direct Effects

The direct effects of Alternative C would be the same as Alternative A in the wildland urban interface. Without mechanical fuels treatments or prescribed fire, fuels would continue to accumulate in the WUI. Fuels accumulation within this area would increase the risk to human life and private property. All fires within this zone would be suppressed with the appropriate management response. Designation of the WUI would occur in the same manner as in Alternative B. Direct effects of fire management activity outside of the WUI would be the same as alternative B. The emphasis would be to manage fires for resource benefits, but protect human life and private property.

Techniques used to stabilize and rehabilitate areas following wildfire would be the same as Alternative A. However, only native plant species would be utilized in the rehabilitation efforts. The effects of using native species would be the same as Alternative B with some possible exceptions. Mechanical seeding equipment may allow for better establishment and survival of seeded species in some cases. Seed drills place the seed beneath the soil surface and can improve the soil-seed connection. Germination and growth following drilling may be better than by broadcast methods.

Indirect Effects

Air Quality. Implement prescribed fire and manage wildland fire while meeting federal and state air quality and opacity standards. Timing and methods of ignition may need to be adjusted to meet air quality and opacity standards. Other factors that would be considered were prescribed and wildfire activity on adjacent units. The decision to manage a wildfire for resource benefits would also consider current and future weather and potential for negative impacts to air quality.

Riparian and Wetland Vegetation. Establishment of localized riparian tree and shrub source material would help to increase the success of stabilization and rehabilitation of riparian and wetland plant communities burned in wildfire. Localized plant materials would be better adapted to site-specific conditions and their chance of establishment and survival can be greater than other plant material acquired from off-site. Manipulation of isolated individuals or stands of woody riparian trees/shrubs would occur to promote regeneration. Treatment of the isolated areas could help to develop a mosaic of multiple successional scales. Treated areas could also provide a fuel break.

Similar to Alternative B, reduction in the number of roads could limit access to areas during wildfires. The reduction in number of roads could also increase the necessity for mechanically built fireline or increase the size of fires. Roads would be effective barriers to fire movement under moderate to low fire intensities.

Woodlands. Same as Alternative A.

Rangelands. Maintaining or improving the ecological status of native plant communities would help to restore the historic fire regime and fire return interval. Brushbeating and/or disking in nonnative seedings would create fuel breaks in continuous vegetation. Fire size would be reduced and suppression actions potentially reduced.

Prescribed fire to reduce the influence of woody vegetation and release suppressed understory plants would also help to create fuel breaks. The multiple successional stages would act further to restore historic fire regimes and frequencies.

Interseeding of native plant species in nonnative seedings would reduce the risk of wildfire in the short term. Use of domestic livestock to reduce competition for sagebrush establishment would further reduce the risk of wildfire by suppressing the growth of fine fuels. However, in the longer term the risk of wildfire may not increase, but the intensity and severity would be greater than in nonnative seedings. The greater fuel load attributed to woody sagebrush plants would increase, the flame lengths and fireline intensity. Strategically placing brushbeat areas would help to reduce fires size and provide a break in the fuel continuity.

Rehabilitation of plant communities that do not meet the desired range of conditions would help to restore the appropriate or desirable fire regime to many areas dominated by introduced annual plants and western juniper.

Noxious Weeds. Same as Alternative B.

Fish and Wildlife. Interseeding native vegetation into low diversity areas and areas dominated by nonnative species would reduce fuel loads in the short term. The physical process of seeding would suppress the fine fuels until establishment occurs. Utilizing domestic livestock to further reduce competition and facilitate big sagebrush establishment would also keep the levels of fine fuel low. Without the accumulations of fine fuels, the risk of fire would be low in these areas. Fires that do start would have shorter flame lengths and lower fireline intensities making suppression less hazardous. However, once native vegetation establishes these plant communities would begin to accumulate fine and woody fuels. The accumulation would increase the flame lengths and fireline intensity in the long term. Areas where native vegetation has reestablished and now dominates would have greater flame lengths and fireline intensities. Fire suppression actions would rely more on indirect attack ultimately increasing fire size.

Special Status Species. Manage big sagebrush habitat to benefit game and nongame species and to meet the DRC throughout the Planning Area. Management actions would help to restore historic plant communities and reestablish appropriate fire regimes. Management of plant communities to meet the DRC would also help to reduce stabilization and rehabilitation actions following wildfire. Plant communities would be dominated by perennials and form a mosaic of multiple successional stages. When wildfires burn, they would burn within parameters tolerated by most plants in these communities. Many would survive the fire and help to repopulate the plant community.

Grazing Management. No grazing would be authorized in the AMU. Elimination of grazing in the AMU would increase the annual accumulation of fine fuels and potentially increase the risk of wildfire. However, grazing would continue within designated areas of the CMPA and ignition of wildfires would be similar to Alternatives A, C, D, and E.

Transportation and Roads. Closing roads would affect firefighting by reducing the amount of access to some parts of the Planning Area. Firefighting resources would need to travel on foot, or construct/reopen roads to access areas to suppress fires. The reduction in roads also reduces the number of existing fuel breaks. These breaks would be most important when fires burn with light to moderate severity. Roads provide an existing break in the fuel continuity. Fire size may increase and the number of fires that go out without suppression action may decrease with the reduction in roads. Additional firelines may also need to be constructed because of the loss of some of the roads.

Off-Highway Vehicles. Reduced OHV traffic would allow many of the existing two-track roads to revegetate, reducing their effectiveness in limiting the spread of low intensity fires. Closing the Rooster Comb, Fish Creek, and Cold Springs Roads, and the road north from Indian Creek Road would limit access to these areas under fire conditions. Initially these roads would be present, but as some revert back to natural conditions new routes may inadvertently established during fire suppression efforts. Fire suppression efforts may require additional construction of firelines and the number of fires that go out without suppression action could increase.

Recreation. Emphasizing undeveloped recreation in the Planning Area may increase use outside of established campgrounds. The probability of wildfire posing a threat to human life would increase across the Planning Area. The presence or absence of people in the vicinity of the fire would have to be determined early on in the incident. If a threat to human life does occur, suppression actions would occur until the threat can be removed.

Wilderness. Same as Alternative B with the following exceptions. Use of fire blankets, fire pans and stoves would reduce the probability of human-caused wildfires. Prescribed fire could occur in areas where past suppression actions have interfered with the natural ecological processes.

4.16.3.5 Alternative D

Direct Effects

Alternative D would exhibit a combination of effects from Alternatives A, B, C, and E. Firefighter and public safety would be the highest priority in fire management decision making. However, fire would be reintroduced into the ecosystem through prescribed fire and wildland fire use for resource benefit (prescribed natural fire). Fires that do not pose a significant risk to firefighter safety, public safety, or private land would be evaluated for wildland fire use.

Areas burned by wildfires would be evaluated for the need for rehabilitation. The greatest priority in the fire rehabilitation projects would be to protect the soil resources. To achieve this, a combination of native and desirable introduced plants would be used to stabilize the soil and return the plant community to a community dominated by perennial plants. Rehabilitation projects would occur on sites with low potential for natural recovery. Desirable introduced plant communities would be established following wildfire in areas dominated by undesirable introduced plants (e.g., cheatgrass) or in areas where the potential for recovery of native plants, residual or seeded, would be low.

Cooperative projects would be developed with adjacent public and private landowners. These projects would increase the efficiency of fuels treatments and work to treat fuels on a landscape scale instead of by geopolitical boundaries.

Cost of fire suppression should be lowest in this alternative. The number of acres burned or converted to a herbaceous plant dominated community would be less than in Alternatives B and C, but more than in Alternative A.

Indirect Effects

Air Quality. Same as Alternative C.

Soils and Biological Soil Crusts. Same as Alternative A.

Riparian and Wetland Vegetation. Same as Alternative C with the following exceptions: desirable nonnative plant species may be used in areas where cheatgrass or other invasive annual and perennial plants have replace native vegetation; the desirable nonnative vegetation would be a transitory stage; and once the desirable plants have established, native vegetation would be reintroduced to the area.

Woodlands. Same as Alternative C with the following exception: markets for byproducts of western juniper removal would be encouraged; utilization of this resource would reduce the fuel loads on sites where western juniper was cut to restore mountain big sagebrush plant communities; and soil compaction could occur in areas where western juniper was removed by mechanized equipment.

Rangelands. Same as Alternatives A and C with the following exception. Desirable nonnative species could be used in the effort to reduce the influence of undesirable annual plant species. The establishment of nonnative perennial plants would help to reduce the occurrence of wildfire. However, these areas would have a slightly different fire regime that areas dominated by native vegetation. The average time between fire events may be slightly longer in areas dominated by nonnatives species than those where native species dominate.

Noxious Weeds. Apply integrated management for the control of noxious weeds. Priority would be given to high quality natural resource areas. Emphasize control of weeds on disturbed areas. Control of noxious weeds prior to fire would help to reduce their spread following a fire event. All burned areas would be evaluated for the presence of noxious weeds and appropriated management implemented.

Fish and Wildlife. Same as Alternative C with the following exceptions. Desirable nonnative species could be used in an effort to reduce the influence of undesirable annual plant species. The establishment of nonnative perennial plants would help to reduce the occurrence of wildfire. However, these areas would have a slightly different fire regime than areas dominated by native vegetation. The average time between fire events may be slightly longer in areas dominated by nonnatives than native areas.

Special Status Species. Same as Alternative A.

Grazing Management. Provide sustainable livestock grazing in the Planning Area that meets allotment management objectives, S&Gs, and the Steens Act in the CMPA. Fine fuels would be reduced in grazed allotments. The reduction

in fine fuels would help to limit fire spread, especially in low to moderate intensity fires. In some situations grazed pastures may be used as fuel breaks during wildfires. This would reduce the need for constructed fire control lines. However, the reduction in fine fuels would also help to alter the fire regime for these areas. The frequency of fire may be less than in areas where no grazing occurs.

Transportation and Roads. Closing roads would affect firefighting by reducing the amount of access to some parts of the Planning Area. Firefighting resources would need to travel on foot, or construct/reopen roads to access areas to suppress fires. The reduction in roads also reduces the number of existing fuel breaks. These breaks would be most important when fires burn with light to moderate severity. Roads provide an existing break in the fuel continuity. Fire size may increase and the number of fires that go out without suppression action may decrease with the reduction in roads. Additional firelines may also need to be constructed because of the loss of some of the roads.

Off-Highway Vehicles. Same as Alternative A.

Wilderness. Fire would be allowed to play its natural role, excluding areas along the wilderness boundary where life and property would be at risk. All lightning fires would be considered for wildland fire use. Wildfires would be confined or contained within natural barriers unless additional measures would be necessary to protect life/property values. Prescribed fire would be allowed if needed to maintain the natural condition of a fire dependent ecosystem or to reintroduce fire where past strict wildfire control measures have interfered with natural ecological processes.

4.16.3.6 Alternative E

Direct Effects

The effects of Alternative E would be similar to those under Alternatives A, except that a greater emphasis would be directed toward contract firefighting resources to support suppression actions and local economics.

Indirect Effects

Air Quality. Same as Alternative C.

Soils and Biological Soil Crusts. Same as Alternative A.

Riparian and Wetland Vegetation. Same as Alternative A with the following exceptions: existing roads would be maintained to promote commodity and public use within established laws and regulations; maintaining the roads would help firefighting resources access areas where fires occur; and suppression action would be quicker as roads may be used as firelines in some situations.

Woodlands. Same as Alternative D.

Rangelands. Same as Alternatives D.

Noxious Weeds. Same as Alternative D.

Fish and Wildlife. Same as Alternative D.

Special Status Species. Same as Alternative A.

Grazing Management. The emphasis on grazing in this alternative would reduce the fine fuels throughout the Planning Area. Reduction in fine fuels would reduce the average size of fires throughout the Planning Area in the short term. Increased grazing pressure may shift some plant communities toward dominance by introduced annual plants. Once this occurs grazing may be ineffective at modifying fuels. The frequency of fires in communities that have experienced a shift to annuals would increase. Fire size would ultimately increase in the long term.

Transportation and Roads. Keep the entire Steens Mountain Loop Road open and retain motorized access along all other currently open routes. Vehicles would be allowed to travel 100 feet from the centerline along specific routes. Keeping the Steens Loop Road open would help to reduce response time to some fires located on Steens Mountain. Fire size may be reduced in situations where response time would be reduced. Allowing vehicular traffic 100 feet off the centerline

of some routes would help to expand the fire control capabilities of these routes. Traffic would help to reduce vegetation and fire spread.

Off-Highway Vehicles. Same as Alternative A.

Wilderness. Same as Alternative A.

4.16.4 Summary of Effects

The protection of human life has the highest priority in all fire management activities. Until life safety can be assured, no other activities would be initiated. Within the WUI all fires would be suppressed to assure that life and private property would be protected. However, fuels treatment activities, such as mechanical thinning of western juniper or brushbeating of big sagebrush would help to reduce the threat of wildfires. Prescribed fire would be utilized in special situations within the WUI. Outside of the WUI fires would be evaluated for resource benefits once the safety of firefighters and the public would be assured. Past fire management actions have concentrated on suppression of all wildfires. This coupled with other management actions has allowed fuels to accumulate throughout the Planning Area.

Alternative A would continue with current fire management actions. All wildfires would be suppressed, exacerbating the fuel accumulation that has occurred. Alternative B places the lowest priority on fire suppression throughout the Planning Area. Under this situation wildfires would be managed for resource benefits. However, the threat of large fires would still be high because of the continued build up of fuels. No mechanical treatments would be initiated to reduce fuel loading and prescribed fire could only be done in areas where there would be no threat to human life or private property. Alternatives C, D, and E all utilize a combination of mechanical, prescribed fire, wildland fire use, and fire suppression to achieve resource and fire management goals. Alternatives D and E would also encourage the development of local markets for the by products of the fuels treatment actions. Removing the cut plant material would help to further decrease the risk of wildfire in the treated areas.

Outside of the WUI, all fires would be evaluated for resource benefits. In cases where the fire would be believed to be burning within the historic fire regime or meeting management objectives the fire would be managed to accomplish those goals. Alternative B, C, D, and E all have a wildland fire use component. Adjacent landowners would be consulted and coordinated with prior to implementation of a wildland fire use program. Agreements and partnerships would be sought to reduce the conflicts. Wildland fire use would reduce the number of acre needing fuels treatment. However, the number of acres treated each year would be difficult to predict. Wildfires in the Andrews RA burn approximately 12,000 acres a year. Many of these fires burn during July and August when there would be a severe risk to human life because of hot dry weather and severe fire behavior.

Restoration or adjustment of fire regimes through management actions would be accomplished by modifying the present vegetation. Past management actions over the last ten years within the Planning Area have treated approximately 50,000 acres. Fire regimes within these areas have been adjusted to reflect more frequent, less intense fire. Over the next 15 to 20 years at least 10,000 acres of western juniper woodlands (established after 1870) must be treated to restore and maintain a 35 year fire return interval. This fire return interval would be at the upper end of the historic range for the mountain big sagebrush and mountain shrub plant communities. Each alternative would be capable of achieving this goal. However, Alternatives B and C rely more heavily on passive methods, and climatic conditions would greatly affect the success of these alternatives.

All fires would be evaluated for stabilization and rehabilitation. Stabilization and rehabilitation actions would most likely occur on fires greater than 1,000 acres unless there would be a special resource or social value at risk. Excessive soil loss, weed invasion, or significant modification of T&E species habitat would be examples of situations where stabilization and rehabilitation actions may be initiated on fires smaller than 1,000 acres. Stabilization and rehabilitation actions would be similar in Alternatives A, D, and E. In these alternatives a combination of native and desirable introduced perennial plants would be used to stabilize and rehabilitate the site following fire. Alternatives B and C would utilize native species in the stabilization and rehabilitation process. Alternative B would use passive methods for rehabilitation. Seeding would be done from the air with no seedbed preparation. Alternative C may utilize drills, where appropriated to place seed in the ground.

4.16.5 Cumulative Effects

Identification of the WUI within the Planning Area would help to provide fire management with a way to initially prioritize fire suppression efforts. Designation of WUI would include a wide variety of locations. The WUI would

include isolated structures/improvements outside of the boundaries of established towns. The fire management staff would work cooperatively with BLM Staff and Private Landowners to help designate these areas within the Planning Area. Continued suppression within the WUI would allow fuels to build in that area without treatment. The risk to human life and private property limits the ability to apply fire to these areas, making mechanical treatments necessary to reduce fuels in these areas. Alternatives where mechanized equipment would not be utilized would allow fuels to build in these areas, exacerbating the current fuels problem and increasing the risk of large catastrophic fires. Western juniper would also continue to increase its range and density and cover within current stands if not treated. Western juniper has replaced or would be in the processes of replacing big sagebrush across approximately 350,000 acres of the Planning Area. Alteration of the sagebrush plant communities has had an effect on many plant and animal species that would be found in these plant communities. Continued expansion of western juniper would cause a further reduction in sagebrush plant communities and loss of habitat. There would also be an overall increase in the amount of bare ground or exposed mineral soil. This would increase the risk of soil movement. Loss of soil would reduce future site productivity and potential for the site to respond to management actions. Increases in erosion may also have impacts on adjacent stream systems and water quality.

Treatment of at least 10,000 acres a year would be sufficient to restore a fire regime that resembles the historic one and would be appropriate for current desired vegetation conditions over much of the Planning Areas. Treatments over time would result in a mosaic of multiple successional stages across the landscape. As the number of acres and years since initial treatment increase, there should be an increase in the occurrence of wildland fire use in areas where threats to human life and private property would be low. This would indicate that the vegetation and subsequently the fire regime would be approaching the appropriate conditions. Post-fire stabilization and rehabilitation efforts should decrease as the vegetation approach this condition. However, there would still need to be some type of treatment in areas where threats to human life and private property continue where no cooperative agreements would be in place.

4.17 Lands and Realty

4.17.1 Goals and Objectives

Goal - Provide lands, interests in land, and authorizations for public and private uses while maintaining and improving resource values and public land administration.

Objective 1. Retain, consolidate and/or acquire land or interest in land with high public resource values to promote effective administration and improve resource management. Make available for disposal public land meeting the disposal criteria contained in Section 203(a) of the FLPMA.

Objective 2. Meet public, private, and federal agency needs for realty related land use authorizations and land withdrawals including those authorizations necessary for wind, solar, biomass, and other forms of renewable energy development.

Objective 3. Acquire legal public or administrative access to public land.

Objective 4. Eliminate unauthorized use of public lands.

4.17.2 Assumptions

The Land and Realty Program would be a support function of other resource programs. Consequently, effects to the program would be a direct result of the emphasis of other resource programs. Land tenure actions would be directed to a point ranging from fully developing commodities to preserving natural values as dictated by other resource programs.

Lands identified for disposal would be known as Disposal-Zone 3 lands and would be displayed on Maps 2.4, 2.5, 2.6, and 2.7. Any of the land identified as suitable for disposal could be transferred from federal ownership during the life of the plan. Disposal would usually be by sale or exchange, although other methods would be authorized. See Appendix J, Land Tenure Adjustment Criteria and Legal Requirements for additional details on land tenure adjustment.

All land tenure adjustment actions, realty use authorizations, and other lands activities would be contingent upon site-specific review and inventory for resource values in accordance with the NEPA.

Proponents of land exchanges and other disposals commonly desire lands that would be suitable for commodity producing activities such as conversion to seedings for livestock grazing, and development of rural residences and small ranches. Thus, it would be assumed for purposes of analysis that land disposals would generally result in commodity production.

Any acquired land or acquired interest in land would be managed for the purposes for which it was acquired, or in the same manner as adjacent or comparable public land.

Conformance with the land use plan would be only one factor to be considered in the decision to undertake a land tenure adjustment action. Although various lands would be identified through the land use plan for disposal or acquisition, many may never be considered for action due to resource issues, or other factors. Generally, it would not be the intent of the alternatives to portray new large scale initiatives to acquire or dispose of all lands within a given zone, unless otherwise stated in the alternative. Rather, the alternatives describe different options and opportunities to direct and prioritize the use of lands actions.

The Land Tenure Zones not only apply to the retention, acquisition, and disposal of the surface estate, but also to the mineral estate or other partial interests of the United States.

Section 503 of the FLPMA provides for the designation of ROW corridors and encourages use of ROWs in common to minimize environmental effects and the proliferation of separate ROWs. BLM policy, as described in BLM Manual 2801, would be to encourage prospective applicants to locate their proposals within corridors. However, when ROW proposals would be in conflict with designations such as WSAs and ACECs, these areas should be avoided.

Major project development in an unoccupied corridor east of the Alvord Desert, through Sand Gap, and west from Long Hollow across Catlow Valley and the Basque Hills (Portland Power and Light [PP&L]/Bonneville Power Administration [BPA] Proposed Route) would cross portions of WSAs and likely impair wilderness values. Further, there would be no corridor designations in adjacent Planning Areas where the PP&L/BPA Proposed Route crosses these areas. However, this corridor remains a Priority 2 corridor identified by the Western Utility Group where development might be expected in three to five years. Approval of major ROW development in these areas would require Congressional release of the WSAs from further consideration for wilderness and possibly amendment of land use plans in neighboring Planning Areas.

ROWs and other land uses including those necessary for renewable energy development would be recognized as major uses of the public lands and would be authorized pursuant to sections 302 and 501 of the FLPMA.

Applications for ROWs, realty and renewable energy use authorizations would be processed in a timely manner, on a case-by-case basis, in compliance with the NEPA process. In accordance with current policy, authorizations may not be issued for any use that would involve disposal or long-term storage of materials that could contaminate the land (i.e., landfills, hazardous waste disposal sites, etc.).

U.S. Department of Interior policy as prescribed in Departmental Manual 603.1.1 would be that all withdrawals of land would be kept to a minimum and would be available for other public purposes to the fullest extent possible, consistent with the purpose of the withdrawal.

Section 205 of the FLPMA authorizes the Secretary to acquire lands and interests in lands consistent with the mission of the department and with applicable departmental land-use plans.

Action would be taken on all unauthorized use as it would be discovered; however, in some cases the trespasser could not be identified, or the trespass would be otherwise unsolvable. In such cases, the BLM would make every effort to abate the trespass and restore and stabilize the lands.

In all cases, trespassers would be liable for the costs of resolving an unauthorized use, including fair market value for use of the land, administrative costs, and cleanup and restoration costs.

4.17.3 Analysis of Alternatives

4.17.3.1 Effects Common to All Alternatives

Direct Effects

There would be no effects common to alternatives.

Indirect Effects

Special area designations, special status species, cultural and historical sites, fish and wildlife habitat, wetland/riparian habitats, water and fisheries issues and other resource values generally constrain lands and realty activities by limiting the lands available for exchange or disposal in any zone; reducing the demand for the number and type of realty use authorizations and withdrawals; restricting the ability to construct or relocate roads for legal access; and eliminating options of authorization or conveyance of land to resolve a trespass. At a minimum, these resource values may require mitigation or reroute of an activity. At a maximum, they may prohibit the activity altogether.

Other resource management actions that would improve the quality and productivity of the public lands, particularly for commodity production, may have an indirect effect on land tenure because they may increase the market value of public lands. Commodity producing activities such as mining, tourism, and other development, also have an effect on the program by creating demand for realty use authorizations and legal access to public lands.

4.17.3.2 Alternative A

Direct Effects

Under this alternative, land tenure adjustment would be limited to land identified for sale or exchange in the existing Andrews/Drewsey Land Tenure Adjustment Andrews MFP Amendment and for a portion of the lands, the Three Rivers

RMP. Lands in Zone 1 containing important public values would be protected from disposal, but there would be no flexibility in this zone to exchange or sell public lands; therefore, opportunity and ability would be limited to acquire lands with high public values and to resolve long-term inadvertent and unauthorized uses, survey errors or hiatuses. Land sales and exchanges would also be limited by lack of land identified for sale or exchange because many of these lands have been previously conveyed. Land sales and other disposals in Zone 3 would be considered only after the possibilities for exchange have been exhausted, further limiting disposal opportunity and expediency. Disposal of lands for community expansion or public purposes would need to be consistent with the appropriate land tenure zones.

Lands may be acquired in any zone on a case-by-case basis. This has the potential of wasting valuable acquisition funding and effort in areas containing little public land and resources because there would be no focus or priority for acquisition.

Under this alternative the historical trend of a net loss of public lands in Harney County (See Cumulative Impacts) would be expected to continue into the future. This trend would be expected to diminish somewhat as public lands would be disposed of over time; thus, fewer lands and opportunities would be available. The overall effect would be a slight net loss of public lands in the Planning Area over the life of the plan, though not as much as during the last 20 years, resulting in a corresponding increase in county tax revenues. Some of these conveyed public lands would be converted to alfalfa, crested wheatgrass or other development that would not have occurred in public ownership. Conversion of lands to a higher commodity value should result in a higher assessed value on the land, further improving county tax revenues.

Overall, there would be opportunity for consolidation of both public and private lands through exchanges, sales, and acquisitions, although somewhat limited by the availability of disposal lands and inflexibility of this alternative.

Most known special resource values would be included in the retention zone (Zone 1), and would therefore be protected from disposal actions. Special resource values included in an exchange or disposal zone (Zones 2 and 3) would be identified and considered during site-specific review of land tenure proposals. In the case of exchanges, special resource values in these zones may be vulnerable to disposal, but would be weighed against the resource values to be gained in the exchange.

Alternative A continues the designation of corridors on approximately 340 miles of public land and provides limited designations of exclusion/avoidance areas. This includes all corridors identified in the Western Utility Group's Western Regional Corridor Study. There would be no immediate effects to the continued designation of public land for ROW corridors. Specific effects would be analyzed when new projects would be proposed. The long-term effects of corridor designation would be the centralizing of facilities, which would confine surface and visual disturbance, as well as other effects, to existing corridors and ROWs; however, this could make critical energy and communications facilities more vulnerable to destruction through terrorist activities or natural disasters.

Consideration of withdrawal actions, an airport lease at Fields, and other land use and ROW authorizations including those necessary for renewable energy development would be handled on a case-by-case basis and deferred to a site-specific review and analysis upon receipt of definitive proposals.

Implementing Alternative A would continue the existing direction of dealing with access issues on a case-by-case basis as specific needs or opportunities arise, with emphasis on securing access for administrative purposes. Implementation of this alternative would promote access for BLM administered lands, but efforts to secure public access would be limited. Under this alternative, little focus or direction would be provided to proactively acquire access because there would be no prioritization or identification of access needs in existing planning documents.

Under Alternative A, unauthorized use would be dealt with on a case-by-case basis, consistent with existing land use plans. This alternative provides flexibility in most cases to terminate or authorize the use, except for conveyances of land, to resolve an unauthorized use. Conveyances would be limited by the land tenure provisions in existing planning documents.

Indirect Effects

Although exclusion/avoidance areas would be limited under this alternative, Congressional and administrative designations, special status species habitats, and other important values would generally be protected from development due to their inherent restrictions. The primary effect of limited exclusion/avoidance designations would be the inability of the plan to provide ROW, renewable energy and other land use project planners with a clearinghouse designation for determining the location and severity of various designations and restrictions existing in the Planning Area. This may result in re-engineering, rerouting, or mitigation of a project with possible effects to sensitive resources when relocation would not be possible. Since only minor areas would be designated avoidance and exclusion zones, this alternative provides the least known constraints on realty use authorizations.

4.17.3.3 Alternative B

Direct Effects

Under this alternative, all public lands would be retained in federal ownership with emphasis on acquiring lands with natural values. All lands would be protected from commodity-producing activities likely to occur if conveyed out of public ownership. There would be no exchanges, thereby limiting the opportunity and ability to acquire lands with natural values.

Since the entire Planning Area would be considered Zone 1, lands may be acquired by purchase or donation anywhere in the Planning Area on a case-by-case basis. Under this alternative with no zones to provide basic direction, special resource values would be the only factor focusing and prioritizing acquisition.

There would be a net gain of public lands in the Planning Area. Since all acquisition would be by purchase or donation with no disposal of public lands, there would be a net loss of county tax revenues from private land acquisition. An offsetting effect on tax revenues may result when fewer public lands would be available for disposal; more conversion and development of existing private lands may be expected, resulting in higher assessed values on those lands.

Overall, there would be some consolidation of public lands by fee purchases but no such opportunity for private lands due to the prohibition on disposals and the inflexibility of this alternative.

In this alternative, the protection of natural values places a prohibition on land disposal actions, commodity withdrawals, and realty use authorizations; thus the opportunity to abate an unauthorized use by these means or to provide lands for community expansion and public purposes would not be available.

Under this alternative, the entire Planning Area would be considered a ROW, realty, and renewable energy authorization exclusion area and no corridors would be designated. Implementation of this alternative would not meet management goal objectives. Only new authorizations would be allowed that provide reasonable access to nonpublic lands. This would primarily be limited to small scale ROWs, mostly for existing roads, ways, and trails. The most likely effect of this alternative would be an increase in unauthorized use and illegal activities because the public would be unable to utilize public lands through legal means. Without some level of control, these uses could potentially damage sensitive resource values.

Disallowing leasing and reopening of the Fields airstrip may force aviators to land in unsafe, undeveloped areas, thereby causing new resource damage and creating safety hazards such as landings on public roads and highways. Without a legal airstrip, fewer aircraft may be in the area, thereby minimizing noise and other effects. Rejecting the lease proposal would also minimize any potential liabilities to the United States associated with operation and maintenance of the airstrip.

Since the entire Planning Area would be withdrawn, except as noted above, there would be no effects from mining, energy and minerals, military activities, and other commodity production. The primary thrust of this alternative on access would be to control and limit public access for the protection of natural values. Road construction to provide legal access around private lands would not be authorized; existing roads that provide public access would be closed. Closed roads would be allowed to reclaim naturally, slowing restoration of the land affected by the road. However, if slow restoration results in unstable soils, erosion, weed infestations, and other resource degradation, limited reclamation and remediation of the problem would be undertaken. Scenic and conservation easements to protect natural values would also be authorized under this alternative where fee acquisition would not be possible.

Under this alternative, all unauthorized uses would be terminated and none would be authorized. No disposals would be made to accommodate any uses. Therefore, no flexibility would be provided for options to resolve situations. Facilities and structures would be removed, but otherwise restoration of lands would be by natural processes unless resource degradation necessitates active restoration. This may result in slow restoration of the lands with possible resource degradation in some areas. In most cases, however, natural values would be enhanced by this alternative.

Indirect Effects

Under this alternative protection of natural values, such as special status species, wildlife habitat, and Congressional and administrative designations, places an outright prohibition on most types of ROW, realty, and renewable energy use authorizations and disposals.

4.17.3.4 Alternative C

Direct Effects

Under this alternative, the major emphasis of land tenure adjustments would be on the retention/acquisition of land with natural or cultural resource values while providing for limited disposal actions in some areas. All lands in Zone 1, 1A, and 1B would be retained in public ownership and would be protected from disposal, and thus, commodity-producing activities. There would be no flexibility in these zones to exchange or sell public lands, limiting the opportunity and ability to acquire lands with important natural values and to resolve long-term, inadvertent unauthorized uses, survey errors, or hiatuses, or to provide lands for community expansion and public purposes. Limited exceptions to this disposal prohibition would exist in Zone 1B where exchanges may be made that further the purposes and objectives of the Steens Act. Exchange of lands in Zone 2 and 3 would also be allowable, providing some opportunity for exchanges. Sales and other disposals would be limited to Zone 3. Exchange of lands to resolve a trespass situation would be allowable in Zones 2 and 3, but the exchange must serve to acquire lands with important natural values. These disposal opportunities may result in loss of some lands with natural or public values.

Disposal of lands for community expansion or public purposes would be limited to Zones 2 and 3 because a disposal must be consistent with the appropriate land tenure zone.

Land acquisition would be focused at Zones 1, 1A, and 1B. Some exceptions to acquire lands containing natural values would be available in Zones 2 and 3, but must be accomplished by purchase or donation in these Zones. Exchanges to acquire lands in Zones 2 and 3 would be prohibited because exchanges have a generally higher level of processing cost,

effort, and timeframes than do purchases or donations. Acquisition of less than fee interests would be further focused to Zones 1, 1A, and 1B by prohibition of less than fee acquisitions in Zones 2 and 3.

In this alternative, most known special resource values would be included in the retention zones (Zone 1, 1A and 1B). In addition, large blocks of public lands without special values were also zoned for retention (Zone 1). Thus, without flexibility, Zones 1 and 1A provide absolute constraints on land disposal actions. Constraints on land exchanges by other resource values would be somewhat less in Zone 1B where flexibility to exchange lands would be provided by the Steens Act. All disposal actions would be subject to site-specific inventory and screening for the existence of any special resource values that may have been unknown or overlooked at the time of the RMP development. These values would be considered in the final decision to dispose of the land. In the case of exchanges, special resource values may be vulnerable to disposal in some zones, but would be weighed against the resource values to be gained in the exchange.

There would be a slight net gain of public lands in the Planning Area with a corresponding loss in county tax revenues, since private lands and values acquired would exceed the values of public lands being disposed.

Overall, there would be some opportunity for consolidation of both public and private lands, which would be somewhat limited by the availability of disposal lands and inflexibility of this alternative.

Under this alternative, corridor designations would be limited to those that have existing major power transmission lines and primary county roads and state and federal highways. Corridor designations on public land total 246 miles. The unoccupied PP&L/BPA proposed route would not be designated. This would leave two alternative north/south corridors and a single east-west option through the Planning Area.

Under this alternative, major facilities and projects would be required to be sited within corridors. In some situations this may require costly route changes in adjacent Planning Areas to bring the alignment of a facility in line with the designated corridor in the Planning Area. These reroutes could also result in additional surface disturbance and effects to visual resources, and proliferation of separate ROWs.

A large portion of the Planning Area, 995,037 acres, would be considered a ROW, realty, and renewable authorization exclusion area where a large variety of land uses, no matter what the effects, would be prohibited. Generally, areas where the most demand exists for this type of authorization (i.e., areas of existing human influences and activity) would remain open or would be in avoidance areas where authorizations would be possible but would be heavily mitigated if alternative locations were not available.

If a valid application were received, the existing Fields airstrip would be leased and reopened for public use. This would provide aviators a safer, more centralized place to land and take off. It could also improve public safety and limit resource damage by reducing aircraft operations in undeveloped areas. Reopening and improving the airstrip could also result in increased aircraft traffic and related visitation to the area. It would have local effects such as increased noise, soil and vegetative disturbance, and possible fuel or pesticide spills from aircraft spraying operations. Since the airstrip would be in a retention zone, the airstrip and the effects of leasing would continue indefinitely but would also provide the lessee with some assurance of long term tenure. It could also expose the United States to hazardous materials, and safety and other liabilities associated with long-term operation of such a facility on its lands.

Generally, the primary effect of this alternative would be that basic infrastructure and necessities such as residential roads and driveways, a rural airstrip, utility distribution service, filming and short-term storage sites would be allowable, while large scale projects and activities outside of corridors such as major transmission lines, energy development, and military maneuvers would be limited.

Demand for realty use authorizations would decline under this alternative since commodity production such as mining, tourism, and other development would be limited.

The actions and effects of this alternative related to legal access acquisition would be that closed roads would be actively reclaimed, speeding recovery and stabilization of the land affected by road disturbances.

This alternative provides a limited option to resolve agricultural or occupancy trespass by exchanging the affected lands for nonpublic lands with significant natural or cultural values, where the exchange conforms with the land tenure provisions of this alternative. This option, in limited circumstances, could enhance acquisition and protection of natural values. It would be possible that sensitive resource values could be lost in such an exchange.

Indirect Effects

Under this alternative protection and enhancement of natural values (e.g., special status species, wildlife habitat, visual resources and Congressional and administrative designations) limits many types of ROW, realty use, and renewable energy authorizations and disposals. Basic infrastructure and public needs could be accommodated while large scale realty development and land uses would be restricted.

4.17.3.5 Alternative D

Direct Effects

Under this alternative, the major emphasis of land tenure adjustments would be on the retention/acquisition of land with high public resource values while providing for balanced disposal options through sales, exchanges, and other types of disposal. Lands in Zone 1A would be protected from any form of disposal. There would be flexibility in Zone 1 to exchange public lands for a specific set of public resource values. In addition, exchanges that further the purposes and objectives of the Steens Act would be allowable in Zone 1B. More lands would be available for exchanges in Zone 2 and 3, providing additional opportunity for exchanges outside the CMPA. Sales and other disposals would be generally limited to Zone 3, but could be used in any zone except 1A to resolve long term, inadvertent unauthorized use of public lands. This additional disposal capability may result in losses of some lands with natural or public values.

Lands for community expansion would be available by exchange in Zone 2B and for public purposes in Zones 2 and 3. However, disposal of Zone 2B lands would only be available by exchange for specific private lands in Zone 1A and contingent upon county rezoning of the 2B lands.

Under this alternative, most known special resource values would be included in the retention zones (Zone 1, 1A, and 1B). The constraints of special resource values in Zone 1 and 1B would be relaxed by the flexibility included in this alternative. Only in Zone 1A would be a prohibition placed on any form of land disposal. Regardless of the zone, all disposal actions would be subject to site- specific inventory and screening for the existence of any special resource values that may have been unknown or overlooked at the time of the RMP development. These values would be considered in the final decision to dispose of the land. In the case of exchanges, special resource values may be vulnerable to disposal in most zones, but would be weighed against the resource values to be gained in the exchange.

Acquisition effort and funding would be focused primarily at Zones 1, 1A, and 1B. Exceptions to acquire fee estate in lands containing specific public values would be available in Zone 2 but must be accomplished by exchange or donation. Acquisition of less than fee interests would be further focused to Zones 1A and 1B by prohibition of less than fee acquisitions in Zones 1, 2, and 3.

Generally, over the long term there would be no expected change in the ratio of public lands to private lands in the Planning Area due to a balanced variety of land tenure actions including both acquisitions and disposals. Due to additional public land disposals in neighboring Planning Areas there would continue to be an overall net loss of public lands in Harney County consistent with the historical trend. For this reason county tax revenues would be expected to increase. Property tax revenues would be further enhanced by disposal of public lands, some of which would be converted to commodity production such as seedings or alfalfa fields under private ownership, which should result in higher assessed values on those lands.

Overall, there would be balanced opportunity for consolidation of both public and private lands while protecting, acquiring, and enhancing important public values.

In this Alternative, proponents for all large scale facilities would be encouraged to site their facilities in the corridor. This would provide additional flexibility if facilities in existing corridors would be incompatible with those proposed, or would be otherwise unfeasible for location within a corridor. It would also be in compliance with BLM policy, which encourages applicants to locate their facilities in a corridor.

A total of 870,912 acres would be designated a ROW and realty use authorization exclusion and avoidance area where realty or realty-related land uses would be prohibited or restricted.

If a valid application would be received, the existing Fields airstrip would be leased and reopened for public use. This would provide aviators a safer, more centralized place to land and take off. It could also improve public safety and limit

resource damage by reducing aircraft operations in undeveloped areas. Reopening and improving the airstrip could also result in increased aircraft traffic and related visitation to the area. It would have local effects such as increased noise, soil and vegetative disturbance, and possible fuel or pesticide spills from aircraft spraying operations. Since the lands would be identified for exchange only for specific lands (e.g., the Steens Mountain Wilderness), no definitive tenure could be assured to the lessee unless the lessee could secure nonpublic lands in the wilderness to exchange for the airstrip lands. The United States' liabilities associated with operation and maintenance of the airstrip would end if and when the lands were exchanged. Since the lands would be identified for exchange only for specific lands (Steens Mountain Wilderness), no definitive tenure could be assured to the lessee unless the lessee could secure nonpublic lands in the wilderness to exchange for the airstrip lands. The United States' liabilities associated with operation and maintenance of the airstrip would end if and when the lands would be exchanged.

Approximately 20,367 acres would be proposed for new withdrawals under this alternative protecting only key special management areas, which were not already withdrawn.

Generally, the primary effect of this alternative would be that many ROWs realty land uses, and renewable energy projects would be allowable and accepted in open areas while protecting sensitive resources and areas where they exist. Large scale projects and activities such as major transmission lines, energy development, and military maneuvers would be possible outside of corridors and avoidance and exclusion areas, but may be limited or restricted to some extent dependent upon location and nature of the proposal.

Designated avoidance/exclusion zones would be limited to key special areas under this alternative, which provides fewer constraints to realty land use activity. Still, other restrictions in the management actions for this alternative exist and place additional constraints on the program.

Under this alternative, access, scenic, or conservation easements would be acquired where public demand and administrative need exists. Construction of roads around private lands, if necessary to secure access, would be an available option, but would be limited to areas where critical access needs have been identified. Emphasis for access acquisition would be to provide access to public lands containing high public resource values. This alternative provides proactive direction and emphasizes use of land tenure actions to secure and maintain access.

Alternative D provides a variety of options to resolve unauthorized use, with some limitations. This flexibility could result in effects to sensitive resource values. It may also have some potential of promoting trespass when the trespasser knows that the use may be ultimately authorized. The higher costs of trespassing vs. legal authorization may deter most trespassers and limit this potential.

Indirect Effects

Under this alternative, protection and enhancement of natural values (e.g., special status species, wildlife habitat, visual resources and Congressional and administrative designations) limits many types of ROWs, realty use, and renewable energy authorizations and disposals. Basic infrastructure and public needs could be accommodated. Large scale development and land uses may be possible outside of avoidance and exclusion areas.

4.17.3.6 Alternative E

Direct Effects

Under this alternative, the major emphasis of land tenure adjustment would be for commodity production and weighted toward disposals rather than acquisition of public or natural values. Retention of lands would be mandated only in Zone 1A, with maximum flexibility to exchange lands for commodity production being available in Zones 1, 1B, 2, and 3. Opportunity would be maximized for disposal by sale or other means in Zone 3. Lands for public purposes would be available in Zones 1, 2, and 3. Lands for community expansion would be available by exchange, sale, or other means consistent with the land tenure zones. These disposal opportunities may result in the potential for loss of some lands with natural or public values, or conflicts with existing uses and values.

Sales or other disposals to resolve any unauthorized agricultural or occupancy use could be made in any zone except in 1A, regardless of when or how the unauthorized use originated.

In this case, the land tenure zones established for this alternative only take key special designations (e.g., wilderness, WSAs, ACECs, and the CMPA) into consideration by including these designations in the retention zones (Zone 1, 1A,

and 1B). Other special resource values would be considered for retention or disposal on a case-by-case basis. Only in Zone 1A would there be prohibitions placed on any form of land disposal. All disposal actions would be subject to site-specific inventory and screening for the existence of any special resource values that may have been unknown or overlooked at the time of the RMP development. These values would be considered in the final decision to dispose of the land. In the case of exchanges, special resource values may be vulnerable to disposal in most zones, but would be weighed against the commodity-producing values to be gained in the exchange.

Acquisition opportunities would be focused only in Zones 1, 1A, and 1B and only by exchange. No purchases or donations would occur under this alternative. Likewise, no acquisition by exchange of Zone 2 or 3 lands would be authorized.

Although relative acreages in Zones 1, 1A, and 1B would generally remain constant, there would be the potential for an overall net loss of public lands in the Planning Area due to liberalized disposal possibilities. A corresponding increase in county tax revenues could occur. Further, tax revenues would be enhanced by disposal of public lands, some of which would be converted to commodity production such as seedings or alfalfa fields under private ownership, which should result in higher assessed values on those lands.

Overall, there would be a high opportunity for land disposal, consolidation of private lands, and facilitating of commodity production. Lands containing public values could be lost and some areas of public lands could potentially be fragmented.

Alternative E designates 354 miles of public lands as ROW corridors. Corridor designations would be maximized in this alternative to provide a variety of different route alternatives and have an increased width to provide additional siting flexibility within the corridors. In this alternative, proponents for all large scale facilities would be encouraged to site their facilities in the corridor. In this respect it would be similar to Alternative D. Designated ROW, realty use, and renewable energy exclusion/avoidance areas total 849,690 acres.

If a valid application were received, the existing Fields airstrip would be leased and reopened for public use. This would provide aviators a safer, more centralized place to land and take off. It could also improve public safety and limit resource damage by reducing aircraft operations in undeveloped areas. Reopening and improving the airstrip could also result in increased aircraft traffic and related visitation to the area. It would have local effects such and increased noise, soil and vegetative disturbance, and possible fuel or pesticide spills from aircraft spraying operations. Since the lands would be identified for disposal, the lessee could be assured of definitive tenure if the lands would be conveyed to him for that purpose through an Airport Conveyance or other disposal. Also, since the lands would be identified for immediate disposal, the United States' liabilities associated with operation and maintenance of the airstrip would be minimized.

There would be no new protective withdrawals. Other withdrawal actions would be geared toward opening lands for commodity-producing activities.

Designated avoidance/exclusion zones would be limited to key special areas under this alternative, which provides fewer constraints to realty land use activity. Still, other restrictions in the management actions for this alternative exist and place additional constraints on the program.

Under this alternative, the emphasis for access acquisition would shift from providing access for administrative and public purposes to acquiring access to public lands high in commodity value. This would allow access for management, extraction, or use of commodity resources on all the public lands. Implementing this proposal would emphasize constructing new roads around private lands to facilitate commodity development, and would forego opportunities to access public land with high public resource values. No scenic or conservation easements would be authorized under this alternative.

Alternative E would promote commodity production by authorizing the use or disposal of the lands affected by all forms of trespass. This alternative has the potential to affect resource values and promote trespassing. Special resource values would not constrain the ability to authorize use or convey land to settle the trespass, since these remedies would be mandated under this alternative.

Generally, the primary effect of this alternative would be that most ROWs, realty land uses, and renewable energy development would be allowable and accepted, while only the most critical sensitive resources and areas would be protected and in some cases affected by this type of development. Large scale projects and activities such as major

transmission lines, energy development, and military maneuvers would not only be possible, but also encouraged outside of corridors and avoidance and exclusion areas.

Indirect Effects

Although disposal and realty use authorization opportunities and flexibility would be maximized in this alternative, special resource values could still constrain and prohibit lands and realty activities.

4.17.4 Summary of Effects

Land tenure management goals would be achieved under all alternatives except Alternative B where disposal objectives by exchange, sale, or other method would not be achieved. Land exchange opportunities would be greatest in Alternative D and E where a larger amount of land would be identified for exchange in Zones 2 and 3 and where the greatest flexibility to exchange Zone 1 lands exists. Land sale opportunities would also be greatest in Alternatives D and E. Although land sales and exchanges would be possible under Alternatives A and C, opportunities for these disposals would be severely diminished as compared to Alternatives D and E due to reduced acreage available for disposal and the inflexibility of these alternatives.

The opportunity for acquisition by any method would be greatest under Alternative D where adequate lands would be available to exchange for lands with important public values. Alternative D also provides direction and focus so that acquisition efforts would not be wasted in areas with low resource or public values. Although Alternative B may appear to provide excellent opportunities for acquisition, it may actually do so less than the other alternatives because the ability to utilize exchange as an acquisition method would be prohibited. Alternative B also lacks any acquisition priority or focus.

Alternative E has the greatest potential for the loss of significant public resource values since disposals would be emphasized and acquisitions would be geared toward commodity production. Alternative B provides the least potential to lose resource values since no disposal would be authorized.

Alternative B would have the greatest effect to the county tax revenues because all acquisition would be by purchase with no corresponding disposals to place exempt public lands on the tax rolls. Alternatives A, D, and E would have wide-ranging effects, depending upon the types and amount of land tenure adjustment being undertaken.

Realty use authorization management goals would be achieved under all alternatives except Alternative B where public and private needs for realty use authorizations would not be met due to severe restrictions on this type of activity in the entire Planning Area. Alternatives A and E would be similar and provide the most opportunity and flexibility for authorization of ROW and realty land use activity. They also have the greatest potential for effects from land uses on sensitive lands and resource values. Alternative C designates a major portion of the Planning Area as avoidance/exclusion zones with restrictions in other areas. This alternative provides the most constraints on realty use authorizations over all other alternatives except B, which prohibits outright most realty land use activity. Although Alternative C would be limited, for the most part critical public and private needs would be met. Alternative D provides balance between public and private land uses and protection of resources.

Access acquisition management goals and objectives would be achieved under all alternatives but with emphasis on different values. Alternative A would be a continuation of the present situation as it currently exists in the MFP with little emphasis on proactive access acquisition. Alternatives B and C provide emphasis and direction for the program toward protection of natural values at the expense of public access and values. Road construction would not be an option to securing legal rights under these alternatives. Alternative D would provide for acquiring access to areas containing high public resource values including sensitive resources and natural values, and includes specific direction in relation to road construction and land tenure activities as they relate to access. Alternative E emphasizes access for commodity-producing activities, but public access opportunities may be foregone.

The stated management objective of eliminating unauthorized use would be achieved under all alternatives. However, Alternative B would not meet the overall management goal to provide lands, interests in land, and use authorizations for public and private needs. Alternatives A, D, and E provide management flexibility to resolve sometimes difficult unauthorized use cases. Alternatives B and C have little, if any, such flexibility and would limit the ability to provide reasonable solutions to difficult situations. Alternatives A and E have the most potential to affect sensitive resource values but would provide the ability to maintain good working relationships and public perceptions, and would provide reasonable solutions for trespass resolution.

4.17.5 Cumulative Effects

Most federal land management agencies, including the BLM, which have land tenure adjustment programs strive to maintain the private/public land ownership ratio within their respective jurisdictional areas. The most direct cumulative effect of the BLM's land tenure activity would be on the Harney County tax base, which involves lands in both the Andrews RA and the Three Rivers Planning Area to the north. For example, all facets of the Burns Districts land tenure program including sales and exchanges have materially offset the effect of land purchases in the Steens Mountain Area. BLM records show that since 1980, the BLM acquired through purchase, exchange, or donation approximately 207,022 acres in Harney County. During the same time period the BLM conveyed 318,964 acres out of federal ownership for a net gain in private and state ownership of 111,942 acres. Some of these conveyed federal lands have been converted to alfalfa, crested wheatgrass or other development that would not have occurred in federal ownership. Conversion of lands to a higher commodity value should result in a higher assessed value on the land, further improving county tax revenues.

Projections of cumulative impact of land tenure activity would be difficult to determine; however, based on past history of the District's land tenure program (1980 to present) an annual average of 1571 acres of public land were exchanged for 686 acres of private land. These figures exclude the large State of Oregon Exchanges (1984 to 1988) and the Steens Mountain legislated exchanges (2001 to 2002), which would be atypical of an average exchange effort. Land purchases in the District, all in the Steens, averaged 818 acres per year. Public land sales District-wide averaged 523 acres per year. Based on this same historical data, less than one exchange transaction can be expected per year; one purchase every two years; and three public land sale cases per year. Assuming similar staffing and funding levels for the next 20 years the cumulative impact of the program in the entire District would be projected as follows: 31,420 acres of public land would be exchanged for 13,720 acres of private land; 16,360 acres of private land would be purchased; and, 10,460 acres of public land would be sold. From these figures the total public lands projected to be conveyed through all forms of disposal in the next 20 years would be 41,880 acres. Private lands that may be acquired through exchange and purchase would total 29,780 acres. Most, if not all, of this land tenure activity for the District would be in Harney County, continuing the historical trend and effect on the County's tax base. Although these records would be maintained as District totals, roughly half of the historical exchange and sale transactions and all of the purchase transactions have been in the Andrews RA. Factors influencing and probably limiting these projected levels include the alternative selected; staffing and funding levels; unforeseen priority shifts; and new emphasis on conservation easement over fee acquisition.

BLM land status records indicate that since 1980 there have been approximately 60 ROW and realty use authorization cases in the Planning Area currently affecting approximately 2000 acres. Most of these previous grants have been for small scale electric and telephone distribution lines, private and county roads, water ditches, canals and pipelines and temporary use permits for low impact activities such as commercial filming and photography. Many of these ROWs authorize existing facilities and replace older, less explicit grants. There have been no large scale (greater than 69kV) electric transmission line or other large utility ROWs established during that time frame. Those that do exist in the Planning Area were established prior to 1980. There would be no large scale land use proposals on the horizon and nothing to indicate that this trend would be any different for the next 20 years. It would be projected that new ROWs granted in the next 20 years would affect about 1000 acres since most county roads and state and federal highways, which make up more than half of the existing acreage affected by ROWs, have already been authorized by newer FLPMA grants. It would be anticipated that the cumulative, new, on-the-ground effects from ROW and realty use activities would be limited to about half of that number or about 500 acres in the next 20 years since many new grants would authorize existing uses or replace older grants. These projections can be affected by the alternative selected, public demand, shifting policies, and unforeseen proposals and initiatives.

Generally, with the exception of Alternative B, the cumulative effects associated with the location of realty use authorizations would be similar for all the alternatives. Alternatives A, C, D, and E do not prevent the location of realty use authorizations except for exclusion zones, but restrict the location of some kinds of realty use authorizations in certain areas to protect resource values. Excluding or avoiding certain areas for the location of realty use authorizations may lessen the effect to a particular resource considered of public value, but would not lessen the physical alteration of the landscape necessary to accommodate the use at another location. The cumulative effect associated with realty use authorizations would be a function of demand and the number of acres occupied by the ROWs. Implementation of Alternatives A, C, D, and E would not affect the demand for or number of ROWs, but only relocate the physical effect of those ROWs authorized. The more ROWs granted by the land management agencies (federal and state), as well as private easements, the more cumulative effect to the landscape. Alternative B would presumably not allow the location of new ROWs anywhere in the Planning Area on public land. This would cause some types of land uses, where feasible, to be relocated to nonpublic lands. Therefore, cumulative effects would still result from Alternative B, but not on public land and probably not to the level of the other alternatives.

The cumulative effects, over time, of eliminating unauthorized use would be minimizing effects to sensitive resources, deterring future unauthorized use, realizing a fair return for use of the public land, and improving public perception.

4.18 Transportation and Roads

4.18.1 Goals and Objectives

Goal - Provide travel routes to and through BLM managed lands as appropriate to meet resource objectives while providing for private and public access needs.

Objective 1. Manage roads and ways within the CMPA consistent with the Route Management Categories and Maintenance Levels identified for each alternative.

4.18.2 Assumptions

The AMU would continue under present transportation/maintenance direction.

All road, or route, designations and maintenance within the CMPA must adhere to the Steens Act, specifically Section 112.

The Steens Act closed approximately 104 miles of motorized routes in the Steens Mountain Wilderness. These routes would remain closed across all RMP alternatives. This may increase use of other motorized routes within the CMPA.

BMPs would be utilized for construction, maintenance, and general management of the transportation system (Appendix M). These BMPs would be consistent across all alternatives.

Road closure proposals not currently identified in this planning document would undergo additional environmental review with associated public input. Currently proposed closures are shown by alternative on Maps 2.9, 2.10, 2.11, 2.12, and 2.13.

4.18.2.1 Effects Common to All Alternatives

Water resources management calls for the use of BMPs and proper floodplain management/function to protect water quality. Management of these components would be the same for all alternatives. Such activities may limit road construction and maintenance techniques. They may also promote road stability and decrease maintenance efforts and costs. Soils management calls for BMPs to be implemented under all alternatives except Alternative B. The use of BMPS for soils would have the same effects as those discussed under water resource effects.

Activities that may be conducted for fish and wildlife management could affect transportation and roads under any of the alternatives. These activities may include altering or closing road crossings and habitat restoration, both of which may temporarily or permanently affect public access and road maintenance. Monitoring would help determine the need for future road closures or alterations.

Protection of habitat for special status animal and plant species may affect the location and use of roads and have consequences to access.

The amount of public recreation use and access demands would affect road condition, road maintenance, and access. The addition of public access easements across private lands would increase access to public lands, and may reduce conflicts with private landowners and damage to private lands.

Road use and public safety concerns during wildland fire suppression activities may cause temporary closure of some routes. Routes heavily used by fire equipment may be temporarily damaged; however, fire rehabilitation efforts and precipitation would correct damaged roadbeds.

Prescribed fires for woodland management may cause temporary closure of routes and heavy use of routes could cause short-term damage.

Grazing would affect roads, access, and maintenance based on emphasis regarding use levels and range developments that would increase or decrease road use levels, maintenance, and access demands.

4.18.2.2 Alternative A

Direct Effects

Continuation of the current road use and maintenance levels and seasonal restrictions for the existing road system would have no new effects on maintenance or degree of access.

Indirect Effects

Grazing Management. Grazing permittees periodically perform maintenance on BLM roads to facilitate their livestock management activities. This maintenance would normally be authorized under cooperative agreement and generally improves road conditions and access to public lands.

Recreation. Recreation would be one of the main uses of most BLM roads. Vehicle traffic can damage roads when the surfaces were wet or when use would be particularly heavy. Maintenance needs arise from need to provide safe travel routes for the general public. Road closure violations and vandalism to traffic control facilities (e.g., signs and gates) generally rise in relation to increased recreation activity.

Off-Highway Vehicles, WSAs, and Wilderness. WSAs and Wilderness - The Steens Mountain Wilderness designation closed about 104 miles of motorized routes. This has resulted in more use of the remaining open routes, including those across private lands and through and adjacent to WSAs.

4.18.2.3 Alternative B

Direct Effects

Under this alternative, the priorities of road closure and maintenance would be consistent with maximizing natural processes. Road closures and decreased maintenance would reduce motorized access to public lands (see Map 2.10). Approximately 156 miles of closed routes would be proposed under this alternative. Decreased road maintenance would result in lower maintenance costs.

Indirect Effects

Grazing Management. In the absence of grazing, no maintenance would be done by the livestock operators; therefore, BLM maintenance costs may increase on some of the secondary access roads. Some additional route closures would be considered, since they would no longer be needed for administration of the grazing program.

Recreation. Maximizing natural processes for recreation purposes would close the Steens Loop Road to all motorized use from November 15 to May 15 and would seasonally close all other routes within the CMPA from February 1 to May 15. Closure of the secondary routes until May 15 each year would reduce winter and spring user damage to some routes that would reduce annual road maintenance costs.

Off-Highway Vehicles. Route closures proposed to reduce vehicular activity near wilderness and WSAs would close 156 miles of motorized routes under this alternative. Eighteen miles of the Steens Loop Road from the Kiger Overlook to west of Blitzen Crossing would be included with the proposed closures. Other roads proposed for closure include Fish Creek, Cold Springs, Bone Creek, Newton Cabin, Indian Creek, Three Springs, and Big Alvord where these roads would be bounded on both sides by wilderness. The route closures for this alternative are shown on Map 2.10.

4.18.2.4 Alternative C

Direct Effects

Under this alternative, the transportation system would be managed to meet resource goals and objectives consistent with emphasizing the protection of natural values. Twenty-nine miles of motorized routes would be closed, reducing motorized access to public lands (Map 2.11) Road closures and decreased maintenance would result in decreased costs.

Indirect Effects

Grazing Management. With grazing allocations similar to current levels, shared maintenance of roads would be similar to Alternative A. Most routes left open for livestock administration would also be available to the public.

Recreation. Emphasizing natural recreation values would have effects similar to Alternative A. The North Steens Loop Road would be open by permit to the snow line for nonmotorized forms of winter recreation. The Moon Hill Road would be closed seasonally to protect the road surface and enhance natural values.

Off-Highway Vehicles. Route closures proposed to reduce vehicular activity near wilderness and WSAs would close 29 miles of motorized routes. The Rooster Comb portion of the Steens Loop Road (approximately three miles) would be closed. Other route closures include Cold Springs Road west of Nye Cabin to the Riddle Brothers Ranch, Indian Creek Road north of Indian Creek and along the WSA/Wilderness boundary, Fish Creek Road where bounded on both sides by wilderness, a 1.2 mile portion of Bone Creek road that heads west to the private land block, and six miles of ways within the Blitzen River and South Fork of the Donner und Blitzen WSAs.

4.18.2.5 Alternative D

Direct Effects

This alternative would be based on meeting resource goals and objectives, while balancing cultural, ecological, and social and economic values. Seven miles of routes would be closed, reducing access to public lands. Expanded winter access for motorized uses and motorized access to dispersed campsites would also increase public access.

Grazing Management. Grazing effects would be similar to Alternative C.

Recreation. Recreation effects to the Steens Loop Road would be the same as Alternative A. Moon Hill Road would be closed seasonally to protect the road surface. Roads leading to dispersed campsites would be added to the transportation system. Vehicles could park within 100 feet of many of the open roads unless precluded due to specific resource concerns or requirements.

Off-Highway Vehicles. WSA and wilderness management would close the 1.2 mile portion of Bone Creek Road that heads west to the private land block, and six miles of ways within the Blitzen River and South Fork of the Donner und Blitzen WSAs.

4.18.2.6 Alternative E

Direct Effects

This alternative emphasizes commodity production and public uses of public lands. No route closures would be proposed for this alternative. Increased access and road maintenance combined with less restrictive management could increase use of the road system as well as maintenance costs. Expanded winter access and motorized access to dispersed campsites would also increase use of the road system. Increased access, road maintenance, and commercial and recreation activities may cause effects to other resource programs.

Indirect Effects

Grazing Management. Cooperative agreements to allow grazing permittees to maintain BLM roads could increase under this alternative, which would improve the condition of affected roads. As public land grazing would be expanded, increased road use by grazing operators during wet periods would cause additional damage to routes.

Off-Highway Vehicles. No routes would be closed under this alternative. Increasing winter recreation use on all routes within the CMPA could cause additional route damage as people travel on wet roads to access the snow line.

Recreation. Recreation-related commodity uses include expanding winter use to the South Steens Loop Road, adding routes to dispersed campsites to the transportation system, and allowing vehicles to park within 100 feet of specified open roads.

4.18.3 Summary of Effects

Alternative A would be similar to the current level of access and maintenance.

Alternative B would impose the greatest limits on access and would result in the lowest maintenance costs.

Alternative C would have effects similar to Alternative B, but with fewer road closures and restrictions; this would result in more access than under Alternative B, but less than all other alternatives.

Alternative D would result in road access similar to Alternative C, except that camping and day use opportunities would be expanded relative to addition of access routes to dispersed campsites and the 100-foot parking allowance.

Alternative E would impose the fewest restrictions on access and require the greatest amount of maintenance. Additional portions of the South Steens Loop Road would be open to motorized winter recreation and there would be no route closures under this alternative.

4.18.4 Cumulative Effects

The closure of routes in Alternative B would cause increased traffic in other portions of the CMPA. Closing the 18 mile segment of the Steens Loop Road in Alternative B would decrease visitor use and associated economic benefits. Allowing 100-foot parking areas adjacent to open roads could add short travel routes to currently undisturbed areas. The implementation of BMPs for the other transportation actions should minimize other cumulative effects.

4.19 Off-Highway Vehicles

4.19.1 Goals and Objectives

Goal - Manage motorized (OHV) and mechanized (nonmotorized) vehicle use to protect resource values, promote public safety, provide OHV and mechanized vehicle use opportunities where appropriate and allowable, and minimize conflicts between various users.

Objective 1. Manage OHV and mechanized vehicle use in conformance with OHV designations.

4.19.2 Assumptions

All OHV designations within the CMPA must abide by the mandates of the Steens Act, specifically Section 112.

All WSAs in the Planning Area would be designated as closed, limited to existing (at the time of the WSA inventory) ways and trails, or limited to designated ways and trails. The Steens Mountain Wilderness would be designated as closed to all motorized and mechanized vehicle use through all alternatives.

The use of motorized or mechanized vehicles would be explicitly prohibited off roads on public lands in the CMPA.

The limitations to OHV and mechanized vehicle use proposed under the alternatives do not apply to official use, any fire, military, emergency or law enforcement vehicle when used for emergency purposes, any combat or combat support vehicle when used for national defense purposes, and any vehicle whose use would be expressly authorized under a permit, lease, license, or contract.

4.19.3 Analysis of Alternatives

4.19.3.1 Effects Common to All Alternatives

Indirect Effects

Water Resources. Water resources management calls for the use of BMPs and proper floodplain management and/or function to protect water quality. Water resources management may limit or restrict OHV and/or mechanized vehicle use where water quality could be or would be impaired by runoff from roads and trails.

Fish and Wildlife. Actions conducted for fish and wildlife management could affect OHV and mechanized vehicle use. These actions may include habitat restoration and relocating or closing roads or trails, which may temporarily or permanently affect routes available for OHV and mechanized vehicle use.

Special Status Species. Protection of critical habitat for special status animal and plant species may permanently or seasonally affect the location and use of roads and trails, thereby affecting OHV and mechanized vehicle use.

Cultural Resources, Paleontological Resources and Native American Traditional Practices. Protection of important cultural or paleontological sites and the preservation of Native American Traditional Practices may close or relocate roads; thereby affecting OHV and mechanized vehicle use.

Visual Resources. VRM class objectives would be considered in affect the location and design of roads or trails, which would not affect OHV and mechanized vehicle use. VRM class objectives would also guide the rehabilitation and restoration of landscapes affected by OHV and mechanized vehicle use.

Energy and Minerals Development. Energy and minerals development could affect OHV and mechanized vehicle use patterns. Users would avoid these areas when operations were occurring, displacing them to other areas. These activities would also create sites that would be attractive to OHV and mechanized vehicle users and could concentrate use.

Recreation. Recreation management actions could affect OHV and mechanized vehicle use and management. Promoting use and visitation could increase OHV and mechanized vehicle use and could affect road, trail, and open area conditions. Recreation use restrictions could potentially lead to a decrease in OHV and mechanized vehicle use or to increased use and degradation of those roads and trails available for use.

Transportation and Roads. Road closures and maintenance were considered in the current OHV and mechanized vehicle designations. Therefore, transportation management actions would not result in any new or additional effects to OHV and mechanized vehicle.

Wilderness and Wilderness Study Areas. Wilderness and WSA management would be the same in all alternatives. WSAs would be designated as closed or limited to either existing or designated ways and trails. The Steens Mountain Wilderness would be designated as closed to all motorized and mechanized vehicle use. Should Congress designate a WSA as wilderness, the area would be designated as closed to motorized and mechanized vehicle use. Areas released from WSA status would be redesignated according to the surrounding or adjacent OHV designation(s), unless local conditions indicate that a different OHV designation would be appropriate. There could be fewer restrictions on OHV and mechanized vehicle use in released WSAs.

4.19.3.2 Alternative A

Direct Effects

Planning Area
Maintaining the existing OHV designations and seasonal closure on the Steens would not affect current OHV and mechanized vehicle use.

CMPA
The current OHV designations, the result of the Steens Act, closed the Steens Mountain Wilderness to motorized and mechanized vehicle use. The Steens Act also prohibits the cross-country travel by motorized and mechanized vehicles. These designations resulted in the displacement of OHV and mechanized vehicle users to roads outside the Steens Mountain Wilderness and increased use on those roads. At the same time, those areas that had been designated as open were changed to “limited to designated” roads, ways, and trails, further restricting OHV and mechanized vehicle use.

AMU
The Pueblo and Trout Creek Mountains would not formally be closed seasonally.

4.19.3.3 Alternative B

Direct Effects

Planning Area
The Planning Area would be designated as limited to designated roads and trails or closed. No areas would be designated as open or limited to existing roads and trails. No opportunities for OHV and mechanized vehicle play (open areas) would be available, organized events would not be allowed, and roads and trails available for use would be reduced. Closing WSAs and WSA cherrystem roads would further reduce the opportunities for OHV and mechanized vehicle use.

CMPA
Closing the Steens Mountain Loop Road would eliminate access to many roads used by OHVs and mechanized vehicles. Closing these and other roads in the CMPA would further reduce the routes available for OHV and mechanized vehicle use. Seasonally closing the entire CMPA would eliminate all motorized and mechanized use during the winter and spring. This would displace users (especially snowmobiles) to lands outside the Planning Area and to areas adjacent to the CMPA where more resource damage may occur.

AMU
Closing the Alvord Desert playa would displace OHV and mechanized vehicle to suitable areas in adjacent states, thereby increasing use in those areas. Seasonally closing the Pueblo and Trout Creek Mountains would displace those OHV and mechanized vehicle users to other areas. Since winter and spring use in these areas would be very light, the effects of these closures would be small.

4.19.3.4 Alternative C

Direct Effects

Planning Area
The Planning Area would be designated as limited to designated roads and trails or closed. No areas would be designated as open or limited to existing roads and trails. No opportunities for OHV and mechanized vehicle play (open areas) would be available, but most roads, ways, and trails would be available for use. Designation of the four parcels found to contain wilderness values as limited to designated roads and trails would protect the naturalness and opportunities of solitude in the parcels.

CMPA
Closing the Rooster Comb to motorized vehicles only would close the Steens Mountain Loop Road to through traffic. Closing other roads in the CMPA would reduce the routes available for OHV and mechanized vehicle use. Seasonally closing the core of the CMPA would only affect those OHV and mechanized vehicle users who use the Moon Hill Road in the winter and spring. Nonmotorized winter recreationists would be permitted to drive to the snow line. This could displace users (especially snowmobiles) to lands northeast of the closure, where more resource damage may occur, and to lands outside the Planning Area.

AMU
Closing the Alvord Desert playa would displace OHV and mechanized vehicle to suitable areas in adjacent states, thereby increasing use in those areas. Seasonally closing the Pueblo and Trout Creek Mountains would displace those OHV and mechanized vehicle users to other areas. Because winter and spring use in these areas would be very light, the effects of these closures would be small.

4.19.3.5 Alternative D

Direct Effects

Planning Area
Most of the Planning Area would be designated as limited to existing or designated roads, ways, and trails. One area would be designated as open, thus providing an opportunity for OHV and mechanized vehicle play. Most roads and trails would be available for use. Opportunities for OHV and mechanized vehicle use would generally be available.

CMPA
Closing seven miles of roads in the CMPA would not affect OHV and mechanized vehicle use, because these would be mostly duplicate roads. Seasonally closing the core of the CMPA would only affect those OHV and mechanized vehicle users who use the Moon Hill Road in the winter and spring. This could displace some users (especially snowmobiles) to lands northeast of the closure, where more resource damage may occur, and to lands outside the Planning Area. Winter recreation users would be permitted to drive to the snow line on the North Steens Loop Road. Seeking cooperative agreements with OHV and mechanized vehicle clubs may decrease resource degradation and user conflicts.

AMU
Designating all areas in the AMU, except the WSAs, the Alvord Desert playa, and some ACECs, as limited to existing roads, ways, and trails, would increase the number of routes available for OHV and mechanized vehicle use. Seasonally closing the Pueblo and Trout Creek Mountains would displace those OHV and mechanized vehicle uses to other areas. Since winter and spring use in these areas would be very light, the effects of these closures would be small.

4.19.3.6 Alternative E

Direct Effects

Planning Area
Most of the Planning Area would be designated as open or limited to existing or designated roads, ways, and trails. Much of the AMU would be designated as open to OHV and mechanized vehicle use, thus providing extensive opportunities for OHV and mechanized vehicle play. Most roads and trails would also be available for use. OHV and mechanized vehicle use opportunities would be maximized.

CMPA
No additional roads in the CMPA would be closed, therefore OHV and mechanized vehicle use would not be affected. Seasonally closing the upper Steens Mountain area would also not affect motorized or mechanized use during the winter and spring, because the Steens Mountain Loop Road would be open to the snow line when road conditions were suitable.

AMU
Designating the AMU WSAs as limited to existing ways and trails would increase routes available for OHV and mechanized vehicle use. The remainder of the AMU, except Mickey Hot Springs and two other parcels, would be designated as open for OHV and mechanized vehicle use, thereby enhancing OHV and mechanized vehicle opportunities. The Pueblo and Trout Creek Mountains would not formally be closed seasonally.

4.19.4 Summary of Effects

Alternative B would be the most restrictive and would result in decreased use throughout the Planning Area; however, it may result in increased use of the remaining roads and trails and could lead to user conflicts. Alternatives C and D would result in similar consequences for OHV and mechanized vehicle use. Alternative E would result in the greatest opportunity for use; the potential to cause the most resource degradation; and with fewer areas designated for primitive recreation and solitude, could lead to user conflicts.

4.19.5 Cumulative Effects

Management actions would cumulatively affect OHV and mechanized vehicle use and users within the Planning Area. Future management actions relating to the protection of potential or existing threatened, endangered, and/or sensitive plant and animal species have a high potential for affecting motorized recreation uses. However, the degree or level of the effects would be unknown at this time.

Actions that restrict access and/or numbers of OHV and mechanized vehicle users result in users looking elsewhere for recreation opportunities. This leads to increased use of the other areas and may result in increased degradation of resources and user conflicts. The population growth of the Bend and Portland areas as well as increased interest in OHV and mechanized vehicle use could result in increased motorized and mechanized recreation in the Planning Area. Protection of resources dictates increased management, which inevitably requires stricter controls on access and user numbers.

The BLM's National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands, and the USFS' Forest Service's Roadless Areas Initiative would affect motorized recreation uses in regard to both present and future actions. The BLM's National Mountain Bicycling Strategic Action Plan would affect mountain biking.

4.20 Recreation

4.20.1 Goals and Objectives

Goal - Provide developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.

Objective 1. Establish and manage recreation areas where the presence of high quality natural resources and the current or potential demand warrants intensive management practices to protect areas for their scientific, educational, and/or recreational values while accommodating anticipated increases in use for recreation activities in specific areas.

Objective 2. Manage recreation facilities to protect natural resources and to meet user needs.

Objective 3. Outside of the intensive-use areas, manage the remainder of the Planning Area for dispersed recreation.

Objective 4. Manage visitor use in the Planning Area to protect natural resources and to provide a variety of recreation opportunities.

Objective 5. Provide information and educational opportunities to public land visitors.

Objective 6. Manage commercial, competitive, educational, and organized group recreation activities.

Objective 7. Manage BCBs to protect the recognized values.

Objective 8. Manage the High Desert National Scenic Trail to protect the recognized values and setting.

4.20.2 Management Common to All Alternatives

Public lands in a resource area not designated as SRMAs became an ERMAs.

Throughout the Planning Area, occupancy and use for recreational camping would be limited to 14 days in one location.

Management and maintenance of existing developed recreation sites would continue under all alternatives.

4.20.3 Analysis of Alternatives

4.20.3.1 Effects Common to All Alternatives

Indirect Effects

Water Resources, Riparian and Wetlands. Water resources management and riparian vegetation management could restrict access and/or the use of certain areas where resources have become degraded/impaired or to protect water quality. This would limit recreational use of such areas. Activities, which may be conducted for fish and wildlife management, could affect recreation use under any of the alternatives. These activities may include altering or closing roads, trails or campsites, and habitat restoration, all of which may temporarily or permanently affect recreational use or access. In addition, if fish or wildlife habitat would be degraded and a decline in any fish or wildlife species occurs, this would reduce opportunities for wildlife viewing, hunting, and fishing.

Special Status Species. Protection of critical habitat for special status animal and plant species may affect the use of roads, trails, campsites, and facilities and could reduce the recreational use of some areas. The protection of special status species would be emphasized in Alternatives B and C; therefore, the potential to reduce recreation opportunities would be greatest under these alternatives.

Energy and Minerals. Mineral and energy operations may directly or indirectly displace recreationists from areas where operations were active. Inactive, unreclaimed operation sites may attract intensive OHV and mechanized vehicle use because of the varied terrain and play opportunities.

Cultural Resources, Paleontological Resources and Native American Traditional Practices. Protection of significant cultural or paleontological sites and the preservation of Native American Traditional Practices may affect the use of roads, trails, and campsites and may reduce the areas available for recreation. The protection of important cultural or paleontological sites and the preservation of Native American Traditional Practices would be emphasized in AlternativesB and C; therefore, the potential to reduce recreation opportunities would be greatest under these alternatives.

Visual Resources. VRM class objectives would be incorporated into the planning, siting, and design of all recreation developments, facilities, and projects. VRM class objectives would be met for all recreation management actions.

Social and Economic Values. Social and economic values, which promote use and visitation, as emphasized in Alternative E and included in Alternatives A and D, would lead to increased use, which could affect road, trail, campsite, and facility conditions. This may affect recreational use and enjoyment of some areas. Restrictions on visitation under Alternatives B and C would potentially lead to an overall decline in recreation use or to increased use and degradation of fewer areas.

Transportation and Roads. Road closures and maintenance activities proposed in the Transportation Plan would affect recreation because access may be restricted.

4.20.3.2 Alternative A

Direct Effects

Planning Area
Current management would continue and minor measures to increase recreation opportunities, tourism, or visitation would be implemented. Current management would not have any new or additional effects to recreation.

CMPA
Maintaining the Mann Lake Recreation Site in its present condition would allow the current resource damage and site problems to continue and would not address the increased use that would be anticipated with the paving of the East Steens Road. This increased use could displace current users who prefer the primitive setting. There could also be a change in the type of Mann Lake user as road improvements encourage different users and vehicles, possibly requiring a change in management direction. Maintaining the existing horse trailhead facility could have a number of effects to recreation. The existing Little Blitzen parking area would need to be expanded to accommodate existing horse use or day horse users would need to park along the South Steens Loop Road. Parking horse trailers and riding on the South Steens Loop Road pose serious safety concerns for both horses and their riders. Parking horse trailers in the South Steens Campground equestrian side would congest the campground and could occupy campsites that others may want to camp in. Not installing a toilet on the North Loop Road near Jackman Park would increase vehicle traffic through Fish Lake Campground and would not help address sanitation concerns on the private lands east of Fish Lake. Not developing a group camping area would require groups to stay in the campgrounds, thereby causing crowding and reducing the number of sites available to the general public. In many cases, group use affects other campers and detracts from their recreational experiences, so it would be preferable to separate groups from other campers. Maintaining Lily Lake as a dispersed recreation site would allow the existing uses and concerns to continue and would reduce educational opportunities. These concerns include sanitation, cutting of aspens for firewood, and protection of Lily Lake. Not providing trail access to the Fir Grove would reduce hiking and educational opportunities.

Trails would not be developed outside the Steens Mountain Wilderness, thereby limiting hiking to cross-country travel and roads and nonmotorized vehicles to designated roads.

Camping locations would not be restricted. Allowing camping and overnight use at the overlooks would deter many visitors from spending time there because they would feel that they would be intruding on someone's space. Visitors to the Steens Loop Road could be constrained by the presence of camps adjacent to the road. Camping in these areas could also increase the amount of litter and would result in rock rings and ashes at the overlooks and other locations. Current winter recreation opportunities would not be affected. However, cooperative management and snowmobiling opportunities would not be enhanced through developing an agreement with private landowners. By allowing recreational river use only when the Black Canyon gate on the South Steens Loop Road would be open, river use would be limited

to those few times when flows were adequate and the gate would be open. Not limiting visitor use at the overlooks, moving the overlook interpretive signs to the parking lots, and not requiring permits to visit the CMPA would not affect recreation.

SRPs would continue to be issued on a case-by-case basis. The SRP program would be managed to protect sensitive resources. Commercial, competitive, and organized group SRPs would not be affected.

Vehicle pullouts along the Steens Loop Road would not be constructed. Resource damage would continue to occur at heavily used locations. Resource damage could occur in new areas because vehicles could be parked anywhere along the Steens Loop Road.

Indirect Effects

Off-Highway Vehicles. *Planning Area* - The Alternative A OHV designations would maintain the current OHV and mechanized vehicle use opportunities. Cross-country travel would be allowed on the Alvord Desert playa and in many areas outside the CMPA. There would be very little concentration of use and very few user conflicts. OHV and mechanized vehicle users would not be displaced to areas outside the Planning Area. Opportunities for nonmotorized or mechanized recreation would be maintained. Those recreationists that rely on OHVs or mechanized vehicles; for example, some hunters; would visit the Planning Area.

CMPA - Motorized recreation access would not be affected in the CMPA. The general public would be able to drive the entire Steens Loop Road and side roads and visit all the overlooks. Access to the Big Indian and Little Blitzen trail heads would not be restricted. Commercial SRP holders would not be affected. Closing the core of the CMPA during the winter would continue to limit general public access.

AMU - The Alvord Desert playa would remain available to both OHV and mechanized vehicle use, thereby maintaining those recreation opportunities. No seasonal closures would be implemented. Therefore, winter and spring vehicle use in the Pueblo and Trout Creek Mountains would not be affected.

4.20.3.3 Alternative B

Recreation management would be kept to a minimal level. SRMAs would not be designated and all public land would become an ERMA. Congressionally and administratively designated areas (CMPA, WSRs, Steens Mountain Wilderness, WSAs, ACECs, etc.) would be subject to a minimum level of management. The Steens Mountain Recreation Lands designation would be removed.

Undeveloped recreation sites would be minimally managed. If natural processes would be jeopardized, undeveloped sites would be rehabilitated or closed.

Minimal management of existing undeveloped recreation sites would continue, while protecting natural processes. If natural processes would be jeopardized, sites(s) would be rehabilitated or closed.

Visitor use would be managed for minimum recreation opportunities through closures, regulations, or other means, to maximize natural processes. Group size would be limited for all activities in order to allow natural processes to be unimpaired.

Visitor experiences would be enhanced by continuing to provide information (e.g., maps and brochures) and education opportunities. New sign placement would be minimized. Existing signs would be maintained and replaced only as needed for public health and safety.

Current BCBs would be eliminated and new BCBs would not be designated. The Steens Mountain BCB designation would be removed because the Loop Road would be closed from the Kiger Overlook turnoff to west of the Blitzen River.

The Desert Trail Association MOU would be cancelled and the trail corridor would be removed from maps. Trailhead facilities would not be developed for the High Desert Trail.

Direct Effects

Planning Area
The emphasis on natural processes and de-emphasis of management and facilities development would affect future developed recreation opportunities and use. Dispersed recreation would also be affected; however, it may be either increased or decreased depending on the effects of group size limits, campsite closures, and the availability of naturalness and solitude opportunities Eliminating the BCBs would limit potential tourism and visitation based on these designations. In addition, removing the High Desert Trail from maps and discontinuing management under the MOU would reduce use of this trail corridor.

CMPA
Maintaining the Mann Lake Recreation Site in its present condition would allow the current resource damage and site problems to continue and would not address the increased use that would be anticipated with the paving of the East Steens Road. This increased use could displace current users who prefer the primitive setting. There could also be a change in the type of Mann Lake user as road improvements encourage different users and vehicles, possibly requiring a change in management direction. Maintaining the existing horse trailhead facility could have a number of effects on recreation. The existing Little Blitzen parking area would need to be expanded to accommodate existing horse use or day horse users would need to park along the South Steens Loop Road. Parking horse trailers and riding on the South Steens Loop Road pose serious safety concerns for both horses and their riders. Parking horse trailers in the South Steens Campground equestrian side would congest the campground and could occupy campsites that others may want to camp in. Not installing a toilet on the North Loop Road near Jackman Park would increase vehicle traffic through Fish Lake Campground and would not help address sanitation concerns on the private lands east of Fish Lake. Not developing a group camping area would require groups to stay in the campgrounds, thereby causing crowding and reducing the number of sites available to the general public. In many cases, group use affects other campers and detracts from their recreational experiences, so it would be preferable to separate groups from other campers. Designating Lily Lake as a day use area would help protect aspens and lake. Not providing trail access to the Fir Grove would reduce hiking and educational opportunities.

Trails would not be developed outside the Steens Mountain Wilderness, thereby limiting hiking to cross-country travel and roads and nonmotorized vehicles to designated roads.

Closing the listed areas to camping and restricting camping to developed campgrounds would limit overnight use and would increase day use. Visitors to the Steens Loop Road would not be constrained by the presence of camps in the overlooks and adjacent to the road. The trash, rock rings, and ashes associating with camping in these areas would be eliminated. People wishing to camp in the closed areas would be displaced to the campgrounds or locations outside the CMPA, thereby affecting current recreation use patterns and causing heavier campground use and crowding. The Steens Loop Road from the Kiger Gorge Overlook to west of Blitzen Crossing would be closed to motorized and mechanized vehicles so there would be no need to restrict parking or stopping on the Rooster Comb. South Steens Campground would only be accessible to hikers and horseback riders. Winter recreation opportunities would be reduced through the elimination of snowmobile use. Cooperative management and snowmobiling opportunities would not be enhanced through developing an agreement with private landowners. Nonmotorized winter recreation would not be affected. Recreational river use would not be allowed, thereby eliminating this opportunity. Limiting visitors to designated trails at the overlooks would constrain their activities and sense of exploration. Moving the overlook interpretive signs to the parking lots would not affect recreation. Requiring permits for all CMPA users would deter some users, especially if a fee would be charged. This, and closing a major section of the Steens Loop Road, would result in decreased use of the area.

Only the existing, long-term SRPs would be retained. No new SRPs would be issued for any activity. This could result in increased business for these permittees, but their activities would also be constrained by the road closures and use restrictions. Many commercial tours and organized groups would not visit the area, because they would not be issued a permit.

Vehicle pullouts along the Steens Loop Road would not be constructed. Resource damage would occur at heavily used locations and new areas because most of the Steens Loop Road would be closed.

AMU
No SRPs would be issued, which would eliminate all existing and future opportunities for commercial, competitive, and organized group recreation.

Indirect Effects

Social and Economic Values. Recreation and tourism would be allowed but not promoted.

Transportation and Roads. Road closures and limited maintenance would reduce motorized access to public lands and would limit motorized access to dispersed recreation sites, thus affecting those recreation opportunities.

Off-Highway Vehicles. *Planning Area* - The Alternative B OHV designations would minimize OHV and mechanized vehicle use opportunities with over half of the Planning Area designated as closed and the remainder designated as limited to designated roads and trails. This could concentrate use on the remaining designated roads, ways, and trails, and increase user conflicts. Many OHV and mechanized vehicle users would be displaced to areas outside the Planning Area. Recreation access by vehicles would be minimized, but opportunities for nonmotorized and nonmechanized recreation and access would be increased. Those recreationists that rely on OHVs or mechanized vehicles, for example, some hunters, would not visit the Planning Area. Use would increase at those sites and in those areas accessible by vehicle.

CMPA - Motorized and mechanized recreation access would be curtailed in the core of the CMPA because of the closure of most of the Steens Loop Road and the side roads into and through the Wilderness and WSAs. The general public would not be able to drive the Steens Loop Road or visit the East Rim or Wildhorse Overlooks. All access to Big Indian, Little Blitzen, Riddle Ranch, and South Steens Campground would be by foot or horse. Access to the existing Big Indian and Little Blitzen trail heads would be restricted. Use would increase at those sites and in those areas accessible by vehicle. Commercial SRP holders that currently offer motorized or mechanized tours and activities would be unable to provide them in all areas. Demand for hiking and horse trails and horse facilities could increase. Closing the entire CMPA during the winter would restrict public access and recreation opportunities, especially to those areas that would usually be accessible during the winter and where other resources would not be affected.

AMU - Closure of the Alvord Desert playa would displace all vehicle users to other similar areas in neighboring states, further affecting those areas. Seasonal closures would generally not affect OHV and mechanized vehicle use, other than delaying use of those roads until they would be dry enough to use without damaging other natural resources.

4.20.3.4 Alternative C

Direct Effects

Planning Area
The CMPA, Pueblo Mountains, and Trout Creek Mountains would be managed intensively for recreation. Sites where recreation use would be affecting resource values would be rehabilitated or closed. Both developed and dispersed recreation would be affected by increasing some opportunities and limiting others. Existing developed sites, campgrounds, and facilities would be maintained. Group size limits would be implemented to protect natural values. All of these actions would continue or limit existing opportunities under Alternative A. The effects from managing BCBs and the High Desert Trail would be the same as Alternative A.

CMPA
Maintaining the Mann Lake Recreation Site in its present condition would allow the current resource damage and site problems to continue and would not address the increased use that would be anticipated with the paving of the East Steens Road. This increased use could displace current users who prefer the primitive setting. There could also be a change in the type of Mann Lake user as road improvements encourage different users and vehicles, possibly requiring a change in management direction. Maintaining the existing horse trailhead facility could have a number of effects on recreation. The existing Little Blitzen parking area would need to be expanded to accommodate existing horse use or day horse users would park along the South Steens Loop Road. Parking horse trailers and riding on the South Steens Loop Road pose serious safety concerns for both horses and their riders. Parking horse trailers in the South Steens Campground equestrian side would congest the campground and could occupy campsites that others may want to camp in. Installing a toilet on the North Loop Road near Jackman Park would provide needed facilities, while reducing vehicle traffic through Fish Lake Campground, and could help address sanitation concerns on the private lands east of Fish Lake. Developing a group camping area within an existing campground could lead to crowding and would reduce the number of sites available to the general public. Physical separation of groups from other campers may not be feasible, so other campers may be affected by the presence and activities of groups. Designating Lily Lake as a day use area and installing

interpretive signs would protect aspens and lake and would provide an educational opportunity. Minimally maintaining of the route to the Fir Grove would provide a safe route for the public to use.

Hiking and nonmotorized trails would be developed outside the Steens Mountain Wilderness only where necessary to protect natural values. Only short reroutes to specifically address identified problems would be anticipated, therefore recreation opportunities would not be increased or enhanced.

Closing the listed areas to camping and restricting camping to developed campgrounds and designated dispersed sites outside the Steens Mountain Wilderness would constrain visitors' choices. However, there would be adequate numbers of identified dispersed camping locations to accommodate most campers. Visitors to the Steens Mountain Loop Road would not be constrained by the presence of camps adjacent to the road and in the overlooks. The trash, rock rings, and ashes associating with camping in these areas would be eliminated. People wishing to camp in the closed areas would be displaced to the campgrounds and/or designated dispersed sites, thereby affecting current recreation use patterns and causing heavier campground and/or dispersed site use and crowding. The Rooster Comb would be closed to motorized vehicles so there would be no need to restrict parking or stopping. Winter recreation opportunities would be reduced through the elimination of snowmobile use in association with the North Steens Loop Road. However, snowmobile use would be allowed on designated roads elsewhere in the CMPA. Cooperative management and snowmobiling opportunities would not be enhanced through developing an agreement with private landowners. Nonmotorized winter recreation would benefit from the development of a staging area along the North Steens Loop Road. By allowing recreational river use only when the Black Canyon gate on the South Steens Loop Road would be open and only when ORVs would not be affected, river use would be limited to those few times when flows were adequate and the gate would be open. Limiting visitors to designated trails at the overlooks would constrain their activities and sense of adventure. Moving the overlook interpretive signs to the parking lots would not affect recreation. Requiring permits for all Steens Loop Road users has the potential to deter some users, especially if a fee would be charged. This could result in decreased use of the Steens Loop Road.

Commercial, competitive, and organized group opportunities and activities would be maintained through the issuance of SRPs. The SRP program would be managed intensively to protect cultural and natural resource values. An allocation system would be developed and implemented to reduce resource impacts, improve visitor experiences, and support existing commercial recreation operations.

Vehicle pullouts along the Steens Loop Road would not be constructed. Resource damage would continue to occur at heavily used locations. Resource damage could occur in new areas because vehicles could be parked anywhere along the Steens Loop Road.

AMU
SRPs would be issued, except for the Alvord Desert playa. The SRP program would be managed intensively to protect cultural and natural resource values. If needed, an allocation system would be developed and implemented to reduce resource impacts, improve visitor experiences, and support existing commercial recreation operations.

Indirect Effects

Social and Economic Values. SRPs and some forms of recreation could be limited, thus reducing recreation opportunities.

Transportation and Roads. Road closures and limited maintenance would have the same effects as Alternative B.

Off-Highway Vehicles. *Planning Area* - The Alternative C OHV designations would reduce OHV and mechanized vehicle use opportunities with all use, outside of closed areas, limited to designated roads, ways, and trails. This could concentrate use on the designated roads, ways, and trails, and increase user conflicts. Some OHV and mechanized vehicle users could be displaced to areas outside the Planning Area. Opportunities for nonmotorized and nonmechanized recreation and access could be increased. Those recreationists that rely on OHVs or mechanized vehicles; for example, some hunters; may not visit the Planning Area.

CMPA - Motorized recreation access would be reduced in the core of the CMPA because of the closure of the Rooster Comb and some of the side roads into and through the Wilderness. The general public would not be able to drive the entire Steens Loop Road, but would be able to drive to the East Rim and Wildhorse Overlooks, Riddle Ranch, and South Steens Campground. Access to the Big Indian and Little Blitzen trail heads would not be restricted. Longer driving times could affect those visitors camping at South Steens Campground. However, the Rooster Comb and all side roads would

be available to mechanized (i.e., mountain bike) vehicles. Commercial SRP holders that currently offer motorized tours and activities would be unable to provide them in all areas. Closing the core of the CMPA during the winter would limit public access and recreation opportunities, but not appreciably more that the current seasonal closure.

AMU - Closure of the Alvord Desert playa would displace all OHV and mechanized vehicle users to other similar areas in neighboring states, further affecting those areas. Seasonal closures in the Pueblo and Trout Creek Mountains would generally not affect OHV and mechanized vehicle use, other than delaying use of those roads until they would be dry enough to use without damaging other natural resources.

4.20.3.5 Alternative D

Direct Effects

Planning Area
The CMPA, the Pueblo Mountains, and Trout Creek Mountains would be managed intensively for recreation. The emphasis on recreation opportunities and facility expansion would increase the availability of developed recreation. Dispersed recreation would also be affected; however, it may either increase or decrease depending on whether increased recreation and tourism promotes dispersed use or whether effects to naturalness and solitude would deter dispersed recreation. Management of existing and creation of new BCBs would promote tourism and recreation. The effects of managing High Desert Trail would be the same as Alternative A.

CMPA
Minimally improving the Mann Lake Recreation Site would reduce ongoing resource damage and improve site management, but would not address the increased use that would be anticipated with the paving of the East Steens Road. This increased use could displace current users who prefer the primitive setting. There could also be a change in the type of Mann Lake user as road improvements encourage different users and vehicles, possibly requiring a change in management direction. Developing a horse trailhead facility could have a number of effects on recreation. The existing Little Blitzen parking area would not need to be expanded nor would day horse users need to park along the South Steens Loop Road. If the trailhead facility would be located in South Steens Campground, the equestrian side could become very congested with the additional traffic and trailer parking. Designing connecting trails would reduce safety concerns and limit resource damage. This facility has the potential to attract additional horse users to the area. Installing a toilet on the North Loop Road near Jackman Park would provide needed facilities, while reducing vehicle traffic through Fish Lake Campground, and could help address sanitation concerns on the private lands east of Fish Lake. Developing a group camping area on private land would help accommodate existing group use, provide a needed facility, help maintain the atmosphere in the existing campgrounds, and foster cooperative management. Maintaining Lily Lake as a dispersed recreation site would allow the existing uses and concerns to continue. Not providing trail access to the Fir Grove would reduce hiking and educational opportunities.

Developing hiking and nonmotorized trails outside the Steens Mountain Wilderness, where needed to protect resources and to provide for public health and safety, could provide additional hiking and mountain biking opportunities.

Allowing camping and overnight use at the overlooks would deter many visitors from spending time there because they would feel that they would be intruding on someone's space. This could also increase the amount of litter and would result in rock rings and ashes at the overlooks. People wishing to camp in the Little Wildhorse RNA would be displaced to surrounding areas. The continued use of campsites in the Little Blitzen and Rooster Comb RNAs would not affect current recreation use patterns. Overnight use at Wildhorse Lake would be limited by restricting campers to designated sites and by not allowing pack stock. A reservation system may need to be implemented for camping at Wildhorse Lake. Restricting parking or stopping on the Rooster Comb would increase public safety and decrease driving hazards on this narrow, winding stretch of the Steens Loop Road. Proving safe pullouts or parking areas at either end of the narrow stretch would safely accommodate public viewing of Big Indian. Winter recreation opportunities would be enhanced through the development of a staging area, cross-country ski trails, and a nonmotorized play area. These facilities would increase permitted use of North Steens Loop Road during the winter. Permitting the general public to snowmobile on the North Steens Loop Road to the Kiger Overlook, the Dingle Creek Road, and the Cold Spring Road to 3/4 mile west of the Nye Place would increase the motorized winter recreation opportunities. Motorized winter access to the Wildhorse parking area with an authorized SRP holder would further enhance these opportunities, but there were important safety concerns with allowing use beyond the Kiger Overlook turnoff. Cooperative management and snowmobiling opportunities would be enhanced through developing an agreement with private landowners. Allowing camping anywhere that would be more than one half mile from a developed campground, unless otherwise restricted, would not

affect recreation because there would be few public land dispersed campsites that close the campgrounds. By allowing recreational river use only when the Black Canyon gate on the South Steens Loop Road would be open and only when ORVs would not be affected, river use would be limited to those few times when flows would be adequate and the gate would be open. Encouraging visitors to stay on designated trails at the overlooks, moving the overlook interpretive signs to the parking lots, and not requiring permits to visit the CMPA would not affect recreation.

Commercial, competitive, and organized group opportunities and activities would be enhanced through the issuance of SRPs. However, increased permitted use could lead to crowding at popular sites and areas unless the program would be managed intensively. If needed, an allocation system would be developed and implemented to reduce resource impacts, improve visitor experiences, and support existing commercial recreation operations.

Vehicle pullouts along the Steens Loop Road would encourage motorists to stop and enjoy the area. The pullouts would be located where heavy use would already be causing resource damage and in areas that would be able to withstand heavy use, thereby reducing the number of locations affected by use.

AMU
A toilet and fire rings would be installed in the Frog Spring area. A toilet would also be installed and maintained at Pike Creek, in cooperation with the private landowner. A staging area with information and a toilet would be provided near the mouth of Wildhorse Canyon.

All AMU RNAs and Mickey Hot Springs would be closed to camping. Toilets would be installed and maintained at Cottonwood Creek, Frog Spring, and other dispersed campsites. Other dispersed users would be encouraged to pack out all solid human waste. Routes for mechanized vehicles (i.e., mountain bikes) would be developed as demand warrants.

SRPs would be issued, as needed, to meet the demand for permits, while protecting cultural and natural resource values and providing for public safety. If needed, allocations, such as limits on party size, number of trips and/or number or permittees, would be implemented. SRPs for organized group and commercial use of the Alvord Desert playa could be issued if the wilderness values of the Alvord Desert WSA would not be impaired.

SRPs would be issued. The SRP program would be managed to protect cultural and natural resource values. If needed, an allocation system would be developed and implemented to reduce resource impacts, improve visitor experiences, and support existing commercial recreation operations.

Indirect Effects

Social and Economic Values. Recreation would be promoted and developed in an attempt to balance social, economic, cultural, and ecological components; recreation opportunities would be expanded, and both developed and dispersed recreation may increase.

Transportation and Roads. Winter access for motorized uses and access to dispersed campsites would be expanded, increasing access for recreational uses.

Off-Highway Vehicles. *Planning Area* - The Alternative D OHV designations would maintain OHV and mechanized vehicle use opportunities similar to the Alternative A OHV designations. Cross-country travel would be allowed only on the Alvord Desert playa. There would be little concentration of use and few user conflicts. OHV and mechanized vehicle users would not be displaced to areas outside the Planning Area. Opportunities for nonmotorized or mechanized recreation could be maintained. Those recreationists that rely on OHVs or mechanized vehicles (i.e., some hunters) would probably visit the Planning Area.

CMPA - Motorized recreation access would not be affected in the CMPA, except on the west end of the Bone Creek Road. The general public would be able to drive the entire Steens Loop Road and side roads and visit all the overlooks. Access to the Big Indian and Little Blitzen trail heads would not be restricted. Commercial SRP holders would not be affected. Closing the core of the CMPA during the winter would restrict public access and recreation opportunities, but not appreciably more that the current seasonal closure.

AMU - The Alvord Desert playa would remain available to both OHV and mechanized vehicle users, thereby maintaining those recreation opportunities. Seasonal closures would generally not affect OHV and mechanized vehicle use, other than delaying use of those roads until they would be dry enough to use without damaging other natural resources.

4.20.3.6 Alternative E

Direct Effects

Planning Area
The CMPA, Pueblo Mountains, and Trout Creek Mountains would be managed intensively for recreation. The emphasis on developing tourism, recreation opportunities, and new facilities would affect both developed and dispersed recreation. Developed recreation would be promoted and increased while dispersed recreation may either increase or decrease, depending on whether new facilities and opportunities encourage dispersed use or whether effects to naturalness and solitude deter dispersed recreation. Management of existing and development of new BCBs would promote tourism and recreation. The effects of managing High Desert Trail would be the same as Alternative A.

CMPA
Upgrading the Mann Lake Recreation Site would increase camping opportunities for those who prefer more developed camping. Conversely, those who like a more primitive setting could be displaced to other areas near Mann Lake. Developing a horse trail head facility could have a number of effects on recreation. The existing Little Blitzen parking area would not need to be expanded nor would day horse users need to park along the South Loop Road or in the equestrian side of South Steens Campground. Designing connecting trails would reduce safety concerns and limit resource damage. However, this facility has the potential to attract additional horse users to the area. Installing toilets at the three main overlooks would provide needed facilities and would protect human health. Developing a group camping area on private land would help accommodate existing group use, provide a needed facility, help maintain the atmosphere in the existing campgrounds, and foster cooperative management. Installation of a toilet at Lily Lake would increase both day and overnight use at the site. Marking and minimally maintaining the route to the Fir Grove and providing parking and information would enhance hiking and educational opportunities. This short hike would provide an alternative activity that could attract users away from other heavily used trails.

Developing hiking and nonmotorized trails would provide additional hiking and mountain biking opportunities.

Camping locations would not be restricted. Allowing camping and overnight use at the overlooks would deter many visitors from spending time there because they would feel that they would be intruding on someone's space. This could also increase the amount of litter and would result in rock rings and ashes at the overlooks. Restricting parking or stopping on the Rooster Comb would increase public safety and decrease driving hazards on this narrow, winding stretch of the Steens Loop Road. Winter recreation opportunities would be enhanced through the development of a staging area, cross-country ski trails, and a nonmotorized play area. These facilities, coupled with unrestricted motorized access, would increase use of North Steens Loop Road during the winter. Allowing snowmobile use on all designated roads, including the South Steens Loop Road, would further enhance motorized winter recreation opportunities, but could affect the experiences of nonmotorized winter recreationists. Allowing camping anywhere, unless otherwise restricted, would not affect recreation. With the South Steens Loop Road open to South Steens Campground during the winter and spring, opportunities for floating the Donner und Blitzen River would increase. Not restricting visitor use at the overlooks, moving the overlook interpretive signs to the parking lots, and not requiring permits to visit the CMPA would not affect recreation.

Commercial, competitive, and organized group opportunities and activities would be enhanced through the issuance of SRPs. However, increased permitted use could lead to crowding at popular sites and areas unless the program would be managed intensively.

Vehicle pullouts along the Steens Loop Road would encourage motorists to stop and enjoy the area. Regularly spaced pullouts could spread out use, but could also concentrate use at areas that may not be suitable for heavy visitor use.

AMU
SRPs would be issued. Emphasis of commercial, competitive, and organized group use opportunities would lead to increased use and effects.

Indirect Effects

Social and Economic Values. Recreation and tourism opportunities would be emphasized and would increase developed and dispersed recreation opportunities. However, dispersed recreation may decrease as a result of decreased naturalness and solitude.

Transportation and Roads. No route closures would be proposed. Access would be increased, including winter motorized access and access to dispersed campsites. The greatest amount of motorized access for recreational use would be allowed.

Off-Highway Vehicles. *Planning Area* - The Alternative E OHV designations would maintain OHV and mechanized vehicle use opportunities similar to the Alternative A OHV designations. Cross-country travel would be allowed on the Alvord Desert playa and in many areas outside the CMPA. There would be very little concentration of use and very few user conflicts. OHV and mechanized vehicle users would not be displaced to areas outside the Planning Area. Opportunities for nonmotorized and nonmechanized recreation would be decreased. Those recreationists that rely on OHVs or mechanized vehicles (i.e, some hunters) would visit the Planning Area.

CMPA - Motorized recreation access would not be affected in the CMPA. The general public would be able to drive the entire Steens Loop Road and side roads and visit all the overlooks. Access to the Big Indian and Little Blitzen trail heads would not be restricted. Commercial SRP holders would not be affected. Closing the upper Steens Mountain area during the winter would restrict public access, but allowing unrestricted access to the 5600' level on the North Steens Loop Road and to South Steens Campground on the South Steens Loop Road would expand winter recreation opportunities throughout the core of the CMPA.

AMU - The Alvord Desert playa would remain available to both OHV and mechanized vehicle users, thereby maintaining those recreation opportunities. No seasonal closures would be implemented. Therefore, winter and spring vehicle use in the Pueblo and Trout Creek Mountains would not be affected.

4.20.4 Summary of Effects

Alternative B would limit recreation the most of all the alternatives. Alternative A would continue the status quo and would not address future needs for resource protection or potential increased recreation demand. Alternative C provides more recreation opportunities than either Alternative A or B but may fall short of meeting the future demand for recreation. Alternative D would be the only alternative that promotes recreation and visitation while protecting resource values and encouraging cooperative agreements. Alternative E maximizes recreational opportunities but does not provide as much resource protection as any of the other alternatives.

4.20.5 Cumulative Effects

Management actions relating to other resources on lands within and adjacent to the Planning Area could result in cumulative effects to recreation. Although the population within the Planning Area has declined in recent years, urban growth and increasing populations in areas such as Bend and Portland would have the potential to increase recreation uses.

4.21 Areas of Critical Environmental Concern

4.21.1 Goals and Objectives

Goal - Retain existing and designate new ACECs where relevance and importance criteria would be met and special management would be required to protect the identified values.

Objective 1. Retain and manage existing ACECs if they meet relevance and importance criteria and require special management or protection.

Objective 2. Designate and manage new ACECs that meet relevance and importance criteria and need special management or protection.

4.21.2 Assumptions

All ACEC alternatives would avoid disturbances to all special status plant and animal populations in all ACECs where they occur. In addition, general inventories, monitoring and research would continue for special status plants, and conservation agreements would be written for all BLM sensitive plant species.

Under Alternatives A, C, D, and E, wildland fires in all ACECs and RNAs would be managed according to appropriate management response; however, some ACECs would be analyzed for possible wildland fire use. Use of heavy equipment in ACECs, WSAs, and RNAs would be avoided and would require line officer approval. Use of retardant would be

allowed within these areas for initial attack. Retardant use during extended attack would be considered as a part of the wildland fire situation analysis, considering the resource values at risk. If used, heavy equipment would be restricted to existing roads and trails. Prescribed fire would be used in ACECs where it can be shown to preserve the desired characteristics of the ACEC and to meet management objectives.

Under all ACEC alternatives, noxious weeds would be aggressively controlled using integrated weed management methods such as biological control, site-specific spraying, and grubbing by hand, consistent with protection and enhancement of relevant and important values. Any weed control measures proposed in WSAs within ACECs would be consistent with WSA IMP direction. Weed control measures proposed within wilderness or WSRs would be consistent with legislation covering those areas.

All management actions for those portions of the ACECs within a WSA would be governed by the WSA IMP until such time as Congress makes a determination regarding wilderness designation for the area. Any WSAs, or portions thereof, designated as an ACEC and later released from WSA status would be managed according to the applicable management direction for that ACEC. Under some alternatives, the proposed ACEC management within WSAs may be more restrictive than the WSA IMP, such as closing an area to livestock grazing or limiting vehicle use to designated roads and trails rather than existing roads and trails. Six proposed or existing ACECs overlap with existing WSAs.

All management actions for ACECs located within wilderness or WSRs would be governed by the Wilderness Act or the WSR Act as amended.

Nondestructive research would be encouraged in all of the proposed and existing ACECs and would not be limited only to those areas that have RNAs. Any research would need to be authorized by the BLM in writing and where necessary, permitted. It would be assumed that the resultant data and information gathered would be shared with the BLM to help guide management of these areas.

Recreational activities would not be encouraged within ACECs unless the ACEC was designated with recreational use in mind. Commercial use, or use requiring a special permit, which occurs or would be proposed to occur within an ACEC, would be evaluated on a case-by-case basis and would be permitted, modified, or prohibited as needed to protect the ACEC values. Camping would be prohibited in RNA/ACECs but allowed in ACECs.

According to 43 CFR 3809.11, an approved plan of operations would be required prior to commencing any operation, except casual use, involving locatable minerals in a designated ACEC, regardless of the size of disturbance.

4.21.3 Analysis of Alternatives

Alvord Desert ACEC

Alternative A

The ACEC designation and current management would continue. The size of the ACEC would remain at 17,933 acres. Recreation in the form of OHV and mechanized vehicle use could damage unique vegetation communities adjacent to the Alvord Desert.

Alternative B

The ACEC designation would be revoked; however, the area would remain a WSA with a focus on maximizing natural processes and limiting access and use. The area would continue to be managed under the WSA IMP until Congress designates the area as wilderness or releases it from WSA status. Management under the WSA IMP would be similar in all respects to the ACEC management under Alternative A.

Alternative C

The ACEC designation would continue and the size would be increased to 21,615 acres, for increased protection of the special values. The effects of the management under this alternative would be increased protection of the relevant and important values and resources such as vegetation, soils, water resources, and wildlife. Mineral and grazing management would be the same as Alternative A and would not create any additional effects.

Alternative D

The ACEC designation would continue and the size would be increased to 21,615 acres, for increased protection of the special values. Management under this alternative would be similar to Alternative C; however, ROWs and realty use authorizations would not be excluded but rather managed for avoidance as in Alternative A. Restrictions on OHV and mechanized vehicle use may decrease visitation and increase protection of the relevant and important values and resources such as vegetation, soils, water resources, and wildlife. Otherwise, this alternative would have the same effects as Alternative A.

Alternative E

The ACEC designation would be revoked; however, the area would still be managed as a WSA under the WSA IMP. Management under the WSA IMP would be similar in all respects to the ACEC management under Alternative A. Less restrictive management would be applied to maximize commodity production and use, thus allowing increased transportation, recreation and OHV and mechanized vehicle use and minimizing protection of the relevant and important values of diverse desert landforms and plant communities.

Alvord Peak ACEC

Alternatives A and C

The ACEC designation and current management would continue and the size of the ACEC would remain at 14,040 acres. These alternatives would not result in any new or additional effects to natural resources or resource uses.

Alternatives B, D, and E

The ACEC designation would be revoked. Since the ACEC would be located entirely within the Steens Mountain Wilderness, it would be subject to management under the Steens Act and the Wilderness Act with all of the limits and resource protection provided by such. In addition, wildlife management conducted by the ODFW to protect the bighorn sheep in this area would continue. Therefore, the effects from these alternatives would be the same as Alternatives A and C.

Borax Lake ACEC

Alternative A

The ACEC designation and current management would continue, and the size of the ACEC would remain at 520 acres. Management actions proposed for this ACEC would not result in any new or additional effects to the critical habitat for the federally endangered Borax Lake Chub.

Alternative B

The ACEC designation would be revoked and special protection for the Borax Lake Chub would be provided only through the management emphasis on maximizing natural processes and discouraging use. Since the area would be within the mineral withdrawal area, and grazing would not be allowed either inside or outside the fenced part of the ACEC, there would be no effects to the critical habitat for the Borax Lake Chub.

Alternative C

The ACEC designation and management would continue. This alternative would provide the greatest protection for the critical habitat of the Borax Lake Chub by increasing the size of the ACEC to 600 acres, closing the roads to OHV use, closing the area to new ROWs or realty use authorizations, and closing the fenced area to livestock grazing. Those changes would reduce or eliminate ground disturbing activities caused by vehicles or livestock.

Alternative D

The ACEC designation would continue and the size would be increased to 600 acres. Activities proposed under this alternative would be similar to Alternative C except that ROWs and realty use authorizations would be based on avoidance rather than exclusion, and the BLM would pursue acquisition of private inholdings The acquisition of the

private lands within the ACEC would allow the BLM to better manage the area as a whole. It would create an additional workload for management of the Borax Lake Chub's major critical habitat, which would be the lake itself. The effects from the management actions would be similar to Alternative C.

Alternative E

The ACEC designation would be revoked and special protection for the critical habitat of the Borax Lake Chub would no longer be provided. The use of the Borax Lake area by OHV and mechanized vehicle users and sightseers would be limited to designated routes. The area would continue to have protection from minerals and leasing actions and grazing would be controlled by a workable allotment management plan. The effects of the management actions would be the same as under Alternative A.

East Kiger Plateau RNA/ACEC

Alternatives A and D

The RNA/ACEC designation and current management would continue and the size of the RNA/ACEC would remain at 1,216 acres. The management prescriptions applied to this area would not result in any new or additional effects to the relevant and important values associated with this ACEC.

Alternative B

The designation would be revoked, leaving the area to be managed as wilderness and WSA. The relevant and important values would be protected by wilderness and WSA status as well as the actual remoteness of the site.

Alternative C

The area would continue to be designated as a RNA/ACEC and the size would remain at 1,216 acres. This alternative provides the maximum protection of the special values. All management and effects to the relevant and important values would be the same as Alternative A.

Alternative E

The RNA/ACEC designation would be revoked and the area would be managed as wilderness and WSA. The relevant and important values would be protected by wilderness and WSA status as well as the actual remoteness of the site. Commodity benefits would not be realized due to the complete remoteness of the area.

Kiger Mustang ACEC

Alternative A

The current designation and management would continue and the size of the ACEC would remain at 31,725 acres. This ACEC would be in the mineral withdrawal area, so minerals or leasing actions would not affect the values in any of the alternatives. Most of the area would be managed as a WSA under the WSA IMP and the rest has no other special designation. Outside the WSA, the area would be open for OHV and mechanized vehicle use, which may change the pattern of use by wild horses if OHV and mechanized vehicle use increases. The management prescriptions associated with this alternative would not result in any new or additional effects to the relevant and important values.

Alternative B

The ACEC designation would be revoked and management of this area would be either directed by the WSA IMP or the same as the adjacent areas that have no special designation. Although WSA management would be similar to Alternative A, it would not provide specific protection of the special values. If the WSA were released from WSA status, the entire area would be managed consistent with the surrounding area with an emphasis on natural processes.

Alternative C

The designation of the ACEC would continue and the size would remain at 31,725 acres. This alternative would be similar to Alternative A except that it would be more restrictive. The area would remain open to livestock grazing, so wild horses and livestock would still compete for forage resources. Most of the ACEC would be within a WSA and would be managed under the WSA IMP. There would be little or no effect to management of wild horses under this alternative.

Alternative D

The designation of the ACEC would continue and the size would remain at 31,725 acres. Livestock grazing would continue and wild horses and livestock would continue to compete for forage. Most of the other commodity resources would not be allowed in this ACEC, which would decrease the conflicts with wild horses. Recreation, in the form of hunting and sightseeing, may affect on management in this ACEC if the use increases.

Alternative E

The ACEC designation would be revoked and management of this area would be directed by the WSA IMP in the WSA and as consistent with the adjacent areas outside the WSA. Increased recreation use could have the same effect as Alternative D. An increase in livestock grazing would have a direct effect on the amount of competitive forage available for wild horses.

Little Blitzen RNA/ACEC

Alternative A

The RNA/ACEC designation and current management would continue and the size of the RNA/ACEC would remain at 2,530 acres. This area would be entirely within the Steens Mountain Wilderness so all commodity production would be excluded. Since recreation use would be expected to be concentrated in other areas, no effects would be expected in the RNA/ACEC. This alternative would not result in any new or additional effects to relevant and important values.

Alternatives B and E

The RNA/ACEC designation would be revoked. The area would be managed as wilderness under the Wilderness Act, which would provide specific protection for relevant and important values from commodity sources such as grazing and minerals. The lack of the ACEC designation would not impair protection of the resources. An increase in recreation use could affect resources in this area in extreme circumstances.

Alternatives C and D

The area would continue to be designated as an RNA/ACEC covering 2,255 acres. The RNA/ACEC would be reduced by 275 acres, but management would be the same as Alternative A. The effect of management actions would also be the same as under Alternative A.

Little Wildhorse Lake RNA/ACEC

Alternatives A, C, and D

The RNA/ACEC would continue to be designated and current management would continue. The size of the RNA/ACEC would remain at 241 acres. The area would be completely within the Steens Mountain Wilderness, so all commodity production would be basically excluded. The relevant and important values could be affected by recreation use if dispersed use increases in and around the lake.

Alternatives B and E

The RNA/ACEC designation would be revoked. The area would be managed as part of the Steens Mountain Wilderness under the Wilderness Act, which provides protection to the relevant and important values from commodity sources such as grazing and minerals. Even without the designation as an ACEC, the area would be protected, although it could be affected through an increase in dispersed recreation. Although the area would remain under restrictive management

protocol, similar to Alternative A, the management would not provide specific protection of the special value aquatic ecosystem. Nevertheless, the overall effects would be the same as Alternative A.

Long Draw RNA/ACEC

Alternative A

The RNA/ACEC designation and current management would continue and the size of the RNA/ACEC would remain at 441 acres. Since the RNA/ACEC would be entirely within the Hawk Mountain and Rincon WSAs, the area would be managed according to the WSA IMP. This alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B and E

The RNA/ACEC designation would be revoked and the area would be managed under the WSA IMP. Grazing would have no effect on relevant and important values in Alternative B, but could have an effect in Alternative E by trampling and removal of vegetation.

Alternative C

The RNA/ACEC would continue to be designated and managed and the size would be 441 acres. The effects from this alternative would be similar to Alternative A. The result of the stricter management prescriptions would be increased protection of the special plant community and the other natural resources within the RNA/ACEC.

Alternative D

The effects from this alternative would be similar to Alternative A except that OHV and mechanized vehicle use would be limited to designated roads. Although the area would be open to mineral leasing, it would be designated as an NSO area. The result of these management prescriptions would be slightly increased protection of the special value plant community and the other natural resources within the RNA/ACEC.

Mickey Basin RNA/ACEC

Alternative A

Current management would continue and the size of the RNA/ACEC would remain at 560 acres. Since the RNA/ACEC would be entirely within the East Alvord WSA, the area would be managed according to the WSA IMP. This alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B and E

These alternatives would eliminate the RNA/ACEC designation and the area would be managed under the WSA IMP. Although the area would remain under restrictive management protocol, similar to Alternative A, the management would not provide specific protection of the special value plant community.

Alternative C

The effects from this alternative would be similar to Alternative A except that the RNA/ACEC would be an exclusion area for ROWs rather than an avoidance area, and OHV and mechanized vehicle use would be limited to designated roads. The result of the stricter management prescriptions would be increased protection of the special value plant community and the other natural resources within the RNA/ACEC.

Alternative D

The effects from this alternative would be similar to Alternative A except that OHV and mechanized vehicle use would be limited to designated roads. The result of this management prescription would be slightly increased protection of the special value plant community and the other natural resources within the RNA/ACEC.

Pickett Rim ACEC

Alternative A

Current management would continue and the size of the ACEC would remain at 3,941 acres. This alternative would not result in any new or additional effects to natural resources or resource uses.

The existing ACEC designation and boundaries would be retained. The area would continue to be managed as VRM Class II. The roads within the ACEC would be maintained as needed for access. OHV and mechanized vehicle use would be limited to existing roads and trails. The area would continue to be open to new ROWs or other realty use authorizations.

The area within the Pickett Rim ACEC would be open to leasable and locatable mineral entry and saleable mineral removal. The ACEC would be located within the LaVoy Tables Grazing Allotment and would be open to grazing from April until November. Grazing would be under the control of existing permit stipulations and an approved grazing system. Any proposed changes in grazing use or new range improvement projects would be evaluated for effects, and permitted if relevant and important values would be maintained or enhanced. Where effects would be identified, livestock use or range improvement projects would be adjusted. The ACEC would be open for collection or removal of plant materials.

Alternatives B, D, and E

These alternatives would eliminate the ACEC management of the Pickett Rim area, and would be the same as that prescribed for the adjacent area. There would not be any specific protection of the birds of prey or their habit under these alternatives.

Alternative C

The existing ACEC designation and boundaries would be retained. Management restrictions would be increased, including limiting OHV and mechanized vehicle use to designated routes and excluding new ROWs or other realty use authorizations except for access needs to nonpublic property. In addition, the area would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Management under this alternative would result in decreased use and development and increased protection of the birds of prey and their habitat.

Pueblo Foothills RNA/ACEC

Alternative A

Current management would continue and the size of the RNA/ACEC would remain at 2,503 acres. Since the RNA/ACEC would be entirely within the Pueblo Mountain WSA, the area would be managed according to the WSA IMP. This alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B and E

These alternatives would eliminate the RNA/ACEC designation and the area would be managed under the WSA IMP. Although the area would remain under restrictive management protocol, similar to Alternative A, the management would not provide specific protection of the special value plant community.

Alternative C

The effects from this alternative would be similar to Alternative A except that the RNA/ACEC would be reduced in size by 79 acres so that it totals 2,255 acres. It would also be an exclusion area for ROWs rather than an avoidance area, OHV and mechanized vehicle use would be limited to designated roads, and the area would be closed to locatable and leasable minerals development. The result of the stricter management prescriptions in the remaining RNA/ACEC area would be increased protection of the special value plant community, special status plants, and the other natural resources.

Alternative D

The effects from this alternative would be similar to Alternative A except that the RNA/ACEC would be reduced by 79 acres and would total 2,255 acres. In addition, OHV and mechanized vehicle use would be limited to designated roads, and although the area would be open to mineral leasing, it would be designated as an NSO area. The result of these

management prescriptions in the remaining RNA/ACEC area would be slightly increased protection of the special value plant community and the other natural resources.

Rooster Comb RNA/ACEC

Alternative A

Current management would continue and the size of the RNA/ACEC would remain at 716 acres. Since the RNA/ACEC would be within the Steens Mountain Wilderness, it would continue to be managed according to the Wilderness Act. This alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B and E

These alternatives would eliminate the RNA/ACEC designation and the area would be managed under the Wilderness Act. Although the area would remain under restrictive management protocol, similar to Alternative A, the management would not provide specific protection of the special value riparian vegetation communities.

Alternatives C and D

The effects from these alternatives would be the same as Alternative A except that 33 acres would be dropped on the south side of the Steens Loop. The remaining RNA/ACEC would be 683 acres and would be managed in accordance with the Wilderness Act.

South Fork Willow Creek RNA/ACEC

Alternative A

Current management would continue and the size of the RNA/ACEC would remain at 231 acres. Since the RNA/ACEC would be within the Steens Mountain Wilderness, it would continue to be managed according to the Wilderness Act. This alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B and E

These alternatives would eliminate the RNA/ACEC designation and the area would be managed under the Wilderness Act. Although the area would remain under restrictive management protocol, similar to Alternative A, the management would not provide specific protection of the special value plant communities and special status plants.

Alternatives C and D

The effects from these alternatives would be the same as Alternative A except that 45 acres would be dropped on the west side of the Steens Loop Road. The remaining RNA/ACEC would be 186 acres and would be managed in accordance with the Wilderness Act.

Steens Mountain ACEC

Alternative A

The current management would continue and the size of the ACEC would remain at 57,501 acres. The ACEC would be contained within a large part of the Steens Mountain Wilderness as well as some areas of WSA and non-WSA. This alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B, D, and E

These alternatives would eliminate the ACEC designation and the area would be managed under the Wilderness Act, the WSA IMP, and in accordance with the adjacent lands. Although some of the area would remain under restrictive management protocol, similar to Alternative A, the management would not provide specific protection of the high scenic values.

Alternative C

The existing ACEC designation and boundaries would be retained and the management prescriptions would be similar to Alternative A except that the entire ACEC would be designated as VRM Class I, and new ROWs and other realty use authorizations would be excluded except for access needs to nonpublic property. The result of the stricter management prescriptions would be increased protection of the high scenic values and the other natural resources within the ACEC.

Tum Tum Lake RNA/ACEC

Alternative A

Current management would continue and the size of the ACEC would remain at 2,064 acres. This alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B and E

These alternatives would eliminate the ACEC designation and the area would be managed consistent with the management prescriptions on adjacent lands. Although management would be similar to Alternative A, it does not provide specific protection of the unique plant communities or special status species.

Alternative C

The RNA/ACEC designation would be retained; however, 375 acres would be dropped due to unmanageability and surface disturbance. The size of the RNA/ACEC would be 1,689 acres. Management restrictions would be applied to OHV and mechanized vehicle use, ROWs or other realty use authorizations, minerals and grazing, and the area would be designated as VRM Class II. Increased restrictions would result in the highest level of protection for the unique plant communities, special status plants, and the special status fish species.

Alternative D

The RNA/ACEC designation would be retained; however, the size would be reduced by 375 acres, as with Alternative C. Some restrictions would be applied such that OHV and mechanized vehicle use would be limited to designated routes, new ROWs or other realty use authorizations would be avoided, and the area would be closed to saleable mineral removal and livestock grazing. Management would not be as strict as Alternative C; therefore, protection of the special values would be greater than all alternatives except for Alternative C.

Proposed Big Alvord Creek RNA/ACEC

Alternative A

The RNA/ACEC would not be designated and management would continue in accordance with the Wilderness Act. Therefore, this alternative would not result in any new or additional effects to natural resources or resource uses.

Visual resources would be managed as VRM Class I. There would be no roads in this RNA/ACEC, and the entire area would be closed to OHV and mechanized vehicle use. The area would be an exclusion area for new ROWs or other realty use authorizations. The area would be withdrawn from locatable and leasable mineral entry, closed to saleable material removal, and closed to grazing.

Alternatives B and E

The RNA/ACEC would not be designated. The management prescriptions and effects would be exactly the same as Alternative A.

Alternatives C and D

The RNA/ACEC would be designated and would encompass 1,676 acres. However, since the RNA/ACEC would be entirely within the Steens Mountain Wilderness, the management would be identical to that outlined in Alternative A. The only additional effect of the designation would be recognition of the special value plant communities and possible future management direction, based on the designation and protection of the special values.

Proposed Catlow Redband Trout ACEC

Alternative A

Current management would continue and the ACEC would not be designated. The portion within the Steens Mountain Wilderness would be managed in accordance with the Wilderness Act while the rest would be managed the same as prescribed for the adjacent areas. Therefore, this alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B, D, and E

The ACEC would not be designated. The management and effects would be exactly the same as under Alternative A with no specific protection of the Catlow Redband Trout or its habitat.

Alternative C

The proposed ACEC would be designated as the Catlow Redband Trout ACEC covering 6,800 acres. Management restrictions would be implemented for the entire ACEC such that OHV and mechanized vehicle use would be limited to designated routes outside the wilderness and closed inside the wilderness, ROWs or other realty use authorizations would be excluded, and the ACEC would be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal. Visual resources would be designated as VRM Class I in the wilderness and VRM Class II in the rest of the ACEC.

Proposed East Fork Trout Creek RNA/ACEC

Alternative A

Current management would continue and the RNA/ACEC would not be designated. The site would be in the Mahogany Ridge WSA, so management would continue in accordance with the WSA IMP until such time as Congress designates the area as wilderness or releases it from WSA status. Therefore, this alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B and E

The RNA/ACEC would not be designated. The management and effects would be exactly the same as under Alternative A, with no specific protection of the unique plant communities.

Alternative C

The proposed RNA/ACEC would be designated as the East Fork Trout Creek RNA/ACEC covering 361 acres. Some additional management restrictions would be imposed including limiting OHV and mechanized vehicle use to designated routes, and excluding new ROWs or other realty use authorizations except for access needs to nonpublic property. The area would also be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal and livestock grazing, and visual resources would be designated as VRM Class I. The effects would be minimal use and disturbance and maximum protection of the special value plant communities and associated resources.

Alternative D

The proposed RNA/ACEC would be designated as the East Fork Trout Creek RNA/ACEC covering 361 acres. Management under this alternative would not be as strict as Alternative C; however, it would be stricter than Alternative A and would therefore result in increased protection of the special value plant communities and associated resources.

Proposed Fir Groves ACEC

Alternative A

Current management would continue and the ACEC would not be designated. Therefore, this alternative would not result in any new or additional effects to natural resources or resource uses.

Since no ACEC would be designated, existing prescriptions would apply. The site would be managed as VRM Class II. The roads in the area would be maintained in the existing roadway as needed for access. The area would be closed to OHV and mechanized vehicle use. The area would be open for new ROWs or other realty use authorizations within the provisions of the Steens Act.

The area would be withdrawn from locatable and leasable mineral entry and closed to saleable material removal. The area would be located within the Bridge Creek Grazing Allotment and would be grazed periodically during the spring and summer. The area would be open to collection of plant materials.

Alternatives B and E

The ACEC would not be designated. The management and effects would be exactly the same as under Alternative A with no specific protection of the grand fir stand.

Alternative C

The proposed ACEC would be designated as the Fir Groves ACEC covering 477 acres. Some additional management restrictions would be imposed, including exclusion of new ROWs or other realty use authorizations except for access needs to nonpublic property. The area would also be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal and livestock grazing. In addition, the dense stand of trees along Little Fir Creek would be mechanically thinned to protect the site from catastrophic fire incidents and to allow for development of understory vegetation. The effects would be minimal use with some active management and maximum protection of the grand fir stand and associated natural resources.

Alternative D

The proposed ACEC would be designated as the Fir Groves ACEC covering 477 acres. Management under this alternative would not be as restrictive as Alternative C. However, it would result in increased protection of the grand fir stand.

Proposed Mickey Hot Springs ACEC

Alternative A

Current management would continue and the ACEC would not be designated. A portion of the site would be in the East Alvord WSA and would be managed in accordance with the WSA IMP until such time as Congress designates the WSA as wilderness or releases it from WSA status. The rest of the area would continue to be managed as prescribed for the adjacent areas. Therefore, this alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B and C

The proposed Mickey Hot Springs ACEC would be designated. The size of the ACEC would be 42 acres, or all of the land within the fenced exclosure. Management would include closing the road and parking area, closing the ACEC to OHV and mechanized vehicle use, and excluding new ROWs or other realty use authorizations. The effects under these alternatives would be minimal use and development of the area thus maximizing human health and safety and restricting any use or access of the hot springs complex.

Alternatives D and E

The ACEC designation and management would be similar to Alternatives B and C except that opportunities for development would still exist. Use and access would still be restricted and human health and safety would be emphasized, but not to the same extent as Alternatives B and C.

Proposed Serrano Point RNA/ACEC

Alternative A

Current management would continue and the RNA/ACEC would not be designated. Therefore, this alternative would not result in any new or additional effects to natural resources or resource uses.

Alternatives B and E

The RNA/ACEC would not be designated. The management and effects would be exactly the same as under Alternative A with no specific protection of the special value plant communities.

Alternative C

The proposed RNA/ACEC would be designated as the Serrano Point RNA/ACEC covering 679 acres. Some additional management restrictions would be imposed including limiting OHV and mechanized vehicle use to designated routes and excluding new ROWs or other realty use authorizations except for access needs to nonpublic property. The area would also be withdrawn from locatable and leasable mineral entry and closed to saleable mineral removal and grazing. The effects would be minimal use and disturbance and maximum protection of the special value plant communities and associated resources.

Alternative D

The proposed RNA/ACEC would be designated as the Serrano Point RNA/ACEC covering 679 acres. Management under this alternative would not be as restrictive as Alternative C. However, it would result in increased protection of the unique plant communities and associated natural resources.

4.21.4 Summary of Effects

Under Alternative A, no new ACECs would be designated and existing ones, totaling 132,112 acres, would be retained. Under Alternatives B and E, all existing ACEC designations would be revoked and one new ACEC, Mickey Hot Springs, would be designated for a total of 42 acres. Management under Alternative B for the areas where ACEC designations were revoked would be the same as that applied across the Planning Area. Under Alternative C, all existing ACECs would be retained and seven proposed ACECs would be designated for a total of 143,426 acres. Under Alternative D, 12 of the existing ACECs would be retained while the designation on three of the existing ACECs (Alvord Peak, Pickett Rim and Steens Mountain) would be revoked and five new ACECs would be designated for a total of 66,870 acres. The various ACEC designations and acreages for each of the Alternatives would be listed in Table 2.10.

4.22 Wilderness

4.22.1 Goals and Objectives

Goal 1 - Maintain or improve the wilderness values and the special features of the Steens Mountain Wilderness under a principle of nondegradation and in a manner that would leave these values unimpaired for future use and enjoyment as wilderness, while providing opportunities for public use, enjoyment, and understanding.

Objective 1. Manage the wilderness to allow for areas of differing levels of resource use.

Objective 2. Provide for the level and type of commercial services necessary to enable the public to use, access, enjoy and understand the recreational and other values of wilderness, emphasizing opportunities for primitive and unconfined types of recreation, inspiration, and solitude.

Goal 2 - Manage the wilderness in such a manner that the landscape would be essentially unaffected by human manipulation and influences, while allowing natural processes to dominate.

Objective 1. Accomplish necessary projects and activities occurring in wilderness with the minimum tool or requirement needed to achieve a desired result. The chosen tool, equipment, or structure would be the one that least degrades wilderness values temporarily or permanently.

Goal 3 - Manage nonconforming uses of the Steens Mountain Wilderness, allowed under the Wilderness Act and the Steens Act, to have the minimum impact on wilderness characteristics.

Objective 1. Manage livestock grazing in wilderness under the stipulations of the Congressional Grazing Guidelines (HR 101-405 Appendix A).

Objective 2. Allow for a level of reasonable access for the use and enjoyment of private inholdings while protecting the wilderness values.

4.22.2 Assumptions

The Steens Act established the Steens Mountain Wilderness consisting of 170,084 acres of public lands. Subject to valid existing rights, the BLM would administer the Steens Mountain Wilderness in accordance with the provisions of the Wilderness Act, BLM Wilderness Regulations (43 CFR 6300), BLM Manual Handbook H-8560-1 Management of Designated Wilderness Areas, and the Steens Act.

Specific wilderness management provisions would be included in Section 202 of the Steens Act and would be discussed in Chapter 3.

Section 112(e)(1) of the Steens Act states that "The Secretary would provide reasonable access to nonfederally owned lands or interests in land within the boundaries of the Cooperative Management and Protection Area and the Wilderness Area to provide the owner of the land or interest the reasonable use thereof."

The road setbacks for wilderness boundaries would be described in Section 3.18 of this document.

Except for the designated No Livestock Grazing Area, grazing of livestock would continue and be administered in accordance with section 4(d)(4) of the Wilderness Act, the Steens Act, and the guidelines set forth in Appendix A of House Report 101-405 of the 101st Congress.

According to the Steens Act, no locatable mineral exploration and development activities would be authorized within the Steens Mountain Wilderness.

Except as specifically stated in the Wilderness Act, the following activities would be prohibited in wilderness (CFR 6302.20):

- Operate a commercial enterprise;
- Build temporary or permanent roads;
- Build aircraft landing strips, heliports, or helispots;
- Use motorized equipment; or motor vehicles, motorboats, or other forms of mechanical transport;
- Land aircraft, or drop or pick up any material, supplies or person by means of aircraft, including a helicopter, hang-glider, hot air balloon, parasail, or parachute;
- Build, install, or erect structures or installations, including transmission lines, motels, vacation homes, sheds, stores, resorts, organization camps, hunting and fishing lodges, electronic installations, and similar structures, other than tents, tarpaulins, temporary corrals, and similar devices for overnight camping;
- Cut trees;
- Enter or use wilderness areas without authorization, where the BLM requires authorization;
- Engage or participate in competitive use, including those activities involving physical endurance of a person or animal, foot races, watercraft races, survival exercises, war games, or other similar exercises; or
- Violate any BLM regulation, authorization, or order.

The Steens Act mandates that a Wilderness Plan be developed for the Steens Mountain Wilderness. A combined WSR/Wilderness Plan would be being prepared concurrently to this RMP/EIS and would not be finalized until after the Draft RMP/EIS has been circulated. All wilderness management actions would be analyzed under each alternative in this Draft RMP/EIS. The BLM would then select the preferred alternative from the RMP/EIS to develop management protocols for the final WSR/Wilderness Plan. Two years of monitoring data would be used to establish baseline conditions in the wilderness.

4.22.3 Analysis of Alternatives

4.22.3.1 Effects Common to All Alternatives

Potential indirect effects from social and economic values, livestock grazing, wildland fire management, realty use authorizations and ROWs, and recreation may occur under all of the alternatives. However, effects would be minimized due to the restrictions mandated by the Wilderness Act.

General indirect effects from the management actions of other resources/uses have been summarized in this introduction. Specific indirect effects would be discussed under each alternative.

Social and Economic Values. Social and economic values, which promote use and visitation as emphasized in Alternative E and included in Alternatives A and D, would lead to increased use and would affect trails, campsite conditions, and solitude. This may affect recreational use and enjoyment of some areas. Restrictions on visitation under Alternatives B and C would potentially lead to an overall decline in visitation or to increased use and degradation of fewer areas.

Lands and Realty. Land use and realty management has minimal potential to affect wilderness because activities such as land acquisition, exchange, and disposal; use authorizations and withdrawals; and construction or location of roads for legal access would be constrained by the Wilderness Act. All of the alternatives for land use and realty specify that the Steens Mountain Wilderness would be Zone 1A, which calls for retention of the lands within the Steens Mountain Wilderness. Therefore, any potential effects from lands and realty would be similar across all of the alternatives.

4.22.3.2 Alternative A

Direct Effects

The entire wilderness would be managed as a single unit without 'management areas'. Management under this alternative would not restrict party size, dogs, human waste disposal, camping, or stock use. These activities and/or uses would affect the condition of the trails, campsites and surrounding areas, and affect wilderness characteristics such as naturalness and solitude. Present policy calls for no length-of-stay limitation that would result in increased visitation and use at any one time thus effecting solitude and causing additional primitive campsites to be created and used. Fourteen day length-of-stay and use by dogs and stock could create conflicts with wildlife, cattle, other visitors, or other uses. Minimal maintenance of trails and closures of others may provide protection and restoration of natural resources within the wilderness; nevertheless this may also lead to trail damage and increased use and degradation of a few more popular or more visible trails. Campfires would not be restricted under this alternative, which may increase wildland fire potential. Unrestricted campfire use may also lead to a proliferation of campfires, rock fire rings and damage to campsite areas such as expansion of the barren ground area, an increase in user-created trails and damage to vegetation. Monitoring of the Steens Mountain Wilderness would be conducted and management actions would be modified to achieve acceptable limits that would be set after a total of five years of gathering baseline information and continued monitoring. This would promote protection of the Steens Mountain Wilderness and wilderness values.

No new recreational facilities would be constructed in the wilderness or at trailheads under this alternative. Fire suppression and weed management would be conducted using appropriate management response and a full range of equipment following a minimum tool analysis. Historic structures would deteriorate through natural processes and maintenance would only be conducted on Nye Cabin to correct hazards. Effects to the wilderness from these activities would be limited, though allowing structures to deteriorate would lead to increased naturalness. There may be some unavoidable effects to naturalness or primitive recreational opportunities from weed eradication and fire suppression, but these activities would be temporary.

Livestock permittee grazing access would be managed in keeping with the Motorized Access for Grazing Operations in Wilderness EA and Decision Record.

New proposals would be considered for commercial services (e.g. outfitters), which could lead to increased use of the wilderness and affect trail and campsite conditions as well as solitude and naturalness. The potential effects would be increased because there would be no restrictions on party size or stock use under this alternative.

Inholder access would be managed in accordance with the decision record of the Access for Inholdings in the Steens Mountain Wilderness EA/Decision Record.

Indirect Effects

Woodlands. The increased likelihood of fires due to the increased tree density and cover could result in resource damage in burned areas. This could reduce the wilderness values.

Noxious Weeds. Treatments of large areas of noxious weed infestations could result in areas of limited or no vegetation, which in combination with recreational use could result in natural resource damage that reduces the wilderness values.

Wild Horses and Burros. Wild horse and burro use would continue under current management and no new or additional effects to the Steens Mountain Wilderness or to wilderness values would be anticipated. Effects of wild horse and burro use include resource degradation and possible user conflicts with recreationists.

Grazing Management. Livestock grazing would continue under current management objectives and no new or additional effects to the Steens Mountain Wilderness or to wilderness values would be anticipated. Effects of livestock grazing include resource degradation and possible user conflicts with recreationists.

Wildland Fire Management. Suppression of all wildfires would maximize protection of areas with important resource values such as the Steens Mountain Wilderness; however, continued suppression of all wildfires would allow fuels to accumulate throughout the Planning Area and wilderness values could be affected by increased fire potential due to a loss of natural processes. Native and desirable introduced plant species would be utilized in fire rehabilitation; this may also affect wilderness values by a change in the quality of naturalness.

Off-Highway Vehicles. OHV and mechanized vehicles would be allowed on several roads that would be bounded on one or both sides by the Steens Mountain Wilderness. Wilderness values of solitude and primitive and unconfined recreation could be affected by the presence and sounds of OHVs and mechanized vehicles on these roads.

Recreation. Continuing current recreation management would not directly increase use, but use of the Steens Mountain Wilderness would be expected to increase as the area receives more public notice. This increased use has the potential to affect wilderness values and conditions. Providing trail head parking near the mouth of Wildhorse Canyon would increase use in that portion of the wilderness and could affect wilderness values.

4.22.3.3 Alternative B

Direct Effects

The Steens Mountain Wilderness would be classified into two management areas; the Gorges and the Uplands. Management under this alternative would restrict party size (six people and nine head of stock); dogs would not be allowed; human waste and toilet paper would have to be packed out. Effects from these activities would lead to increased naturalness due to restrictions that would be imposed. Camping would not be allowed at Wildhorse Lake or in any RNA. Camping would only be allowed at existing established campsites. However, a three day length-of-stay would limit visitation and use at any one time, thus promoting solitude and naturalness and minimizing effects to campsites and trails. Stock use would be allowed at Wildhorse Lake or in any RNA on a limited basis; however, no pack stock grazing would be allowed, so any related effects to the wilderness would be minimized.

No trail maintenance or reclamation would be implemented unless a threat would be posed to life, property, or wilderness values. This may promote protection and rehabilitation of natural resources within the wilderness; nevertheless, little or no maintenance could lead to increased degradation of the trails and adjacent resources. Campfires would not be allowed, leading to an increase in naturalness and possibly decreasing wildland fire potential; however, wildland fire potential would be present even when campfires would not be allowed. Monitoring of the Steens Mountain Wilderness would be conducted and management actions would be modified to achieve acceptable limits. This would promote protection of the Steens Mountain Wilderness and wilderness values.

No new recreational facilities would be constructed in the wilderness or at trailheads. Historic structures would deteriorate through natural processes and no maintenance would be conducted on Nye Cabin. Wildland fire would be allowed to burn where no life or property would be at risk. No motorized equipment would be used to implement weed control measures. There may be some unavoidable effects to naturalness or primitive recreational opportunities from weed eradication and fire suppression, but these activities would be temporary and would provide long-term protection of wilderness characteristics.

Livestock grazing access in the wilderness would be limited because no mechanized or motorized equipment would be allowed for grazing operations. Also, no mechanized or motorized use would be allowed for inholder access. Although this may be a hardship on livestock operators, the trend of effects to the wilderness would be toward increased naturalness.

No commercial services (e.g. outfitters) would be allowed under this alternative, thereby limiting certain types of access and use. It would also decrease wilderness visitation and affect trail and campsite conditions as well as solitude and naturalness.

Indirect Effects

Woodlands. The increased likelihood of fires due to the increased tree density and cover could result in resource damage in burned areas. This could reduce the wilderness values.

Noxious Weeds. Treatments of large areas of noxious weed infestations could result in areas of limited or no vegetation, which in combination with recreational use could result in natural resource damage that reduces the wilderness values.

Wild Horses and Burros. Wild horse and burro use would be conducted under revised management and new or additional effects to the Steens Mountain Wilderness or to wilderness values would be anticipated. Effects of wild horse and burro use include resource degradation and possible user conflicts with recreationists.

Grazing Management. Livestock grazing would continue at a sustainable level, but must also be consistent with the Steens Act, allotment management objectives, and the S&Gs. In addition, rangeland projects would be minimized and some projects would be removed and rehabilitated. Relinquished permits would be discontinued.

Wildland Fire Management. Fires that directly threaten public safety, private property, or areas of significant resource values would be suppressed. Wilderness acres burned annually under this alternative could be greater than current levels. However, fire rehabilitation actions could be greater than Alternative A because of the reduced suppression activity and potentially larger fire size. Only native plant species would be utilized for rehabilitation purposes; burn areas may be allowed to recover naturally, which would not affect wilderness values.

Off-Highway Vehicles. OHV and mechanized vehicles would not be allowed on eight roads that would be bounded on one or both sides by the Steens Mountain Wilderness. Wilderness values of solitude and primitive and unconfined recreation would be enhanced by the absence of motorized vehicles, OHVs, and mechanized vehicles from these roads.

Recreation. Closure of the Steens Loop Road from the Kiger Overlook Road to west of Blitzen Crossing would change recreation use patterns in the Steens Mountain Wilderness. Use of Wildhorse Lake, Big and Little Indian, and the Ankle Creek basin would decrease because of the increased hiking distance. Use of the main stem of the Blitzen River (from Page Springs to Blitzen Crossing), Little Blitzen, and Kiger Gorge would be expected to increase because of the proximity of these areas to open roads. This use pattern change would result in corresponding changes in trail and camp site conditions and effects to wilderness values.

4.22.3.4 Alternative C

Direct Effects

The Steens Mountain Wilderness would be classified into two management areas; the Gorges and the Uplands. Management under this alternative would restrict party size (nine people and twelve head of stock); dogs would be allowed but must be under control; catholes would be required for human waste and toilet paper would have to be packed out. No camping would be allowed at Wildhorse Lake or at any RNA. This alternative would have more potential effects than Alternative B; however, the restrictions under this alternative result in fewer effects to and greater protection of the wilderness than under Alternative A. A five day length-of-stay would have similar effects as Alternative B. Stock use at Wildhorse Lake or at any RNA would be the same as Alternative B; therefore, the effects would be the same.

Minimal trail maintenance would be conducted on Little Blitzen, Big Indian, and Wildhorse Lake trails but no new trails would be constructed. Inappropriate user trails as well as selected roads would be reclaimed. Other closed roads would be left for use as informal stock and hiking routes. These activities would promote protection and rehabilitation of natural resources and wilderness values within the wilderness while providing greater access than Alternative B. Monitoring

of the Steens Mountain Wilderness would be conducted and management actions would be modified to achieve acceptable limits. This would promote protection of the Steens Mountain Wilderness and wilderness values.

No new recreational facilities would be constructed in the wilderness. Facilities could be constructed at trailheads if resource damage and/or hazards exist. All other facilities, except historic structures and those used for livestock grazing, would be removed. Historic structures would deteriorate through natural processes and limited maintenance would be conducted on Nye Cabin to correct hazards. The Page Springs weir would be removed. Wildland fire would be allowed to play its natural role. Prescribed fire would be utilized and noxious weed control would be conducted using nonmotorized equipment after a minimum tool analysis. Effects to the wilderness from these activities would be greater than those under Alternative B and may include additional disturbance to the wilderness, affecting wilderness characteristics such as solitude, naturalness, and primitive recreational opportunities. Nevertheless, these activities would be temporary and would provide long-term protection of these wilderness characteristics while promoting natural processes. In the long term, wilderness values, and the wilderness experience may be enhanced by management under this alternative.

Livestock permittee grazing access would have the same effects as Alternative A.

Commercial services (e.g. outfitters), would be allowed at current levels but no permanent caches would be allowed. Under this alternative, opportunities for access and use would be greater than under Alternative B but less than the other alternatives, which would consider new proposals. This alternative would protect resources and wilderness values and promote natural processes while allowing continued use and access.

Inholder access would have the same effects as Alternative A.

Indirect Effects

Woodlands. The reduced likelihood of fires due to the decrease in tree density and cover could minimize the potential for resource damage in burned areas.

Noxious Weeds. Effects from noxious weeds under this alternative would be similar to Alternative B.

Wild Horses and Burros. Effects from wild horses and burros under this alternative would be similar to Alternative B.

Grazing Management. Effects from livestock grazing under this alternative would be similar to Alternative B.

Wildland Fire Management. Effects to the Steens Mountain Wilderness from wildland fire management would be similar to those under Alternative B.

Off-Highway Vehicles. OHV and mechanized vehicles would not be allowed on three roads that would be bounded on one or both sides by the Steens Mountain Wilderness. Wilderness values of solitude and primitive and unconfined recreation would be enhanced by the absence of OHVs and mechanized vehicles from these roads.

Recreation. Closure of the Rooster Comb section of the Steens Loop Road and other roads would not affect recreation use patterns in the Steens Mountain Wilderness. Trail development, where needed to protect natural values, could slightly reduce use in the Steens Mountain Wilderness by providing alternate trails for hikers. Development of a trail head facility for horse users would increase horse use in the wilderness with the associated effects. Development of a staging area near the mouth of Wildhorse Canyon could increase use in that portion of the wilderness and could affect wilderness values and conditions.

4.22.3.5 Alternative D

Direct Effects

The Steens Mountain Wilderness would be classified into two management areas; the Gorges and the Uplands. Management under this alternative would restrict party size (twelve people and fifteen head of stock) with exceptions for historic use on a case-by-case basis, subject to NEPA review; dogs would be allowed but must be under control; catholes would be required for human waste; and toilet paper would have to be packed out. No camping would be allowed at Little Wildhorse. Limited stock use would be allowed at Wildhorse Lake and in the RNAs. Overnight camping would be allowed at Wildhorse Lake but only as designated campsites, with no overnight stock use allowed.

Camping would be allowed in Little Blitzen and Rooster Comb RNAs in historic use areas. There would be no tying of stock to trees overnight. Stock picketed, highlined or tethered must be at least 100 feet from water sources. Grazing of pack stock would be allowed consistent with S&Gs for grazing management. There would be more potential effects from this alternative than Alternatives B or C; however, the restrictions under this alternative would result in less effects to and greater protection of the wilderness than under Alternative A. A five day length-of-stay would be recommended and would have similar effects as Alternatives B and C.

Minimal trail maintenance would be conducted on Little Blitzen, Big Indian, and Wildhorse Lake trails and new trails could possibly be constructed where appropriate as use increases. Selected closed roads would be reclaimed and others would be left for use as informal stock and hiking routes. These activities provide increased access over Alternatives A, B and C; nevertheless, as maintenance increases, effects on the wilderness and to wilderness values would increase. Monitoring of the Steens Mountain Wilderness would be conducted and management actions would be modified to achieve acceptable limits. This would promote protection of the Steens Mountain Wilderness and wilderness values.

Recreation facilities would be constructed at trailheads as needed to prevent resource damage. Historic structures would be maintained to preserve them. Nonconforming structures, except those used for livestock or wildlife, would be removed or allowed to deteriorate. Nye Cabin would be maintained to provide a safe and hazard-free environment and for historic characteristics. The Page Springs weir could be removed or modified. Wildland fire would be allowed to play its natural role. Prescribed fire could be utilized and noxious weed control would be conducted using a full array of equipment after a minimum tool analysis. Effects to the wilderness from these activities would be similar to Alternative C and greater than those under Alternative B. Disturbance to the wilderness and effects on wilderness characteristics such as solitude, naturalness and primitive recreational opportunities could be expected. Nevertheless, these activities would be temporary and would provide long-term protection of these wilderness characteristics while promoting a balance between resource protection and use.

Livestock grazing access would have the same effects as Alternative A.

New proposals for outfitters would be considered after preparing a needs assessment and no permanent caches would be allowed. Under this alternative, opportunities for access and use would be greater than under Alternatives B and C, but less than Alternative A.

Inholder access would have the same effects as Alternative A.

Indirect Effects

Woodlands. Effects from woodlands under this alternative would be similar to Alternative C.

Noxious Weeds. Treatments of large areas of noxious weed infestations could result in areas of limited or no vegetation, which in combination with recreational use could result in natural resource damage that reduces the wilderness values.

Wild Horses and Burros. Wild horse and burro use would be conducted under management similar to Alternative B and some new or additional effects to the Steens Mountain Wilderness or to wilderness values would be anticipated. Effects of wild horse and burro use include resource degradation and possible user conflicts with recreationists.

Grazing Management. Livestock grazing under this alternative would be similar to Alternative A, but with more emphasis on natural resources and with a provision to discontinue permits in areas where resource conflicts exist. The result of this management would be greater protection of the wilderness values and fewer user conflicts than under Alternative A.

Wildland Fire Management. Fire would be reintroduced into the ecosystem through prescribed fire and wildland fire use. A combination of native and desirable introduced plants would be used for rehabilitation. These activities would result in the same effects to the Steens Mountain Wilderness as under Alternative A.

Off-Highway Vehicles. OHV and mechanized vehicles would be allowed on several roads that would be bounded on one or both sides by the Steens Mountain Wilderness. Wilderness values of solitude and primitive and unconfined recreation would be affected by the presence and sounds of OHVs and mechanized vehicles on these roads.

Recreation. Trail development, where needed to protect natural resources and for public health and safety, could reduce use in the Steens Mountain Wilderness by providing alternate trails for hikers. Development of a trail head facility for horse users would increase horse use in the wilderness with the associated effects. Development of a staging area near the mouth of Wildhorse Canyon could increase use in that portion of the wilderness, possibly affecting wilderness values and conditions.

4.22.3.6 Alternative E

Direct Effects

The entire Steens Mountain Wilderness would be managed as a single unit without 'management areas.' Management under this alternative would not restrict or limit party size and it would not restrict dogs, human waste disposal, camping, or stock use. These activities and/or uses would affect the condition of the trails, campsites, and surrounding areas. Wilderness characteristics such as naturalness and solitude would also be affected. In addition, a fourteen day length-of-stay and self-registration that would be only encouraged rather than required would result in increased visitation and use at any one time, thus affecting solitude and causing additional primitive campsites to be created. Increased visitation and unrestricted use by dogs and stock could create conflicts with wildlife, cattle, visitors, or other uses.

Minimal trail maintenance would be conducted on Little Blitzen, Big Indian, and Wildhorse Lake trails and new trails would be constructed where appropriate as use increases. Selected closed roads would be reclaimed and others would be left for use as informal stock and hiking routes. These activities provide increased access over Alternatives A, B and C; nevertheless, as maintenance and construction increase, effects on the wilderness and to wilderness values increase. Monitoring of the Steens Mountain Wilderness would be conducted and management actions would be modified to achieve acceptable limits. Although monitoring and maintaining acceptable levels would promote protection of the Steens Mountain Wilderness and wilderness values, this alternative would have the greatest effects on the Steens Mountain Wilderness and wilderness values of all the alternatives. Wilderness degradation, and decreased solitude, naturalness, and primitive experiences would result.

Recreation facilities would be constructed at trailheads as needed to prevent resource damage. Historic structures would be maintained to preserve them. Nonconforming structures, except those used for livestock or wildlife, would be removed or allowed to deteriorate. Nye Cabin would be managed as a rental cabin. The Page Springs gauging weir would be removed. Fire suppression and weed management would be conducted using appropriate management response and a full range of equipment following a minimum tool analysis. Effects to the wilderness from these activities would be greater than under all of the other alternatives. Permanent effects from increased facilities and access would affect the use levels and thus the characteristics of solitude, primitive recreational opportunities, and naturalness. There may also be some unavoidable effects to naturalness or primitive recreational opportunities from weed eradication and fire suppression, but these activities would be temporary and would provide long-term protection of these wilderness characteristics.

Motorized or mechanized use would be allowed at historic levels for livestock permittee grazing access. The level of use allowed to occur under this alternative would be the greatest of the alternatives, and may include resource degradation; and decreases in solitude, naturalness, and primitive recreational opportunities; and conflicts with other uses.

Commercial activities would be managed the same as Alternative D; therefore, the effects would be the same as under Alternative D.

Motorized or mechanized use would be allowed at historic or higher levels for inholder access. The level of use allowed to occur under this alternative would be the greatest of the alternatives and may include resource degradation, decreases in solitude, naturalness, and primitive recreational opportunities; and conflicts with other uses.

Indirect Effects

Woodlands. Effects from woodlands under this alternative would be similar to Alternative A.

Noxious Weeds. Effects from noxious weeds under this alternative would be similar to Alternative D.

Wild Horses and Burros. Effects from wild horses and burros under this alternative would be similar to Alternative D.

Grazing Management. Effects from grazing management under this alternative would be similar to Alternative D.

Wildland Fire Management. Effects from wildland fire management under this alternative would be similar to Alternative D.

Off-Highway Vehicles. OHV and mechanized vehicles would be allowed on several roads that would be bounded on one or both sides by the Steens Mountain Wilderness. Wilderness values of solitude and primitive and unconfined recreation would be affected by the presence and sounds of OHVs and mechanized vehicles on these roads.

Recreation. Encouraging public use through expanding and establishing recreation sites to meet increasing demand would encourage additional use in the Steens Mountain Wilderness. This increased use has the potential to affect wilderness values and conditions. Trail development could reduce use in the Steens Mountain Wilderness by providing alternate trails for hikers. Development of a staging area with horse support facilities near the mouth of Wildhorse Canyon would increase use in that portion of the wilderness and could affect wilderness values.

4.22.4 Summary of Effects

Alternative B would provide the most protection of the Steens Mountain Wilderness and wilderness values such as naturalness, solitude, and primitive recreational opportunities; however, use and access would be very restrictive and may affect a recreationist's ability to visit the wilderness. Livestock grazing under this alternative would have even less effect on the Steens Mountain Wilderness or wilderness values than Alternative A. Alternatives A and E would provide the highest level of access and use but would limit protection of the wilderness and may lead to a decrease in wilderness values such as naturalness and solitude. Alternatives C and D provide balanced management that would protect the wilderness while allowing reasonable levels of access and use. Alternative C would be more restrictive than Alternative D, with focus on promoting natural processes; It would therefore have more effects on certain types of users (e.g. outfitters, livestock operators, inholders).

Social and Economic Values. Social and economic values, which promote use and visitation as emphasized in Alternative E and included in Alternatives A and D, would lead to increased use and would affect trails, campsite conditions, and solitude. This may affect recreational use and enjoyment of some areas. Restrictions on visitation under Alternatives B and C would potentially lead to an overall decline in visitation or to increased use and degradation of fewer areas.

4.22.5 Cumulative Effects

Prior to the implementation of the Steens Act, the area that is now the Steens Mountain Wilderness was used for a variety of activities that are not now permitted in all or part of the wilderness, such as grazing and motor vehicle travel on the existing roads. Motor Vehicle travel on existing roads by the general public would not be permitted in wilderness. The impacts from these now-curtailed uses would diminish over time and there would be a general improvement in the wilderness values under all alternatives.

Alternative A would result in continuing the slow process of overall improvement to the wilderness values.

Alternative B would result in improvement in the wilderness values; however, the improvement could be slowed because of the limited nature of management under this alternative. Alternative C would provide the most improvement in the wilderness values in the shortest period of time. Alternative D would emphasize more use, while providing for an improvement in the wilderness values. Alternative E would result in continuing the slow process of overall improvement to the wilderness values.

4.23 Wilderness Study Areas

4.23.1 Goals and Objectives

Goal - Manage WSAs and WSA additions so as not to impair their suitability for preservation as wilderness.

Objective 1. Manage lands identified as additions to existing WSAs or any new areas found to be suitable for WSA designation, so as not to impair their suitability for preservation as wilderness.

Objective 2. Manage existing WSAs so as not to impair their suitability for preservation as wilderness.

4.23.2 Assumptions

The existing WSAs, which total 633,519 acres, would continue to be managed under the WSA IMP, FLPMA, and other applicable laws and policies until designated as wilderness by Congress or released from WSA status. Management of existing WSAs in the CMPA would continue as directed under the WSA IMP, the Steens Act, and FLPMA.

The WSA IMP takes precedence over all other management direction unless the other management direction would be more restrictive than the WSA IMP, in which case the more restrictive management would be followed.

According to the WSA IMP, the use of "mechanical transport, including all motorized devices as well as trail and mountain bikes, may only be allowed on existing ways and within open areas that were designated prior to the passage of the FLPMA (October 1976)". Existing ways are those that existed at the time of the wilderness inventory.

4.23.3 Analysis of Alternatives

4.23.3.1 Effects Common to All Alternatives

Potential indirect effects from vegetation management, energy and minerals, livestock grazing, wildland fire management, realty use authorizations and ROWs, transportation, OHVs, and mechanized vehicle use and recreation may occur under all alternatives. However, effects would be minimized due to the restrictions mandated by the WSA IMP, which states that activities must meet the following nonimpairmment criteria:

1. The use, facility, or activity must be temporary. This means a temporary use that does not create surface disturbance or involve permanent placement of facilities may be allowed if such use can easily and immediately be terminated upon wilderness designation.

2. When the use, activity, or facility would be terminated, the wilderness values must not have been degraded so far as to significantly constrain the Congress' prerogative regarding the area's suitability for preservation as wilderness.

Exceptions to the above include the following: emergencies such as fire suppression and search and rescue operations; reclamation of effects from WSA IMP violations, emergencies and pre FLPMA impacts; grandfathered uses or facilities, or valid existing rights; or uses and facilities that clearly protect or enhance the land's wilderness values or that would be the minimum necessary for public health and safety in the use and enjoyment of wilderness values.

General indirect effects from the management actions of other resources/uses have been summarized in this introduction. Specific indirect effects would be discussed under each alternative.

Vegetation. Vegetation management could have indirect effects to WSAs. Activities such as habitat restoration and weed control could affect the wilderness value of naturalness. However, these effects would be temporary, in keeping with the nonimpairment criteria of the WSA IMP. Overall, the effects from vegetation management would be minimal and would be similar throughout all alternatives.

Land Use and Realty. Land use and realty management has little potential to affect WSAs because activities such as land exchange and disposal; use authorizations and withdrawals; and construction or location of roads for legal access would be constrained by WSA designation. All alternatives for land use and realty specify that WSAs would be either Zone 1, Zone 1A, or Zone 1B, which all call for retention of lands within WSAs. Therefore, any potential effects from lands and realty would be the same across all alternatives.

4.23.3.2 Alternative A

Direct Effects

The current WSA designations and management under the WSA IMP and the Steens Act would continue. This would not result in any new or additional effects to the existing WSAs and their identified wilderness values. The acquired parcels in the Mahogany Ridge and Bridge Creek WSAs would not be incorporated into those WSAs; however, the wilderness values of these parcels would not be affected because of their locations.

Indirect Effects

Grazing Management. The current livestock grazing management would continue under this alternative and it would not result in any new or additional effects to WSAs.

Wildland Fire Management. In the short term, suppression of all wildfires would maximize protection of areas with important resource values such as WSAs. However, continued suppression of all wildfires would allow fuels to accumulate throughout the Planning Area and could compromise due to the accumulation of fuels and increased fire potential. Native and desirable introduced plant species would be used in fire rehabilitation, which could affect the wilderness value of naturalness and the WSAs' potential as wilderness.

Off-Highway Vehicles. OHV and mechanized vehicle use in WSAs would be limited to existing designated roads, ways, and trails; the cherrystem roads and ways would be available for use in the WSAs. Wilderness values of naturalness, solitude, and primitive and unconfined recreation would be affected by the presence, tracks, and sounds of OHVs and mechanized vehicles both legally and in trespass. However, with any indication that degradation would be occurring or that wilderness values may be compromised, the OHV and mechanized vehicle use designations would be reviewed and adjusted as necessary.

Recreation. Continuing current recreation management would not directly increase use, but use of the Planning Area WSAs would be expected to increase as the area receives more public notice. This increased use has the potential to affect WSAs and their wilderness values.

4.23.3.3 Alternative B

Direct Effects

Three parcels within the Mahogany Ridge WSA (totaling approximately 318 acres), acquired through a land exchange, would be incorporated into that WSA. In addition, a 40-acre parcel adjacent to the Bridge Creek WSA would be incorporated into that WSA. Incorporating these parcels into the existing WSAs would protect the wilderness characteristics and values in these areas.

Indirect Effects

Grazing Management. Livestock grazing would be eliminated in the AMU and no range improvements would be developed. Grazing would continue in the CMPA and range improvements would be allowed, if in conformance with the Wilderness Management Plan, the WSA IMP, and the Steens Act. The CMPA WSAs may therefore be affected by continued grazing.

Wildland Fire Management. Fires that directly threaten public safety, private property, or areas of significant resource values would be suppressed. WSA acres burned annually could increase. However, fire rehabilitation actions could be than Alternative A because of the reduced suppression activity and potentially larger fire size. Only native plant species would be used for rehabilitation purposes, which would not impair wilderness suitability.

Off-Highway Vehicles. The WSAs would be designated as closed to OHV and mechanized vehicle use so wilderness values would not be affected.

Recreation. Closure of many roads in the CMPA and elsewhere would displace many users to adjacent and nearby WSAs. This, combined with the designation of WSAs as closed to OHV and mechanized vehicle use, would result in heavier vehicle use of boundary roads, development of additional dispersed camping sites adjacent to boundary roads, and effects to wilderness values. Closing or rehabilitating sites where natural processes were jeopardized would help restore naturalness in the WSAs.

4.23.3.4 Alternative C

Direct Effects

Three parcels within the Mahogany Ridge WSA (totaling approximately 318 acres), acquired through a land exchange, would be incorporated into that WSA. In addition, a 40-acre parcel adjacent to the Bridge Creek WSA would be

incorporated into that WSA. Incorporating these parcels into the existing WSAs would protect the wilderness characteristics and values in these areas.

The wilderness values of four parcels would be protected through maintenance of the visual resources and limiting OHV and mechanized vehicle use. Any proposed activity in these parcels would be evaluated on a case-by-case basis.

Indirect Effects

Grazing Management. Livestock grazing would continue at sustainable levels in the AMU and CMPA and range improvements could be developed, if in conformance with the WSA IMP.

Wildland Fire Management. Effects to WSAs from wildland fire management would be the same as Alternative B.

Off-Highway Vehicles. OHV and mechanized vehicle use would be minimized under this alternative with the WSAs designated as limited to designated ways, and trails. Wilderness values of naturalness, solitude, and primitive and unconfined recreation could be affected by the presence, tracks, and sounds of OHVs and mechanized vehicles both legally and in trespass.

Recreation. Closure of roads in the CMPA could displace some users to adjacent and nearby WSAs. This would result in heavier vehicle use of ways and cherrystem roads, development of additional dispersed camping sites, and effects to the wilderness values of solitude and naturalness. Closing or rehabilitating sites where natural processes would be jeopardized would help restore naturalness in the WSAs.

4.23.3.5 Alternative D

Direct Effects

The direct effects from this alternative would be the same as Alternative B.

Indirect Effects

Grazing Management. The effects to WSAs from livestock grazing under this alternative would be the same as Alternative C.

Wildland Fire Management. Fire would be reintroduced into the ecosystem through prescribed fire and wildland fire use. A combination of native and desirable introduced plants would be used for rehabilitation. These activities would result in the same effects to WSAs as Alternative A.

Off-Highway Vehicles. OHV and mechanized vehicle use in the WSAs would be limited to designated roads, ways, and trails. Cherrystem roads would be available for use. The effects to WSAs would be the same as Alternative C.

Recreation. Roads in the CMPA would not be closed, so recreationists would not be displaced. Overall recreation use would affect WSAs and wilderness values through more vehicle use of ways and cherrystem roads, continued use of existing dispersed sites, and development of new dispersed sites. Development of recreation facilities near WSAs would increase use in those areas, possibly affecting wilderness values.

4.23.3.6 Alternative E

Direct Effects

The direct effects from this alternative would be the same as Alternative B.

Indirect Effects

Grazing Management. Livestock grazing and range improvements would be maximized throughout the Planning Area and would affect wilderness values in the WSAs the most. Nevertheless, the WSA IMP must still be followed for any proposed range development in the WSAs.

Wildland Fire Management. Wildland fire management would result in the same effects to WSAs as Alternative A.

Off-Highway Vehicles. CMPA WSAs would be designated as limited to designated roads, ways, and trails. AMU WSAs would be designated as limited to existing roads, ways and trails. This would allow the greatest amount of use and could result in the greatest effects to the WSAs. Wilderness values of naturalness, solitude, and primitive and unconfined recreation would be affected by the presence, tracks, and sounds of OHVs and mechanized vehicles both legally and in trespass. With any indication that degradation would be occurring or that wilderness values may be compromised, the OHV and mechanized vehicle use designations would be reviewed and adjusted as necessary.

Recreation. Roads in the CMPA would not be closed, so recreationists would not be displaced. Overall increased recreation use would affect WSAs and wilderness values through more vehicle use of ways and cherrystem roads, heavier use of existing dispersed sites, and development of new dispersed sites. Development of recreation facilities near WSAs would increase use in those areas, possibly affecting wilderness values.

4.23.4 Summary of Effects

Alternative A would protect wilderness values in the existing WSAs at the current level. Alternatives B through E would protect wilderness values in the existing WSAs as well as the acquired lands that would be added to the WSAs. Protection would be greatest under Alternative B, which has the most restrictions on use. The level of protection decreases from Alternatives B through E. Alternative E would promote the maximum use and visitation allowed and would provide the least protection of wilderness values. Nevertheless, all uses and/or activities must meet the WSA IMP nonimpairment criteria; therefore, the level of effects from all alternatives would be limited.

4.23.5 Cumulative Effects

The addition of acquired lands to the existing WSAs, as proposed in Alternatives B through E, would protect wilderness characteristics and values. Management of existing WSAs and any WSA additions would be guided by the WSA IMP.

4.24 Wild and Scenic Rivers

4.24.1 Goals and Objectives

Goal 1 - Manage the existing and newly designated WSRs in conformance with the WSR Act and the Wilderness Act.

Objective 1. Protect and enhance the ORVs of the designated WSRs.

Goal 2 - Determine the suitability of eligible WSRs. Manage those rivers found suitable in conformance with BLM Manual 8351 (Wild and Scenic Rivers - Policy and Program Direction for Identification, Evaluation, and Management) for protective management of eligible and suitable WSRs.

Objective 1. Protect and enhance the ORVs of rivers determined by Congress to be administratively suitable for potential inclusion in the National WSR system.

4.24.2 Assumptions

Nearly all existing WSRs are within the wilderness boundary. In the case of conflict with the provisions of both the Wilderness Act and WSR Act the more restrictive provisions would apply. Wilderness or WSAs are managed for nondegradation,, which would protect many ORVs in areas under this type of management. WSRs are managed to protect (nondegradation) and enhance ORVs and could in some instances be more restrictive on implementing certain management actions, which may enhance the ORVs beyond those under management of just the Wilderness Act only. Protection of beneficial uses in streams listed on the 303(d) list would protect ORVs in these areas that are dependent on riparian habitat, such as fish and wildlife habitat or riparian plants. Management in the No Livestock Grazing Area would also protect ORVs associated with upland and riparian vegetation, such as fish and wildlife habitat, or upland and riparian plants. Since there are no valid existing rights or grandfathered rights for minerals activities in the existing WSRs, no locatable, leasable or saleable mineral exploration or development activities are authorized.

4.24.3 Analysis of Alternatives

4.24.3.1 Effects Common to All Alternatives

Direct Effects

An integrated WSR/Wilderness Management Plan would be developed for all WSRs in the CMPA and the Steens Mountain Wilderness. The primary objective of this management plan would be to protect and enhance the ORVs of WSRs in the CMPA and the Steens Mountain Wilderness.

4.24.3.2 Alternative A

Direct Effects

All rivers currently eligible for inclusion in the WSR system would continue to be managed in conformance with BLM Manual 8351 for protective management of eligible WSRs. The identified ORVs for each eligible river would be afforded adequate protection, subject to valid existing rights, and until the eligibility determination would be superseded, management activities and authorized uses would not be allowed to adversely affect either eligibility or the tentative classification. This may include restrictions on grazing management, recreational use, and mineral or energy development.

Indirect Effects

For indirect effects discussions refer to Chapter 4, Indirect Effects under the Wilderness and Recreation headings.

4.24.3.3 Alternative B

Direct Effects

No eligible rivers would be recommended by Congress as administratively suitable for potential designation as WSRs. These rivers would be managed in accordance with RMP management objectives instead of in conformance with BLM Manual 8351 for protective management of eligible WSRs. Prior to the Steens Act, administrative suitability was analyzed for all of these streams, and all were found not suitable (Appendix N). For some of the streams, ownership patterns would not allow for effective management as WSRs. In other cases, fish and wildlife habitat, vegetation, or scenic ORVs were found to be protected by BLM management at the time of the suitability determination, such as ACECs or RNAs, or WSAs, or protection of federally listed aquatic species or species of special concern.

Since the suitability determinations, the passage of the Steens Act resulted in additional management requirements for many of the rivers. Most eligible rivers would be at least partially within the CMPA and the No Livestock Grazing Area, the mineral withdrawal area, the Steens Mountain Wilderness, or WSAs. Also, several of the rivers have been listed on the 303(d) list for summer water temperature, and would be subject to WQRPs. These management requirements would provide additional protection for ORVs, especially those associated with riparian and upland vegetation or fish and wildlife habitat.

Indirect Effects

For indirect effects discussions refer to Chapter 4, Indirect Effects under the Wilderness and Recreation headings.

4.24.3.4 Alternative C

Direct Effects

All eligible rivers would be recommended by Congress as administratively suitable for potential designation as WSRs. All rivers found suitable for inclusion in the WSR system would be managed in conformance with BLM Manual 8351 as if it were a designated WSR until Congress acts on whether or not to add these rivers to the National WSR system. All suitable rivers would be administered in such a manner as to protect and enhance their ORVs. This may include restrictions on grazing management, recreational use, and mineral or energy development within the river corridor boundary.

Indirect Effects

For indirect effects discussions refer to Chapter 4, Indirect Effects under the Wilderness and Recreation headings.

4.24.3.5 Alternative D

Direct Effects

Under this alternative, a recommendation to Congress would be made to reclassify the Riddle Brothers Ranch Historic District, and the Page Springs and Jackman Park campgrounds from wild to recreational, and change the classification of the Blitzen Crossing to scenic. Changing the classification would be unlikely to affect ORVs identified for the Donner und Blitzen River, and may possibly increase protective management and correct safety concerns, such as installing a accessible toilet to contain human waste, etc. The Riddle Brothers Ranch Historic District, Page Springs Campground, and the Blitzen Crossing areas are all within the No Livestock Grazing Area, which would restrict or curtail activities that could affect ORVs in these areas. All of the streams listed in these areas would be on the 303(d) list for summer water temperature. WQRPs would be developed, promoting protection of ORVs associated with riparian and upland vegetation, and fish and wildlife habitat.

As in Alternative B, no eligible rivers would be recommended as administratively suitable for potential designation as WSRs by Congress, with the same effects.

Indirect Effects

For indirect effects discussions refer to Chapter 4, Indirect Effects under the Wilderness and Recreation headings.

4.24.3.6 Alternative E

Direct Effects

As in Alternative D, the wild classification of the Riddle Brothers Ranch Historic District, and the Page Springs and Jackman Park campgrounds would be recommended to Congress to be changed to recreational, and the Blitzen Crossing changed to scenic, with the same effects.

As in Alternatives B and D, no eligible rivers would be recommended as administratively suitable for potential designation as WSRs by Congress, with the same effects.

Indirect Effects

For indirect effects discussions refer to Chapter 4, Indirect Effects under the Wilderness and Recreation headings.

4.24.4 Summary of Effects

Under Alternatives D and E, the wild classifications of some locations within the Donner und Blitzen WSR would be recommended to Congress to be changed to recreational or scenic. These areas currently contain some level of development, but additional activities that could affect ORVs would be unlikely due to other management requirements in these areas, such as the Steens Mountain Wilderness, WSAs, the No Livestock Grazing Area, the mineral withdrawal area, or water quality limitations.

Under Alternative C, eligible rivers would be recommended to Congress as administratively suitable for potential designation as WSRs. All rivers found suitable for inclusion in the WSR system would be managed in conformance with BLM Manual 8351 as if it were a designated WSR until Congress acts on whether or not to add these rivers into the National WSR system. All suitable rivers would be administered in such a manner as to protect and enhance their ORVs. This action may include restrictions on grazing management, recreational use, and mineral or energy development within the river corridor boundary.

4.24.5 Cumulative Effects

Past management practices, such as intensive livestock grazing, mineral exploration, or water development, have affected water quality, fish and wildlife habitat, or other ORVs in WSRs. Increasing BLM management emphasis on PFC in riparian communities, and improved watershed and ecological function in range and upland communities has promoted the maintenance and restoration of habitat, thereby protecting ORVs. Recent land management emphasis such as wilderness or WSAs, especially since the passage of the Steens Act, and requirements of water quality protection further promote maintenance and restoration of both riparian and upland vegetation communities and habitat throughout designated and eligible WSRs, resulting in substantial future protection for ORVs.

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United States Department of the Interior
Bureau of Land Management

Burns District Office
28910 Highway 20 West
Hines, Oregon 97738

August 2003

Draft Resource Management Plan and Environmental Impact Statement

Volume 2 [of 2] - *Chapters 5 and 6, Appendices, and Maps*

Andrews Management Unit/Steens Mountain Cooperative Management and Protection Area

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. Administration.

Photo of Pueblo Mountain by Mark Armstrong

**DRAFT ANDREWS MANAGEMENT UNIT/
STEENS MOUNTAIN COOPERATIVE MANAGEMENT AND
PROTECTION AREA RESOURCE MANAGEMENT PLAN AND
ENVIRONMENTAL IMPACT STATEMENT**

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ABBREVIATIONS AND ACRONYM S

Reader note: *Refer to the list below for abbreviations or acronyms that may be used in this document.*

ACRONYM	DEFINITION
ACECs	Areas of Critical Environmental Concern
AML	Appropriate Management Level
AMP	Allotment Management Plan
AMS	Analysis of the Management Situation
AMU	Andrews Management Unit / The Planning Area outside of the Steens Mountain CMPA
Andrews RA	Andrews Resource Area
APHIS	Agricultural Plant and Animal Health Inspection Service
AUM	Animal Unit Month
BCB	Back Country Byway
BLM	Bureau of Land Management
BMPs	Best Management Practices
Burns DO	Burns District Office
CAA	Clean Air Act
CCD	Census County Divisions
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMPA	Steens Mountain Cooperative Management and Protection Area
CWA	Clean Water Act
DEQ	Oregon Department of Environmental Quality
DRC	Desired Range of Conditions
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERMA	Extensive Recreation Management Areas
ESA	Endangered Species Act
ESI	Ecological Site Inventory
FAR	Functional At Risk
FLPMA	Federal Land Policy and Management Act
FMP	Fire Management Plan
GIS	Geographic Information System
HMAs	Herd Management Areas
HUC	Hydrologic Unit Codes
ICBEMP	Interior Columbia Basin Ecosystem Management Project
ID Team	BLM interdisciplinary team
IMP	Steens Mountain CMPA Interim Management Policy
Andrews MFP	Andrews Management Framework Plan
MOAs	Memorandums of Agreement
MOU	Memorandum of Understanding
NEA	Northwest Economic Associates
NEPA	National Environmental Policy Act
NSO	No surface occupancy
ODA	Oregon Department of Agriculture
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
OHV	Off-highway vehicle
ONHP	Oregon Natural Heritage Database Program
ORV	Outstandingly Remarkable Values
OWRD	Oregon Water Resources Department
PFC	Proper functioning condition
PILT	Payment In Lieu of Taxes
Planning Area	The Entire Andrews Ra and the Portion of the Three Rivers Resource Area within the Steens Mountain CMPA
PNC	Potential Natural Community
PRIA	Public Rangelands Improvement Act of 1978

Protocol	USFS and BLM protocol for addressing CWA Section 303(d) listed waters (1998)
R&PP	Recreation & Public Purpose
RAC	Southeast Oregon Resource Advisory Council
RCA	Riparian Conservation Area
RMP	Resource Management Plan
RNA	Research Natural Area
ROD	Record of Decision
ROW	right-of-way
RTR	Donner Und Blitzen Redband Trout Reserve
S&Gs	Standards and Guidelines
SBR	subbasin review
SEORMP	Southeastern Oregon Resource Management Plan
SIP	State Implementation Plan
SMAC	Steens Mountain Advisory Council
SRMA	Special Recreation Management Areas
SRP	Special Recreation Permit
Steens Act	The Steens Mountain Cooperative Management and Protection Act of 2000
Steens Loop	Steens Mountain Loop Road
T&E	Threatened and Endangered Species
Three Rivers RA	Three Rivers Resource Area
TMDL	Total Maximum Daily Loads
TNC	The Nature Conservancy
TNR	Temporary Nonrenewable
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRM	Visual Resource Management
WIS	Wilderness Information Specialist
WJMA	Wildland Juniper Management Area
WQRP	Water Quality Restoration Plan
WSA IMP	Interim Management Policy for Lands Under Wilderness Review
WSAs	Wilderness Study Areas
WSR	Wild and Scenic River
WSR Act	Wild and Scenic Rivers Act
WUI	Wildland urban interface
ybp	years before present

5 CONSULTATION, COORDINATION AND LIST OF PREPARERS

5.1 Introduction

This RMP/EIS was prepared by an ID team of resource specialists from the Burns District Office. Preparation of the SEORMP was initiated by the Vale and Burns Districts of the BLM, which initially included the Andrews RA. However, as a result of the Steens Act, the Burns District deemed it appropriate to separate the Andrews RA from the SEORMP and develop a separate plan in order to address changes in land management resulting from mandates of the Steens Act. The planning process began in early 2001 with the writing of the Preparation Plan. A consulting firm was hired in September 2001 to assist BLM in the writing of the RMP/EIS. Training of the ID core team occurred in February 2002.

5.2 Public Participation

The official start of the preparation of the AMU/Steens Mountain CMPA RMP/EIS was initiated with the publishing of a "Notice of Intent" to prepare an RMP/EIS in the *Federal Register* on December 6, 2001. This notice also included an invitation to the public to suggest issues to be addressed in the RMP and to provide comments concerning the management of public lands. In addition, 1,220 scoping packets providing information about the planning process, outlining the planning schedule, and requesting comments were mailed to individuals, organizations, and agencies. Additional copies of the scoping brochure were made available at the four scoping meetings. News releases and requests for publication or announcement were mailed to 19 media groups including the Burns Times Herald, The Bulletin, The Oregonian, and KZZR Radio. BLM representatives attended meetings with the Harney County Court to inform them of the RMP/EIS and to encourage them to make comments, request information, and generally be involved in the process. The same information was distributed to the Burns Paiute Tribal Government. The "Notice of Intent," news releases, and other mailings identified the beginning of the EIS scoping period and the location, date, and time of the public scoping meetings. The comment period extended from February through March 2002.

A SBR was conducted prior to completing the AMS or the public scoping. The SBR was a multi-agency collaborative effort to "step down" to the local level the findings and assessments of the ICBEMP. The ICBEMP was established in 1994 to develop and then adopt a scientifically sound ecosystem-based strategy for managing all USFS or BLM administered lands within the interior Columbia Basin. In other words, did the findings from the ICBEMP have any meaning to the Planning Areas? The SBR group determined that many of them did, and these were incorporated into the issues addressed in this plan (Appendix B).

The AMS Summary was prepared after the SBR and mailed to members of the public, local and tribal governments, other federal agencies, and state agencies. It contained a description of the preliminary issues, alternatives, and planning criteria, as well as the resource area profile, existing management situation, and management opportunities. A followup newsletter outlining the primary comments was then mailed to 257 individuals in July 2002. An additional 143 copies of the AMS Summary were sent to interested individuals and organizations by request. The full version of the AMS was published and made available to the public in July 2002.

The public scoping meetings were held in the following cities on the dates listed and with the stated number of attendees.

Burns, Oregon	February 27, 2002	15 attended
Frenchglen, Oregon	March 4, 2002	17 attended
Bend, Oregon	March 6, 2002	55 attended
Portland, Oregon	March 7, 2002	23 attended

As a result of the public scoping meetings, a total of 2,313 scoping letters were received. These included 1,844 letters comprised of three different form letters and 469 letters which included versions of the form letters with supplemental comments added. Each comment was summarized and included in a comment table, which is available for public review at the BLM Burns District Office during normal business hours. A total of 3,601 comments were identified, and were sorted into 23 categories. A memorandum and table summarizing the comments received are included in Appendix C. These comments were incorporated into the alternatives and the impact analysis of this RMP/EIS. In addition to public scoping meetings, a number of meetings were conducted with collaborating agencies and other interested parties. Table 5.1 summarizes the key public involvement events.

Table 5.1: Summary of Key Public Involvement Events

Date	Event
10/22/01	SMAC meeting, Hines, Oregon.
12/6/01	Notice of Intent to prepare RMP published in *Federal Register*.
12/17-18/02	SMAC meeting, Hines, Oregon.
1/8/02	Mailed letter to Burns Paiute Tribe requesting time on the Tribal Council agenda to discuss the RMP and an MOU between BLM and the Burns Paiute Tribe.
1/24-25/02	SMAC meeting, Hines, Oregon.
2/02	Scoping brochure mailed to approximately 1220 individuals, organizations, and agencies.
2/15/02	Issued a press release announcing upcoming public scoping meetings.
2/27/02	Public Scoping Meeting, Burns, Oregon (15 attendees).
2/28-3/1/02	SMAC meeting, Hines, Oregon.
3/4/02	Public Scoping Meeting, Frenchglen, Oregon (17 attendees).
3/6/02	Public Scoping Meeting, Bend, Oregon (55 attendees).
3/7/02	Public Scoping Meeting, Bend, Oregon (23 attendees).
4/3/02	Met with the Burns Paiute Tribal Council to discuss the possibility of the Burns Paiute Tribe becoming a cooperating agency and other planning related issues.
4/4-5/02	SMAC meeting, Hines, Oregon.
5/13/02	Meeting with cooperating agencies and the BLM ID team.
6/13-14/02	SMAC meeting, Hines, Oregon.
6/17/02	Meeting with Malheur NWR, DEQ, Burns Paiute Tribe, Harney County Court, Burns City Manager, and BLM ID team.
7/02/02	RMP Newsletter mailed to the public and distributed to Hines City Hall, Burns City Hall, Harney County Courthouse, Narrows Store and RV Park, Princeton Post Office, Frenchglen Post Office, Denio Post Office, Fields Store, and Emigrant Creek Ranger District.
7/1/02	Meeting with Malheur NWR, DEQ, Burns Paiute Tribe and BLM ID team.
7/8/02	E-mail message to cooperating agencies regarding time frames, upcoming meeting and newsletter.
7/20/02	Issued a press release announcing the availability of an RMP Newsletter.
7/25/02	Provided cooperating agencies with management actions.
7/29/02	Meeting with Burns Paiute Tribe, Malheur NWR, USFWS Department of Ecological Services, Burns City Manager, and BLM ID team.
8/14/02	Provided core team meeting notes to cooperating agencies.
8/15-16/02	SMAC meeting, Frenchglen, Oregon.
8/19/02	Meeting with Malheur NWR, USFWS Department of Ecological Services, Burns City Manager, and BLM ID team.

Date	Event
10/21-22/02	SMAC meeting, Bend, Oregon.
10/31/02	Press Release issued announcing the availability of the complete AMS.
12/2-3/02	SMAC meeting, Hines, Oregon.
12/11/02	Met with City of Hines, Pamela Mather, and discussed the RMP process and the possibility of the City becoming a cooperating agency. A copy of the AMS was also delivered.
1/13/03	Attended the Hines City Council meeting to update them on the RMP process and the possibility of the City becoming a cooperating agency.
1/23-24/03	SMAC meeting, Hines, Oregon.
1/28/03	Letters to permittees informing them of a WSA proposal and asking for assistance in identifying range improvements, trails, roads, and mining disturbance.
2/26/03	Mailed Chapters 1 and 3 and Chapter 2 Summary Table to SMAC and cooperating agencies for an internal review. Copies hand delivered to City of Hines, City of Burns, Harney County Court, and ODFW.
3/3-4/03	SMAC meeting, Hines, Oregon.
3/27/03	Meeting with Harney County Court regarding management actions.
4/2/03	Meeting with Harney County Court and City of Burns regarding management actions.
4/9-11/03	SMAC meeting, Hines, Oregon.
4/16/03	Meeting with Harney County Court regarding management actions.
4/21/03	Letter to SEORAC notifying them the Preliminary Draft RMP would be available the first week in May.
4/23/03	Conference call with State Office Staff.
4/30/03	Preliminary Draft RMP mailed by contractor to SEORAC, SMAC, cooperating agencies, Oregon State Office, and Burns District Office.
5/8-9/03	SMAC meeting, Hines, Oregon
6/5-6/03	SMAC meeting, Hines, Oregon. Comments were provided by City of Burns, Harney County Court, Community Response Team, and Chamber of Commerce regarding Social and Economic Values.
6/17/03	District staff met with Malheur NWR.
6/23/03	District staff met with the ODFW regarding Redband Trout Reserve.

5.2.1 Tribal Participation

Burns Paiute Tribal Council

5.2.2 Agencies and Organizations Contacted or Consulted

City of Hines
City of Burns
Harney County Chamber of Commerce
Harney County Court
Lakeview District Office

Oregon Department of Environmental Quality
Oregon Department of Water Resources
Oregon Department of Fish and Wildlife
Southeast Oregon Resource Advisory Council
Steens Mountain Advisory Council
U.S. Fish and Wildlife Service, Ecological Services
U.S. Fish and Wildlife Service, Malheur National Wildlife Refuge
Vale District Office

5.2.3 Agencies, Organizations, and Individuals on Mailing List

The BLM mailed the public scoping packet to approximately 1,220 agencies, organizations, and individuals. The "Summary of the Analysis of the Management Situation" was mailed to approximately 208 people and the complete AMS was mailed to approximately 64 people. The following is a list of the officials, tribal groups, agencies, and organizations to which a copy of this draft RMP/EIS was sent. The list of individuals on the mailing list is not included.

Elected Officials

U.S. Senator Ron Wyden
U. S. Senator Gordon Smith
Congressman Greg Walden
Governor Ted Kulongoski
Harney County Judge Steve Grasty

Tribal Groups

Burns Paiute Tribal Council
Confederated Tribes of the Warm Springs Reservation
Fort McDermitt Tribal Council
Klamath Tribes

Agencies

U.S. Fish and Wildlife Service, Ecological Services, Central Oregon Field Office
U.S. Fish and Wildlife Service, Malheur National Wildlife Refuge
U.S. Fish and Wildlife Service, Oregon State Office
Oregon Department of Fish and Wildlife
U.S. Environmental Protection Agency
Oregon Department of Transportation
Department of Land Conservation and Development
Federal Energy Regulatory Commission
Fremont National Forest
Harney County Chamber of Commerce
Harney County Library
Harney County Soil and Water Conservation District
Harney County Planning Department
National Landscape Conservation System
Oregon Department of Geology and Mineral Industries
Oregon Division of State Lands
Oregon State Parks Department
Oregon Natural Resources Council
Animal and Plant Health Inspection Service
U.S. Forest Service, Emigrant Ranger Station
U.S. Forest Service, Malheur National Forest
Eastern Oregon Agricultural Research Center
Natural Resources Conservation Service
Bonneville Power Administration

BLM - Coos Bay District Office
BLM - Lakeview District Office
BLM - Medford District Office
BLM - Oregon State Office
BLM - Prineville District Office
BLM - Salem District Office
BLM - Eugene District Office
BLM - Roseburg District Office
BLM - Spokane District Office
BLM - Vale District Office
Bureau of Reclamation

Organizations

American Alpine Club
Animal Protection Institute
Association of Oregon and California Counties
Central Washington University
Eastern Oregon Sportsmen Association
Evergreen State College
Frenchglen School Board
Frenchglen Community Club
The Fund for Animals, Inc.
Geyser Observation and Study Association
Harney Electric Cooperative
High Desert Outfitters
Hunters for Conservation
Izaak Walton League
National Wildlife Federation
The Nature Conservancy
Northwest Coalition for Alternative to Pesticides
Oregon Cattlemen's Association
Oregon Equestrian Trails
Oregon Farm Bureau
Oregon Guides and Packers
Oregon Llamas
Oregon Natural Desert Association
Oregon Grotto
Oregon Hunter's Association
Oregon State Snowmobile Association, Inc.
Pacific Rivers Council
Portland State University
Sierra Club
Steens Mountain Club
University of Oregon Library
Waterwatch
Water for Life
Western Lands Exchange Project
WHOA
Wild Wilderness
Wilderness Society
Wilderness Watch
Wildlife Management Institute

5.3 List of Preparers

5.3.1 Bureau of Land Management EIS Team

Team Member	Resource
Gary Foulkes*	Project Lead, Environmental Justice, Air Quality, Socioeconomics
Rick Hall*	ACECs, Special Status Species - Flora, Vegetation/Rangelands/Grazing Management
Doug Linn	Soils and Biological Crusts
Scott Thomas	Cultural, Paleontology, Native American Concerns
Lesley Richman	Noxious Weeds
Jeff Rose	Woodlands/WJMA, Fire Management
Carolyn Freeborn*	Management Representative, Grazing Management
Cam Swisher	Grazing Management
Dave Ward	Grazing Management
Bill Anderson	Grazing Management
Manny Berain	Grazing Management
Jon Collins*	Wild and Scenic Rivers
John Neeling*	Wilderness
Evelyn Treiman*	Recreation, OHVs,, Visual Resources, Wilderness Study Areas, National Trails
Mark Sherbourne	Transportation
Skip Renchler	Utility/Communication Corridors, Cadastral/Land/Realty, Renewable Energy
Matt Obradovich*	Wildlife, Special Status Species - Fauna, Wetlands, Animal Damage Control, Wild Horses, Riparian Areas
Darren Brumback*	Fisheries, Redband Trout Reserve, Water Resources, Riparian Areas
Dean Bolstad	Wild Horses
Cindy Weston	Fisheries, Water Resources, Riparian Areas
Kelly Hazen*	Geographical Information System
Pam Keller	Geographical Information System
Rhonda Karges*	SMAC/Management Support
Terri Geisler	Minerals/Geology, Renewable Energy

*Core Team Member

5.3.2 Enviroscientists, Inc. RMP/EIS Team

Team Member	**Resource**
Richard DeLong	Project Manager, Air Quality, Environmental Justice
Opal Adams	Assistant Project Manager, Energy and Minerals, Geology, Paleontology, Visual Resource Management
Jennifer Thies	Project Coordinator, Lands and Realty, Transportation and Roads, Off-Highway Vehicles, Social and Economic Values, Recreation, Wilderness, Wilderness Study Areas
Adrian Juncosa	Grazing, Rangelands, Fire
Susan Fox	Wildlife, Wild Horses and Burros, Special Status Animal Species
Matt Kiesse	Fisheries, Special Status Fish Species, Redband Trout Reserve, Wild and Scenic Rivers, Water Resources
Joan Reynolds	Vegetation, Soils, Special Status Plant Species, Noxious Weeds, Riparian Areas/Wetlands
Dr. Robert Vierra	Cultural Resources, Native American Traditional Values

5.3.3 Cooperating Agencies

USFWS, Ecological Services
USFWS, Malheur National Wildlife Refuge
Burns Paiute Tribe
Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Harney County Court
City of Burns
City of Hines

6 GLOSSARY, REFERENCES, AND INDEX

6.1 Glossary

A

Adaptive Management – A type of natural resource management in which decisions are made as part of an ongoing process. Adaptive management involves testing, monitoring, evaluation, and incorporating new knowledge into management approaches based on scientific findings and the needs of society. Results are used to modify management policy.

Advanced ecological status –

Allotment – A specific portion of public land allocated for livestock grazing, typically with identifiable or fenced boundaries and permitted for a specified number of livestock.

Allotment (grazing) – Area designated for the use of a certain number and kind of livestock for a prescribed period of time.

Allotment Management Plan (AMP) – A plan for managing livestock grazing on specified public land.

Analysis of the Management Situation (AMS) – Step 4 of the BLM's land use planning project. It is a comprehensive documentation of the present conditions of the resources, current management guidance, and opportunities for change.

Animal unit – One cow, one cow/calf pair, one horse, or five sheep.

Animal Unit Month (AUM) – The forage needed to support one cow, one cow/calf pair, one horse, or five sheep for one month. Approximately 800 pounds of forage.

Appropriate Management Level (AML) – An established population range that represents the number of animals that the designated HMA can sustain and that results in a thriving natural ecological balance with other uses and resources common to the area and avoids deterioration of the public range.

Area of Critical Environmental Concern (ACEC) – Area where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect humans from natural hazards.

Avoidance Areas – Areas with sensitive resource values where rights-of-way and Land Use Authorizations would be strongly discouraged. Authorizations made in avoidance areas would have to be compatible with the purpose for which the area was designated and not be otherwise feasible outside the avoidance area.

B

Basalt – A dark, heavy, fine-grained silica-poor igneous rock composed largely of iron and magnesium minerals and calcium-rich plagioclase feldspars.

Basin (river) – In general, the area of land that drains water, sediment, and dissolved materials to a common point along a stream channel. River basins are composed of large river systems. In this EIS, the term refers to the equivalent of a third field hydrologic unit code, an area of about nine million acres, such as the Salmon River basin. It also is used to refer in general to the Interior Columbia River Basin.

Best Management Practices (BMPs) – A set of practices which, when applied during implementation of management actions, ensures that negative impacts to natural resources are minimized. BMPs are applied based on site-specific evaluation and represent the most effective and practical means to achieve management goals for a given site.

Biological Soil Crust - Lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing on or just below the surface of soils.

Bureau of Land Management (BLM) – Government agency with the mandate to manage federal lands under its jurisdiction for multiple uses.

BLM assessment species – Plant and animal species on List 2 of the Oregon Natural Heritage Data Base, or those species on the Oregon List of Sensitive Wildlife Species (OAR 635-100-040) that are identified in BLM Instruction Memo OR-91-57 and are not included as federal candidate, state listed, or BLM sensitive species.

BLM sensitive species – Plant or animal species eligible for federal listed, federal candidate, state listed, or state candidate (plant) status, or on List 1 in the Oregon Natural Heritage Data Base, or approved for this category by the BLM State Director.

BLM tracking species – Plant and animal species on List 3 and 4 of the Oregon Natural Heritage Data Base, or those species on the Oregon List of Sensitive Wildlife Species (OAR 635-100-040) that are identified in BLM Instruction Memo OR-91-57 and are not included as federal candidate, state listed, BLM sensitive, or BLM assessment species.

C

Candidate Species – Any species included in the Federal Register Notice of Review that are being considered for listing as threatened or endangered by the US Fish and Wildlife Service.

Canopy – In a forest, the branches from the uppermost layer of trees; on rangeland, the vertical projection downward of the aerial portion of vegetation.

Classification – A process required by law for determining the suitability of public lands for certain types of disposal or lease under the public land laws or for retention in public ownership.

Climax vegetation – The stabilized plant community on a particular site. The plant cover reproduces itself and does not change as long as the environment remains the same.

Colluvium – Soil material, rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Commodities – Goods and services produced by industries.

Community – A group of species of plants and/or animals living and interacting at a particular time and place; a group of people residing in the same place and under the same government.

Consultation – (1) An active, affirmative process that (a) identifies issues and seeks input from appropriate American Indian governments, community groups, and individuals; and (b) considers their interests as a necessary and integral part of the BLM's and Forest Service's decision-making process. (2) The Federal Government has a legal obligation to consult with American Indian Tribes. This legal obligation is based in such laws as the Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act, and numerous other Executive Orders and statutes. This legal responsibility is, through consultation, to consider Indian interests and account for those interests in the decision. (3) The term also refers to a requirement under Section 7 of the ESA for federal agencies to consult with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service with regard to federal actions that may affect listed threatened and endangered species or critical habitat.

Corridor (landscape) – Landscape elements that connect similar patches of habitat through an area with different characteristics. For example, streamside vegetation may create a corridor of willows and hardwoods between meadows or through a forest.

Custodial management – Management of a group of similar allotments with minimal expenditure of appropriated funds to continue protecting existing resource values.

D

Deep soil – A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Developed recreation – Recreation that requires facilities which in turn result in concentrated use of an area; for example, a campground.

Dispersed recreation – Recreation that does not occur in a developed recreation site; for example, hunting or backpacking.

Disturbance – Refers to events that alter the structure, composition, or function of terrestrial or aquatic habitats. Natural disturbances include, among others, drought, floods, wind, fires, wildlife grazing, insects, and pathogens. Human-caused disturbances include actions such as timber harvest, livestock grazing, roads, and the introduction of exotic species.

E

Ecological Site Inventory (ESI) – The basic inventory of present and potential vegetation on BLM rangelands. Ecological sites are differentiated on the basis of the kind, proportion, or amount of plant species.

Ecological status – The present state of vegetation of a range site in relation to the potential natural community for that site. Four classes are used to express the degree to which the production or composition of the present plant community reflects that of the potential natural community (climax):

Ecological Status (Seral stage)
Percent of Community in Climax Condition:

Potential natural community	76-100
Late seral	51-75
Mid-seral	26-50
Early seral	0-25

Ecosystem – A complete, interacting system of living organisms and the land and water that make up their environment; the home places of all living things, including humans.

Ecosystem Management – The use of a "whole-landscape" approach to achieve multiple-use management of public lands by blending the needs of people and environmental values in such a way that these lands represent diverse, healthy, productive, and sustainable ecosystems.

Endangered Species – Any species defined under the Endangered Species Act (ESA) as being in danger of extinction throughout all or a significant portion of its range. Listings are published in the Federal Register.

Environmental Assessment (EA) – One type of document prepared by federal agencies in compliance with the National Environmental Policy Act (NEPA) which portrays the environmental consequences of proposed federal actions which are not expected to have significant impacts on the human environment.

Environmental Impact Statement (EIS) – One type of document prepared by federal agencies in compliance with the National Environmental Policy Act (NEPA) which portrays the environmental consequences of proposed major federal actions expected to have significant impacts on the human environment.

Ephemeral stream – A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no continuous supply from melting snow or other source, and its channel is above the water table at all times.

Exclusion Areas – Areas with sensitive resource values where rights-of-way and land use authorizations would not be authorized.

Existing Management Situation – A component of the Analysis of the Management Situation; a description of the existing management direction government resource management programs of a Planning Area.

Extensive Recreation Management Area (ERMA) – Area where recreation is unstructured and dispersed with minimal regulatory constraints and where minimal recreation-related investments are required.

F

Federal Land Policy and Management Act of 1976 (FLPMA) – Law mandating that the BLM manage lands under its jurisdiction for multiple uses. Establishes guidelines for its administration; and provides for the management, protection, development, and enhancement of the public lands, among other provisions.

Fire Management Plan (FMP) – A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational procedures such as preparedness plans, preplanned dispatch plans, prescribed fire plans and prevention plans.

Fire regime – The characteristics of fire in a given ecosystem, such as the frequency, predictability, intensity, and seasonality of fire.

Fire return interval – The number of years between fire events for a specified area.

Flood plain – A nearly level alluvial plain that borders a stream and is subject to inundation under flood-stage conditions unless protected artificially. It is usually a constructional landform built of sediment deposited during overflow and lateral migration of the stream.

Forb – Any herbaceous plant not a grass or a grasslike species. Broad-leafed plants; includes plants that commonly are called weeds or wildflowers.

Functional at Risk (FAR) - Riparian/Wetland areas that are in functional condition but an existing soil, water, or vegetation attribute makes them susceptible to degradation.

G

Geographic Information System (GIS) – An information processing technology to input, store, manipulate, analyze, and display data; a system of computer maps with corresponding site-specific information that can be combined electronically to provide reports and maps.

H

Herd Area – A geographic area identified as having provided habitat for a wild horse herd in 1971.

Herd Management Area (HMA) – A geographic area identified in a Management Framework Plan or Resource Management Plan for the long-term management of a wild horse herd.

Herd Management Area Plan – A plan that prescribes measures for the protection, management, and control of wild horses and their habitat on one or more HMAs, in conformance with decisions made in approved Management Framework or Resource Management Plans.

Hydrologic Unit Code (HUC) – A coding system developed by the U.S. Geological Service to map geographic boundaries of watersheds of various sizes.

Hydrothermal deposit – A mineral deposit formed by hot mineral-laden fluids.

I

Incident commander – Individual responsible for the management of all incident (fire) operations.

Intermittent stream – A stream, or reach of a stream, that flows for prolonged periods only when it receives groundwater discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Interior Columbia River Basin Ecosystem Management Project (ICBEMP) – An on-going project examining the effects (on a large regional scale) of past and present land use activities on the Interior Columbia River Basin ecosystem and a small part of the Great Basin ecosystem.

Interior drainage – Streams with no outlet to the sea.

J

K

Known Geothermal Resource Area – "An area in which the geology, nearby discoveries, competitive interest, or other indicia would, in the opinion of the Secretary, engender the belief in men who are experienced in the subject matter that the prospect for extraction of geothermal stream or associated geothermal resources are good enough to warrant expenditures or money for that purpose" (43 CFR 3200.0-5(k)).

L

Land Use Authorizations – Those realty related authorizations such as leases, permits, and easements authorized under 43CFR2920 and the R&PP Act. Land use authorizations also include any other authorizations with the exception of rights-of-way (43CFR2800) and Special Recreation Permits (proposed in 43CFR2930) generally contained in 43CFR2000 series of regulations.

Leasable Minerals – Minerals that may be leased to private interests by the federal government including oil, gas, geothermal, coal, and sodium compounds.

Locatable Minerals – Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

M

Management Concern – Procedures or land-use allocations that do not constitute issues but which are recognized, through the RMP/EIS preparation process, as needing modification or decision regarding management direction.

Management Direction – A statement of goals and objectives, management prescriptions, and associated standards and guidelines for attaining them.

Management Framework Plan (MFP) – BLM land use plan, predecessor to the RMP. Older generation of land use plans developed by the BLM. This generation of planning has been replaced by the Resource Management Plan (RMP).

Management Opportunities – A component of the Analysis of the Management Situation; actions or management directions that could be taken to resolve issues or management concerns.

Map unit – The basic system of description in a soil survey and delineation on a soil map. Can vary in level of detail.

Medium textured soil - Very fine sandy loam, loam, silt loam, or silt.

Mechanized vehicle - Any vehicle, device, or contrivance that has moving parts for moving people or material in or over land, water, snow, or air. This includes, but is not limited to, sailboats, sailboards, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. It does not include wheelchairs, horses, or other pack stock, skis, snowshoes, nonmotorized river craft, sleds, travois, or similar devices without moving parts.

Migration corridor – The habitat pathway an animal uses to move from one place to another.

Mineral Estate – Refers to the ownership of minerals at or beneath the surface of the land.

Mitigation – Measures designed to counteract environmental impacts or to make impacts less severe.

Monitoring – The periodic and systematic collection of resource data to measure progress toward achieving objectives.

Monitoring and Evaluation – The collection and analysis of data to evaluate the progress and effectiveness of on-the-ground actions in meeting resource management goals and objectives.

Multiple Use – Management of public land and its resources to best meet various present and future needs of the American people. This means coordinated management of resources and uses to assure the long-term health of the ecosystem.

N

National Environmental Policy Act of 1969 (NEPA) – Law requiring all federal agencies to evaluate the impacts of proposed major federal actions with respect to their significance on the human environment.

National Wildlife Refuge (NWR) – An area administered by the U.S. Fish and Wildlife Service for the purpose of managing certain fish or wildlife species.

Naturalness (a primary wilderness value) – An area that generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable.

Noxious Weed – A plant specified by law as being especially undesirable, troublesome, and difficult to control. A plant species designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or nonnative, new, or not common to the United States. According to the Federal Noxious Weed Act (PL 93-639), a noxious weed is one that causes disease or has other adverse effects on man or his environment and therefore is detrimental to the agriculture and commerce of the United States and to the public health.

O

Objectives (management) – In this EIS, refers to indicators used to measure progress toward attainment of goals. They address short- and long-term actions taken to meet goals and the desired ranges of future conditions.

Off-Highway Vehicle (OHV) – Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding any nonamphibious registered motorboat.

P

Perennial – A plant that lives for three or more years.

Perennial stream – A stream in which water is present during all seasons of the year.

Permeability – The quality of the soil that enables water to move downward through the profile, measured as the number of inches per hour that water moves downward through the saturated soil.

pH value – A numerical designation of acidity and alkalinity in soil. (See Reaction, soil)

Playa Lake – A shallow lake that is seasonally dry. Soils on the lake bottom are usually quite alkaline.

Pluvial – Referring to a period of greater rainfall.

Pluvial Lake – A lake formed during a period of exceptionally high rainfall (e.g., a time of glacial advance during the Pleistocene epoch) and now either extinct or existing as a remnant, such as Lake Bonneville.

Point source pollution – Pollution that comes from a single identifiable source such as a smokestack, a sewer, or a pipe.

Preferred Alternative or Plan – The alternative plan, in the Draft EIS, which the agency has initially selected that best fulfills the agency's statutory mission and responsibilities and offers the most acceptable resolution of the planning issues and management concerns.

Prescribed burning – Controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions which allow the fire to be confined to a predetermined area and at the same time to produce the fire line intensity and rate of spread required to attain planned resource management objectives.

Prescribed fire – Any fire ignited by management actions to meet specific objectives. A written and approved prescribed fire plan must exist, and NEPA requirements must be met prior to ignition.The introduction of fire to an area under regulated conditions for specific management purposes (usually vegetation manipulation).

Prescribed Natural Fire - A naturally ignited fire that is managed for resource benefits. Currently called Wildland Fire Use.

Prescription – Written statement defining objectives to be attained, as well measurable criteria which guide the selection of appropriate management actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social or legal considerations under which the fire will be allowed to burn.

Primary wilderness values – The primary or key wilderness values described in the Wilderness Act by which WSAs and wildernesses are managed to protect and enhance the wilderness resource. Values include roadlessness, naturalness, solitude, primitive and unconfined recreation, and size.

Primitive and unconfined recreation (a primary wilderness value) – nonmotorized and undeveloped types of outdoor recreation activities. Refers to wilderness recreation opportunities such as nature study, hiking, photography, backpacking, fishing, hunting, and other related activities. Does not include the use of motorized vehicles, bicycles, or other mechanized means of travel.

Proper Functioning Condition (PFC) – Riparian-wetland areas achieve Proper Functioning Condition when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows. This thereby reduces erosion and improves water quality; filters sediment, captures bedload, and aids floodplain development; improves floodwater retention and groundwater recharge; develops root masses that stabilize streambanks against cutting action; develops diverse ponding and channel characteristics to provide habitat and water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and supports greater biodiversity. The functioning condition of riparian-wetland areas is a result of the interaction among geology, soil, water, and vegetation.

Public lands – Any land or interest in land owned by the United States and administered by the Secretary of the Interior through the BLM.

Q

R

Rangeland – Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Range site – An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other range sites in kind or proportion of species or total production.

Record of Decision (ROD) – An official document in which a deciding official states the alternative that will be implemented from a prepared Final EIS.

Recreation site – An area where management actions are required to provide a specific recreation setting and activity opportunities, to protect resource values, provide public visitor safety and health, and/or to meet public recreational use demands and recreation partnership commitments. A site may or may not have permanent facilities.

Recreational river – A river or section of a river that is readily accessible by road or railroad. It may have had some development along the shorelines and may have undergone some impoundments or diversions in the past.

Research Natural Area (RNA) – An area where natural processes predominate and which is preserved for research and education. Under current BLM policy, these areas must meet the relevance and importance criteria of ACECs and are designated as ACECs. An area of significant scientific interest that is designated to protect its resource values for scientific research and study.

Resource advisor – Resource specialist responsible to the incident commander for gathering and analyzing information concerning values-at-risk that may be impacted by the fire or fire suppression activities.

Resource Area – The "on-the-ground" management unit of the BLM comprised of BLM administered land within a specific geographic area.

Resource Area Profile – A component of the Analysis of the Management Situation; a description of the current condition, amount, location, use, and demands of the natural resources in a Planning Area.

Resource Management Plan (RMP) – Current generation of land use plans developed by the BLM under the Federal Land Policy and Management Act. Replaces the older generation Management Framework Plans. Provides long-term (up to 20 years) direction for the management of a particular area of land and its resources, usually corresponding to a BLM resource area.

Right-of-way (ROW) – A permit or an easement which authorizes the use of public land for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, reservoirs, etc; also, the reference to the land covered by such an easement or permit.

Right-of-way corridor – A parcel of land that has been identified by law, Secretarial Order, through a land use plan, or by other management decision as being the preferred location for existing and future right-of-way grants and suitable to accommodate one type of right-of-way or one or more rights-of-way which are similar, identical or compatible.

Riparian area – Area with distinctive soil and vegetation between a stream or other body of water and the adjacent upland; includes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation.

Risk assessment – Assessing the chance of fire starting, natural or human-caused, and its potential risk to life, resources and property.

S

Saleable Minerals – High volume, low value mineral resources including common varieties of rock, clay, decorative stone, sand, gravel, and cinder.

Scenic river – A river or section of a river that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.

Scoping – The process of identifying the range of consideration, issues, management concerns, preliminary alternatives, and other components of an environmental impact statement or land-use planning document. It involves both internal and external, or public, involvement.

Section 202 lands – Lands being considered for wilderness designation under Section 202 of the Federal Land Policy and Management Act of 1976.

Sensitive species – Species identified by a Forest Service regional forester or BLM state director for which population viability is a concern either (a) because of significant current or predicted downward trends in population numbers or density, or (b) because of significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

Seral – Refers to the sequence of transitional plant communities during succession. Early-seral refers to plants that are present soon after a disturbance or at the beginning of a new successional process (such as seedling or sapling growth stages in a forest); mid-seral in a forest would refer to pole or medium sawtimber growth stages; late- or old-seral refers to plants present during a later stage of plant community succession (such as mature and old forest stages).

Seral stage –The developmental phase of a forest stand or rangeland with characteristic structure and plant species composition. The rated departure of a plant community from a described Potential Natural Community (PNC) for a specific ecological site. Low-seral stage is an existing plant community which is defined as 0-25 percent comparability to the defined PNC; Mid-seral stage is an existing plant community which has 26-50 percent comparability to the PNC; Late seral stage is 51-75 percent comparable to the PNC; PNC is an existing plant community with 76-100 percent comparability to the defined PNC.

Slope – The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Soil association – A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single soil map unit.

Soil classification – The systematic arrangement of soils into groups or categories on the basis of their characteristics.

Soil compaction – An increase in soil bulk density of 15 percent or more from the undisturbed level.

Soil complex – A map unit of two or more kinds of soils in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping.

Soil Horizon - A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes.

Soil profile – A vertical section of the soil extending through all its horizons and into the parent material.

Soil series - A nationally defined soil type set apart on distinct soil properties that affect use and management. In a soil survey, this includes a group of soils having profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Soil survey – A field investigation resulting in a soil map showing the geographic distribution of various kinds of soil and an accompanying report that describes the soil types and interprets the findings.

Soil texture – The relative proportions of sand, silt, and clay particles in a mass of soil.

Solitude (a primary wilderness value) – The state of being alone or remote from habitations; a lonely, unfrequented, or secluded place. The intent is to evaluate the opportunity for solitude in comparison to habitations of people.

Special Recreation Management Area (SRMA) – An area where recreation is the principal management objective, where intensive recreation management is needed, and where more than minimal recreation-related investments are required.

Special Status species – Plant or animal species known or suspected to be limited in distribution, rare or uncommon within a specific area, and/or vulnerable to activities which may affect their survival. Lists of Special Status species are prepared by knowledgeable specialists through the State of Oregon; the BLM prepares a list of state sensitive species predominantly based on the list prepared biennially by the Oregon Natural Heritage Database Program (ONHP).

Stand – A community of trees occupying a specific area and sufficiently uniform in species, age, spatial arrangement and condition as to be distinguishable from trees on surrounding lands.

State Implementation Plan (SIP) – A document prepared by each state describing existing air quality conditions and measures that will be taken to attain and maintain national ambient air quality standards.

State Listed Species – Any plant or animal species listed by the State of Oregon as threatened or endangered within the state under ORS 496.004, ORS 498.026, or ORS 564.040.

Step-down – The process of applying broad-scale science findings and land use decisions to site-specific areas using a hierarchical approach (subbasin review) of understanding current resource conditions, risks, and opportunities.

Stream channel – The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

Subalpine – A terrestrial community that is generally found in harsher environments than the montane terrestrial community. Subalpine communities are generally colder than montane and support a unique clustering of wildlife species.

Subbasin review – An interagency collaborative consideration of resources, resource management issues, and management recommendations for one or more subbasins or watershed drainages approximately 800,000 to 1,000,000 acres in size, equivalent to a 4th-field Hydrologic Unit Code (HUC).

Subwatershed – A drainage area of approximately 20,000 acres, equivalent to a 6th-field Hydrologic Unit Code. Hierarchically, subwatersheds (6th-field HUC) are contained within a watershed (5th-field HUC), which in turn is contained within a subbasin (4th-field HUC).

Succession – A predictable process of changes in structure and composition of plant and animal communities over time. Conditions of the prior plant community or successional stage create conditions that are favorable for the establishment of the next stage. The different stages in succession are often referred to as "seral stages." (See Seral.)

Sustainability – (1) meeting the needs of the present without compromising the abilities of future generations to meet their needs; emphasizing and maintaining the underlying ecological processes that ensure long-term productivity of goods, services, and values without impairing productivity of the land. (2) In commodity production, refers to the yield of a natural resource that can be produced continually at a given intensity of management.

Supplemental wilderness values – Includes ecological (e.g., vegetation, wildlife, and overall biological/botanical processes and values associated with the natural environment), geological, scientific, educational, scenic, and historic values. When present, they can enhance primary wilderness values, but are not mandated by Congress.

Sustained yield – Maintenance of an annual or regular periodic output of a renewable resource from public land consistent with the principles of multiple use.

T

Terrestrial communities – Groups of cover types with similar moisture and temperature regimes, elevational gradients, structures, and used by vertebrate wildlife species.

Threatened Species – Any plant or animal species defined under the Endangered Species Act as likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Listings are published in the Federal Register.

Trend – The direction of change in ecological status observed over time. Trend is described as toward or away from the Potential Natural Community, or as not apparent.

U

Upland (geology) – Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Utilization – The proportion or degree of the current year's forage production that is consumed or destroyed by animals (including insects). Utilization may refer either to a single plant species, a group of species, or to the vegetation as a whole. Utilization is synonymous with use.

V

Values-at-risk – Any or all natural resources, improvements or other values which may be jeopardized if a fire occurs (value-at-risk, risk of resource values).

Visual Resource Management (VRM) Objectives
Class I - The objective of this classification is to preserve the existing character of the landscape. This class provides for natural ecological changes and limited management activity. The level of change should be very low and must not attract attention. Class I is assigned to those areas where a management decision has been made to preserve a natural landscape.

Class II-The objective of this classification is to retain the existing character of the landscape. The level of change to landscape characteristics should be low. Management activities may be seen but should not attract the attention of a

casual observer. Any changes must conform to the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. This class represents the minimum level of VRM for WSAs.

Class III-The objective of Class III is to partially retain the existing character of the landscape. Moderate levels of change are acceptable. Management activities may attract attention but should not dominate the view of a casual observer. Changes should conform to the basic elements of the predominant natural features of the characteristic landscape.

Class IV-The objective of Class IV is to provide for management activities that require major modification of the landscape. These management activities may dominate the view and become the focus of viewer attention; however, every effort should be made to minimize the impact of these projects by carefully locating activities, minimizing disturbance, and designing the projects to conform to the characteristic landscape.

W

Wilderness Study Area Interim Management Policy (WSA IMP) – Policy for managing public lands under wilderness review. Section 603(c) of the FLPMA states: "During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable laws in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act: “Provided, that, in managing the public lands the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection."

Wild River - A river or section of a river that is free of impoundments and generally inaccessible except by trail, with watersheds and shorelines essentially primitive and waters unpolluted.

Wildland Fire - A general category of lightning or human ignited fire in natural vegetation. Includes wildfires, prescribed fires, and fire managed for resource benefits.

Wildland Fire Use - An unplanned ignition that is managed for resource benefits. Formally called Prescribed Natural Fire.

Withdrawal – Withholding an area of federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of federal land, other than "property" governed by the Federal Property and Administrative Services Act, as amended (40U.S.C.472) from one department, bureau, or agency to another department, bureau, or agency.

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Appendix A - Steens Mountain Cooperative Management and Protection Act of 2000 (P.L. 106-399)

H. R. 4828

One Hundred Sixth Congress of the United States of America

AT THE SECOND SESSION

Begun and held at the City of Washington on Monday, the twenty-fourth day of January, two thousand

An Act

To designate the Steens Mountain Wilderness Area and the Steens Mountain Cooperative Management and Protection Area in Harney County, Oregon, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; PURPOSES; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the "Steens Mountain Cooperative Management and Protection Act of 2000".

(b) PURPOSES.—The purposes of this Act are the following:

(1) To maintain the cultural, economic, ecological, and social health of the Steens Mountain area in Harney County, Oregon.

(2) To designate the Steens Mountain Wilderness Area.

(3) To designate the Steens Mountain Cooperative Management and Protection Area.

(4) To provide for the acquisition of private lands through exchange for inclusion in the Wilderness Area and the Cooperative Management and Protection Area.

(5) To provide for and expand cooperative management activities between public and private landowners in the vicinity of the Wilderness Area and surrounding lands.

(6) To authorize the purchase of land and development and nondevelopment rights.

(7) To designate additional components of the National Wild and Scenic Rivers System.

(8) To establish a reserve for redband trout and a wildlands juniper management area.

(9) To establish a citizens' management advisory council for the Cooperative Management and Protection Area.

(10) To maintain and enhance cooperative and innovative management practices between the public and private land managers in the Cooperative Management and Protection Area.

(11) To promote viable and sustainable grazing and recreation operations on private and public lands.

(12) To conserve, protect, and manage for healthy watersheds and the long-term ecological integrity of Steens Mountain.

(13) To authorize only such uses on Federal lands in the Cooperative Management and Protection Area that are consistent with the purposes of this Act.

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(c) TABLE OF CONTENTS.—The table of contents of this Act is as follows:

Sec. 1. Short title; purposes; table of contents.
Sec. 2. Definitions.
Sec. 3. Maps and legal descriptions.
Sec. 4. Valid existing rights.
Sec. 5. Protection of tribal rights.

TITLE I—STEENS MOUNTAIN COOPERATIVE MANAGEMENT AND PROTECTION AREA

Subtitle A—Designation and Purposes

Sec. 101. Designation of Steens Mountain Cooperative Management and Protection Area.
Sec. 102. Purpose and objectives of Cooperative Management and protection Area.

Subtitle B—Management of Federal Lands

Sec. 111. Management authorities and purposes.
Sec. 112. Roads and travel access.
Sec. 113. Land use authorities.
Sec. 114. Land acquisition authority.
Sec. 115. Special use permits.

Subtitle C—Cooperative Management

Sec. 121. Cooperative management agreements.
Sec. 122. Cooperative efforts to control development and encourage conservation.

Subtitle D—Advisory Council

Sec. 131. Establishment of advisory council.
Sec. 132. Advisory role in management activities.
Sec. 133. Science committee.

TITLE II—STEENS MOUNTAIN WILDERNESS AREA

Sec. 201. Designation of Steens Mountain Wilderness Area.
Sec. 202. Administration of Wilderness Area.
Sec. 203. Water rights.
Sec. 204. Treatment of wilderness study areas.

TITLE III—WILD AND SCENIC RIVERS AND TROUT RESERVE

Sec. 301. Designation of streams for wild and scenic river status in Steens Mountain area.
Sec. 302. Donner und Blitzen River redband trout reserve.

TITLE IV—MINERAL WITHDRAWAL AREA

Sec. 401. Designation of mineral withdrawal area.
Sec. 402. Treatment of State lands and mineral interests.

TITLE V—ESTABLISHMENT OF WILDLANDS JUNIPER MANAGEMENT AREA

Sec. 501. Wildlands juniper management area.
Sec. 502. Release from wilderness study area status.

TITLE VI—LAND EXCHANGES

Sec. 601. Land exchange, Roaring Springs Ranch.
Sec. 602. Land exchanges, C.M. Otley and Otley Brothers.
Sec. 603. Land exchange, Tom J. Davis Livestock, Incorporated.
Sec. 604. Land exchange, Lowther (Clemens) Ranch.
Sec. 605. General provisions applicable to land exchanges.

TITLE VII—FUNDING AUTHORITIES

Sec. 701. Authorization of appropriations.
Sec. 702. Use of land and water conservation fund.

SEC. 2. DEFINITIONS.

In this Act:

(1) ADVISORY COUNCIL.—The term "advisory council" means the Steens Mountain Advisory Council established by title IV.

(2) COOPERATIVE MANAGEMENT AGREEMENT.—An agreement to plan or implement (or both) cooperative recreation,

ecological, grazing, fishery, vegetation, prescribed fire, cultural site protection, wildfire or other measures to beneficially meet public use needs and the public land and private land objectives of this Act.

(3) COOPERATIVE MANAGEMENT AND PROTECTION AREA.—The term "Cooperative Management and Protection Area" means the Steens Mountain Cooperative Management and Protection Area designated by title I.

(4) EASEMENTS.—

(A) CONSERVATION EASEMENT.—The term "conservation easement" means a binding contractual agreement between the Secretary and a landowner in the Cooperative Management and Protection Area under which the landowner, permanently or during a time period specified in the agreement, agrees to conserve or restore habitat, open space, scenic, or other ecological resource values on the land covered by the easement.

(B) NONDEVELOPMENT EASEMENT.—The term "nondevelopment easement" means a binding contractual agreement between the Secretary and a landowner in the Cooperative Management and Protection Area that will, permanently or during a time period specified in the agreement—

(i) prevent or restrict development on the land covered by the easement; or

(ii) protect open space or viewshed.

(5) ECOLOGICAL INTEGRITY.—The term "ecological integrity" means a landscape where ecological processes are functioning to maintain the structure, composition, activity, and resilience of the landscape over time, including—

(A) a complex of plant communities, habitats and conditions representative of variable and sustainable successional conditions; and

(B) the maintenance of biological diversity, soil fertility, and genetic interchange.

(6) MANAGEMENT PLAN.—The term "management plan" means the management plan for the Cooperative Management and Protection Area and the Wilderness Area required to be prepared by section 111(b).

(7) REDBAND TROUT RESERVE.—The term "Redband Trout Reserve" means the Donner und Blitzen Redband Trout Reserve designated by section 302.

(8) SECRETARY.—The term "Secretary" means the Secretary of the Interior, acting through the Bureau of Land Management.

(9) SCIENCE COMMITTEE.—The term "science committee" means the committee of independent scientists appointed under section 133.

(10) WILDERNESS AREA.—The term "Wilderness Area" means the Steens Mountain Wilderness Area designated by title II.

SEC. 3. MAPS AND LEGAL DESCRIPTIONS.

(a) PREPARATION AND SUBMISSION.—As soon as practicable after the date of the enactment of this Act, the Secretary shall prepare and submit to Congress maps and legal descriptions of the following:

(1) The Cooperative Management and Protection Area.

(2) The Wilderness Area.

(3) The wild and scenic river segments and redband trout reserve designated by title III.

(4) The mineral withdrawal area designated by title IV.

(5) The wildlands juniper management area established by title V.

(6) The land exchanges required by title VI.

(b) LEGAL EFFECT AND CORRECTION.—The maps and legal descriptions referred to in subsection (a) shall have the same force and effect as if included in this Act, except the Secretary may correct clerical and typographical errors in such maps and legal descriptions.

(c) PUBLIC AVAILABILITY.—Copies of the maps and legal descriptions referred to in subsection (a) shall be on file and available for public inspection in the Office of the Director of the Bureau of Land Management and in the appropriate office of the Bureau of Land Management in the State of Oregon.

SEC. 4. VALID EXISTING RIGHTS.

Nothing in this Act shall effect any valid existing right.

SEC. 5. PROTECTION OF TRIBAL RIGHTS.

Nothing in this Act shall be construed to diminish the rights of any Indian tribe. Nothing in this Act shall be construed to diminish tribal rights, including those of the Burns Paiute Tribe, regarding access to Federal lands for tribal activities, including spiritual, cultural, and traditional food gathering activities.

TITLE I—STEENS MOUNTAIN COOPERATIVE MANAGEMENT AND PROTECTION AREA

Subtitle A—Designation and Purposes

SEC. 101. DESIGNATION OF STEENS MOUNTAIN COOPERATIVE MANAGEMENT AND PROTECTION AREA.

(a) DESIGNATION.—The Secretary shall designate the Steens Mountain Cooperative Management and Protection Area consisting of approximately 425,550 acres of Federal land located in Harney County, Oregon, in the vicinity of Steens Mountain, as generally depicted on the map entitled "Steens Mountain Boundary Map" and dated September 18, 2000.

(b) CONTENTS OF MAP.—In addition to the general boundaries of the Cooperative Management and Protection Area, the map referred to in subsection (a) also depicts the general boundaries of the following:

(1) The no livestock grazing area described in section 113(e).

(2) The mineral withdrawal area designated by title IV.

(3) The wildlands juniper management area established by title V.

SEC. 102. PURPOSE AND OBJECTIVES OF COOPERATIVE MANAGEMENT AND PROTECTION AREA.

(a) PURPOSE.—The purpose of the Cooperative Management and Protection Area is to conserve, protect, and manage the long-

term ecological integrity of Steens Mountain for future and present generations.

(b) OBJECTIVES.—To further the purpose specified in subsection (a), and consistent with such purpose, the Secretary shall manage the Cooperative Management and Protection Area for the benefit of present and future generations—

(1) to maintain and enhance cooperative and innovative management projects, programs and agreements between tribal, public, and private interests in the Cooperative Management and Protection Area;

(2) to promote grazing, recreation, historic, and other uses that are sustainable;

(3) to conserve, protect and to ensure traditional access to cultural, gathering, religious, and archaeological sites by the Burns Paiute Tribe on Federal lands and to promote cooperation with private landowners;

(4) to ensure the conservation, protection, and improved management of the ecological, social, and economic environment of the Cooperative Management and Protection Area, including geological, biological, wildlife, riparian, and scenic resources; and

(5) to promote and foster cooperation, communication, and understanding and to reduce conflict between Steens Mountain users and interests.

Subtitle B—Management of Federal Lands

SEC. 111. MANAGEMENT AUTHORITIES AND PURPOSES.

(a) IN GENERAL.—The Secretary shall manage all Federal lands included in the Cooperative Management and Protection Area pursuant to the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) and other applicable provisions of law, including this Act, in a manner that—

(1) ensures the conservation, protection, and improved management of the ecological, social and economic environment of the Cooperative Management and Protection Area, including geological, biological, wildlife, riparian, and scenic resources, North American Indian tribal and cultural and archaeological resource sites, and additional cultural and historic sites; and

(2) recognizes and allows current and historic recreational use.

(b) MANAGEMENT PLAN.—Within 4 years after the date of the enactment of this Act, the Secretary shall develop a comprehensive plan for the long-range protection and management of the Federal lands included in the Cooperative Management and Protection Area, including the Wilderness Area. The plan shall—

(1) describe the appropriate uses and management of the Cooperative Management and Protection Area consistent with this Act;

(2) incorporate, as appropriate, decisions contained in any current or future management or activity plan for the Cooperative Management and Protection Area and use information developed in previous studies of the lands within or adjacent to the Cooperative Management and Protection Area;

(3) provide for coordination with State, county, and private local landowners and the Burns Paiute Tribe; and

(4) determine measurable and achievable management objectives, consistent with the management objectives in section 102, to ensure the ecological integrity of the area.

(c) MONITORING.—The Secretary shall implement a monitoring program for Federal lands in the Cooperative Management and Protection Area so that progress towards ecological integrity objectives can be determined.

SEC. 112. ROADS AND TRAVEL ACCESS.

(a) TRANSPORTATION PLAN.—The management plan shall include, as an integral part, a comprehensive transportation plan for the Federal lands included in the Cooperative Management and Protection Area, which shall address the maintenance, improvement, and closure of roads and trails as well as travel access.

(b) PROHIBITION ON OFF-ROAD MOTORIZED TRAVEL.—

(1) PROHIBITION.—The use of motorized or mechanized vehicles on Federal lands included in the Cooperative Management and Protection Area—

(A) is prohibited off road; and

(B) is limited to such roads and trails as may be designated for their use as part of the management plan.

(2) EXCEPTIONS.—Paragraph (1) does not prohibit the use of motorized or mechanized vehicles on Federal lands included in the Cooperative Management and Protection Area if the Secretary determines that such use—

(A) is needed for administrative purposes or to respond to an emergency; or

(B) is appropriate for the construction or maintenance of agricultural facilities, fish and wildlife management, or ecological restoration projects, except in areas designated as wilderness or managed under the provisions of section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782).

(c) ROAD CLOSURES.—Any determination to permanently close an existing road in the Cooperative Management and Protection Area or to restrict the access of motorized or mechanized vehicles on certain roads shall be made in consultation with the advisory council and the public.

(d) PROHIBITION ON NEW CONSTRUCTION.—

(1) PROHIBITION, EXCEPTION.—No new road or trail for motorized or mechanized vehicles may be constructed on Federal lands in the Cooperative Management and Protection Area unless the Secretary determines that the road or trail is necessary for public safety or protection of the environment. Any determination under this subsection shall be made in consultation with the advisory council and the public.

(2) TRAILS.—Nothing in this subsection is intended to limit the authority of the Secretary to construct or maintain trails for nonmotorized or nonmechanized use.

(e) ACCESS TO NONFEDERALLY OWNED LANDS.—

(1) REASONABLE ACCESS.—The Secretary shall provide reasonable access to nonfederally owned lands or interests in land within the boundaries of the Cooperative Management and Protection Area and the Wilderness Area to provide the owner of the land or interest the reasonable use thereof.

(2) EFFECT ON EXISTING RIGHTS-OF-WAY.—Nothing in this Act shall have the effect of terminating any valid existing

right-of-way on Federal lands included in the Cooperative Management and Protection Area.

SEC. 113. LAND USE AUTHORITIES.

(a) IN GENERAL.—The Secretary shall allow only such uses of the Federal lands included in the Cooperative Management and Protection Area as the Secretary finds will further the purposes for which the Cooperative Management and Protection Area is established.

(b) COMMERCIAL TIMBER.—

(1) PROHIBITION.—The Federal lands included in the Cooperative Management and Protection Area shall not be made available for commercial timber harvest.

(2) LIMITED EXCEPTION.—The Secretary may authorize the removal of trees from Federal lands in the Cooperative Management and Protection Area only if the Secretary determines that the removal is clearly needed for purposes of ecological restoration and maintenance or for public safety. Except in the Wilderness Area and the wilderness study areas referred to in section 204(a), the Secretary may authorize the sale of products resulting from the authorized removal of trees under this paragraph.

(c) JUNIPER MANAGEMENT.—The Secretary shall emphasize the restoration of the historic fire regime in the Cooperative Management and Protection Area and the resulting native vegetation communities through active management of Western Juniper on a landscape level. Management measures shall include the use of natural and prescribed burning.

(d) HUNTING, FISHING, AND TRAPPING.—

(1) AUTHORIZATION.—The Secretary shall permit hunting, fishing, and trapping on Federal lands included in the Cooperative Management and Protection Area in accordance with applicable laws and regulations of the United States and the State of Oregon.

(2) AREA AND TIME LIMITATIONS.—After consultation with the Oregon Department of Fish and Wildlife, the Secretary may designate zones where, and establish periods when, hunting, trapping or fishing is prohibited on Federal lands included in the Cooperative Management and Protection Area for reasons of public safety, administration, or public use and enjoyment.

(e) GRAZING.—

(1) CONTINUATION OF EXISTING LAW.—Except as otherwise provided in this section and title VI, the laws, regulations, and executive orders otherwise applicable to the Bureau of Land Management in issuing and administering grazing leases and permits on lands under its jurisdiction shall apply in regard to the Federal lands included in the Cooperative Management and Protection Area.

(2) CANCELLATION OF CERTAIN PERMITS.—The Secretary shall cancel that portion of the permitted grazing on Federal lands in the Fish Creek/Big Indian, East Ridge, and South Steens allotments located within the area designated as the "no livestock grazing area" on the map referred to in section 101(a). Upon cancellation, future grazing use in that designated area is prohibited. The Secretary shall be responsible for

installing and maintaining any fencing required for resource protection within the designated no livestock grazing area.

(3) FORAGE REPLACEMENT.—Reallocation of available forage shall be made as follows:

(A) O'Keefe pasture within the Miners Field allotment to Stafford Ranches.

(B) Fields Seeding and Bone Creek Pasture east of the county road within the Miners Field allotment to Amy Ready.

(C) Miners Field Pasture, Schouver Seeding and Bone Creek Pasture west of the county road within the Miners Field allotment to Roaring Springs Ranch.

(D) 800 animal unit months within the Crows Nest allotment to Lowther (Clemens) Ranch.

(4) FENCING AND WATER SYSTEMS.—The Secretary shall also construct fencing and develop water systems as necessary to allow reasonable and efficient livestock use of the forage resources referred to in paragraph (3).

(f) PROHIBITION ON CONSTRUCTION OF FACILITIES.—No new facilities may be constructed on Federal lands included in the Cooperative Management and Protection Area unless the Secretary determines that the structure—

(1) will be minimal in nature;

(2) is consistent with the purposes of this Act; and

(3) is necessary—

(A) for enhancing botanical, fish, wildlife, or watershed conditions;

(B) for public information, health, or safety;

(C) for the management of livestock; or

(D) for the management of recreation, but not for the promotion of recreation.

(g) WITHDRAWAL.—Subject to valid existing rights, the Federal lands and interests in lands included in the Cooperative Management and Protection Areas are hereby withdrawn from all forms of entry, appropriation, or disposal under the public land laws, except in the case of land exchanges if the Secretary determines that the exchange furthers the purpose and objectives specified in section 102 and so certifies to Congress.

SEC. 114. LAND ACQUISITION AUTHORITY.

(a) ACQUISITION.—

(1) ACQUISITION AUTHORIZED.—In addition to the land acquisitions authorized by title VI, the Secretary may acquire other non-Federal lands and interests in lands located within the boundaries of the Cooperative Management and Protection Area or the Wilderness Area.

(2) ACQUISITION METHODS.—Lands may be acquired under this subsection only by voluntary exchange, donation, or purchase from willing sellers.

(b) TREATMENT OF ACQUIRED LANDS.—

(1) IN GENERAL.—Subject to paragraphs (2) and (3), lands or interests in lands acquired under subsection (a) or title VI that are located within the boundaries of the Cooperative Management and Protection Area shall—

(A) become part of the Cooperative Management and Protection Area; and

(B) be managed pursuant to the laws applicable to the Cooperative Management and Protection Area.

(2) LANDS WITHIN WILDERNESS AREA.—If lands or interests in lands acquired under subsection (a) or title VI are within the boundaries of the Wilderness Area, the acquired lands or interests in lands shall—

(A) become part of the Wilderness Area; and

(B) be managed pursuant to title II and the other laws applicable to the Wilderness Area.

(3) LANDS WITHIN WILDERNESS STUDY AREA.—If the lands or interests in lands acquired under subsection (a) or title VI are within the boundaries of a wilderness study area, the acquired lands or interests in lands shall—

(A) become part of that wilderness study area; and

(B) be managed pursuant to the laws applicable to that wilderness study area.

(c) APPRAISAL.—In appraising non-Federal land, development rights, or conservation easements for possible acquisition under this section or section 122, the Secretary shall disregard any adverse impacts on values resulting from the designation of the Cooperative Management and Protection Area or the Wilderness Area.

SEC. 115. SPECIAL USE PERMITS.

The Secretary may renew a special recreational use permit applicable to lands included in the Wilderness Area to the extent that the Secretary determines that the permit is consistent with the Wilderness Act (16 U.S.C. 1131 et seq.). If renewal is not consistent with the Wilderness Act, the Secretary shall seek other opportunities for the permit holder through modification of the permit to realize historic permit use to the extent that the use is consistent with the Wilderness Act and this Act, as determined by the Secretary.

Subtitle C—Cooperative Management

SEC. 121. COOPERATIVE MANAGEMENT AGREEMENTS.

(a) COOPERATIVE EFFORTS.—To further the purposes and objectives for which the Cooperative Management and Protection Area is designated, the Secretary may work with non-Federal landowners and other parties who voluntarily agree to participate in the cooperative management of Federal and non-Federal lands in the Cooperative Management and Protection Area.

(b) AGREEMENTS AUTHORIZED.—The Secretary may enter into a cooperative management agreement with any party to provide for the cooperative conservation and management of the Federal and non-Federal lands subject to the agreement.

(c) OTHER PARTICIPANTS.—With the consent of the landowners involved, the Secretary may permit permittees, special-use permit holders, other Federal and State agencies, and interested members of the public to participate in a cooperative management agreement as appropriate to achieve the resource or land use management objectives of the agreement.

(d) TRIBAL CULTURAL SITE PROTECTION.—The Secretary may enter into agreements with the Burns Paiute Tribe to protect cultural sites in the Cooperative Management and Protection Area of importance to the tribe.

SEC. 122. COOPERATIVE EFFORTS TO CONTROL DEVELOPMENT AND ENCOURAGE CONSERVATION.

(a) POLICY.—Development on public and private lands within the boundaries of the Cooperative Management and Protection Area which is different from the current character and uses of the lands is inconsistent with the purposes of this Act.

(b) USE OF NONDEVELOPMENT AND CONSERVATION EASEMENTS.—The Secretary may enter into a nondevelopment easement or conservation easement with willing landowners to further the purposes of this Act.

(c) CONSERVATION INCENTIVE PAYMENTS.—The Secretary may provide technical assistance, cost-share payments, incentive payments, and education to a private landowner in the Cooperative Management and Protection Area who enters into a contract with the Secretary to protect or enhance ecological resources on the private land covered by the contract if those protections or enhancements benefit public lands.

(d) RELATION TO PROPERTY RIGHTS AND STATE AND LOCAL LAW.—Nothing in this Act is intended to affect rights or interests in real property or supersede State law.

Subtitle D—Advisory Council

SEC. 131. ESTABLISHMENT OF ADVISORY COUNCIL.

(a) ESTABLISHMENT.—The Secretary shall establish the Steens Mountain Advisory Council to advise the Secretary in managing the Cooperative Management and Protection Area and in promoting the cooperative management under subtitle C.

(b) MEMBERS.—The advisory council shall consist of 12 voting members, to be appointed by the Secretary, as follows:

(1) A private landowner in the Cooperative Management and Protection Area, appointed from nominees submitted by the county court for Harney County, Oregon.

(2) Two persons who are grazing permittees on Federal lands in the Cooperative Management and Protection Area, appointed from nominees submitted by the county court for Harney County, Oregon.

(3) A person interested in fish and recreational fishing in the Cooperative Management and Protection Area, appointed from nominees submitted by the Governor of Oregon.

(4) A member of the Burns Paiute Tribe, appointed from nominees submitted by the Burns Paiute Tribe.

(5) Two persons who are recognized environmental representatives, one of whom shall represent the State as a whole, and one of whom is from the local area, appointed from nominees submitted by the Governor of Oregon.

(6) A person who participates in what is commonly called dispersed recreation, such as hiking, camping, nature viewing, nature photography, bird watching, horse back riding, or trail walking, appointed from nominees submitted by the Oregon State Director of the Bureau of Land Management.

(7) A person who is a recreational permit holder or is a representative of a commercial recreation operation in the Cooperative Management and Protection Area, appointed from nominees submitted jointly by the Oregon State Director of

the Bureau of Land Management and the county court for Harney County, Oregon.

(8) A person who participates in what is commonly called mechanized or consumptive recreation, such as hunting, fishing, off-road driving, hang gliding, or parasailing, appointed from nominees submitted by the Oregon State Director of the Bureau of Land Management.

(9) A person with expertise and interest in wild horse management on Steens Mountain, appointed from nominees submitted by the Oregon State Director of the Bureau of Land Management.

(10) A person who has no financial interest in the Cooperative Management and Protection Area to represent statewide interests, appointed from nominees submitted by the Governor of Oregon.

(c) CONSULTATION.—In reviewing nominees submitted under subsection (b) for possible appointment to the advisory council, the Secretary shall consult with the respective community of interest that the nominees are to represent to ensure that the nominees have the support of their community of interest.

(d) TERMS.—

(1) STAGGERED TERMS.—Members of the advisory council shall be appointed for terms of 3 years, except that, of the members first appointed, four members shall be appointed for a term of 1 year and four members shall be appointed for a term of 2 years.

(2) REAPPOINTMENT.—A member may be reappointed to serve on the advisory council.

(3) VACANCY.—A vacancy on the advisory council shall be filled in the same manner as the original appointment.

(d) CHAIRPERSON AND PROCEDURES.—The advisory council shall elect a chairperson and establish such rules and procedures as it deems necessary or desirable.

(e) SERVICE WITHOUT COMPENSATION.—Members of the advisory council shall serve without pay, but the Secretary shall reimburse members for reasonable expenses incurred in carrying out official duties as a member of the council.

(f) ADMINISTRATIVE SUPPORT.—The Secretary shall provide the advisory council with necessary administrative support and shall designate an appropriate officer of the Bureau of Land Management to serve as the Secretary's liaison to the council.

(g) STATE LIAISON.—The Secretary shall appoint one person, nominated by the Governor of Oregon, to serve as the State government liaison to the advisory council.

(h) APPLICABLE LAW.—The advisory committee shall be subject to the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) and the Federal Advisory Committee Act (5 U.S.C. App.).

SEC. 132. ADVISORY ROLE IN MANAGEMENT ACTIVITIES.

(a) MANAGEMENT RECOMMENDATIONS.—The advisory committee shall utilize sound science, existing plans for the management of Federal lands included in the Cooperative Management and Protection Area, and other tools to formulate recommendations for the Secretary regarding—

(1) new and unique approaches to the management of lands within the boundaries of the Cooperative Management and Protection Area; and

(2) cooperative programs and incentives for seamless landscape management that meets human needs and maintains and improves the ecological and economic integrity of the Cooperative Management and Protection Area.

(b) PREPARATION OF MANAGEMENT PLAN.—The Secretary shall consult with the advisory committee as part of the preparation and implementation of the management plan.

(c) SUBMISSION OF RECOMMENDATIONS.—No recommendations may be presented to the Secretary by the advisory council without the agreement of at least nine members of the advisory council.

SEC. 133. SCIENCE COMMITTEE.

The Secretary shall appoint, as needed or at the request of the advisory council, a team of respected, knowledgeable, and diverse scientists to provide advice on questions relating to the management of the Cooperative Management and Protection Area to the Secretary and the advisory council. The Secretary shall seek the advice of the advisory council in making these appointments.

TITLE II—STEENS MOUNTAIN WILDERNESS AREA

SEC. 201. DESIGNATION OF STEENS MOUNTAIN WILDERNESS AREA.

The Federal lands in the Cooperative Management and Protection Area depicted as wilderness on the map entitled "Steens Mountain Wilderness Area" and dated September 18, 2000, are hereby designated as wilderness and therefore as a component of the National Wilderness Preservation System. The wilderness area shall be known as the Steens Mountain Wilderness Area.

SEC. 202. ADMINISTRATION OF WILDERNESS AREA.

(a) GENERAL RULE.—The Secretary shall administer the Wilderness Area in accordance with this title and the Wilderness Act (16 U.S.C. 1131 et seq.). Any reference in the Wilderness Act to the effective date of that Act (or any similar reference) shall be deemed to be a reference to the date of the enactment of this Act.

(b) WILDERNESS BOUNDARIES ALONG ROADS.—Where a wilderness boundary exists along a road, the wilderness boundary shall be set back from the centerline of the road, consistent with the Bureau of Land Management's guidelines as established in its Wilderness Management Policy.

(c) ACCESS TO NON-FEDERAL LANDS.—The Secretary shall provide reasonable access to private lands within the boundaries of the Wilderness Area, as provided in section 112(d).

(d) GRAZING.—

(1) ADMINISTRATION.—Except as provided in section 113(e)(2), grazing of livestock shall be administered in accordance with the provision of section 4(d)(4) of the Wilderness Act (16 U.S.C. 1133(d)(4)), in accordance with the provisions of this Act, and in accordance with the guidelines set forth

in Appendices A and B of House Report 101–405 of the 101st Congress.

(2) RETIREMENT OF CERTAIN PERMITS.—The Secretary shall permanently retire all grazing permits applicable to certain lands in the Wilderness Area, as depicted on the map referred to in section 101(a), and livestock shall be excluded from these lands.

SEC. 203. WATER RIGHTS.

Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws.

SEC. 204. TREATMENT OF WILDERNESS STUDY AREAS.

(a) STATUS UNAFFECTED.—Except as provided in section 502, any wilderness study area, or portion of a wilderness study area, within the boundaries of the Cooperative Management and Protection Area, but not included in the Wilderness Area, shall remain a wilderness study area notwithstanding the enactment of this Act.

(b) MANAGEMENT.—The wilderness study areas referred to in subsection (a) shall continue to be managed under section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782(c)) in a manner so as not to impair the suitability of the areas for preservation as wilderness.

(c) EXPANSION OF BASQUE HILLS WILDERNESS STUDY AREA.—The boundaries of the Basque Hills Wilderness Study Area are hereby expanded to include the Federal lands within sections 8, 16, 17, 21, 22, and 27 of township 36 south, range 31 east, Willamette Meridian. These lands shall be managed under section 603(c) of the Federal Lands Policy and Management Act of 1976 (43 U.S.C. 1782(c)) to protect and enhance the wilderness values of these lands.

TITLE III—WILD AND SCENIC RIVERS AND TROUT RESERVE

SEC. 301. DESIGNATION OF STREAMS FOR WILD AND SCENIC RIVER STATUS IN STEENS MOUNTAIN AREA.

(a) EXPANSION OF DONNER UND BLITZEN WILD RIVER.—Section 3(a)(74) of the Wild and Scenic Rivers Act (16 U.S.C. 1274(a)(74)) is amended—

(1) by striking "the" at the beginning of each subparagraph and inserting "The";

(2) by striking the semicolon at the end of subparagraphs (A), (B), (C), and (D) and inserting a period;

(3) by striking "; and" at the end of subparagraph (E) and inserting a period; and

(4) by adding at the end the following new subparagraphs:

"(G) The 5.1 mile segment of Mud Creek from its confluence with an unnamed spring in the SW¼SE¼ of section 32, township 33 south, range 33 east, to its confluence with the Donner und Blitzen River.

"(H) The 8.1 mile segment of Ankle Creek from its headwaters to its confluence with the Donner und Blitzen River.

"(I) The 1.6 mile segment of the South Fork of Ankle Creek from its confluence with an unnamed tributary in the SE¼SE¼ of section 17, township 34 south, range 33 east, to its confluence with Ankle Creek.".

(b) DESIGNATION OF WILDHORSE AND KIGER CREEKS, OREGON.—Section 3(a) of the Wild and Scenic Rivers Act (16 U.S.C. 1274(a)) is amended by adding at the end the following new paragraph:

"( ) WILDHORSE AND KIGER CREEKS, OREGON.—The following segments in the Steens Mountain Cooperative Management and Protection Area in the State of Oregon, to be administered by the Secretary of the Interior as wild rivers:

"(A) The 2.6-mile segment of Little Wildhorse Creek from its headwaters to its confluence with Wildhorse Creek.

"(B) The 7.0-mile segment of Wildhorse Creek from its headwaters, and including .36 stream miles into section 34, township 34 south, range 33 east.

"(C) The approximately 4.25-mile segment of Kiger Creek from its headwaters to the point at which it leaves the Steens Mountain Wilderness Area within the Steens Mountain Cooperative Management and Protection Area.".

(c) MANAGEMENT.—Where management requirements for a stream segment described in the amendments made by this section differ between the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.) and the Wilderness Area, the more restrictive requirements shall apply.

SEC. 302. DONNER UND BIITZEN RIVER REDBAND TROUT RESERVE.

(a) FINDINGS.—The Congress finds the following:

(1) Those portions of the Donner und Blitzen River in the Wilderness Area are an exceptional environmental resource that provides habitat for unique populations of native fish, migratory waterfowl, and other wildlife resources, including a unique population of redband trout.

(2) Redband trout represent a unique natural history reflecting the Pleistocene connection between the lake basins of eastern Oregon and the Snake and Columbia Rivers.

(b) DESIGNATION OF RESERVE.—The Secretary shall designate the Donner und Blitzen Redband Trout Reserve consisting of the Donner und Blitzen River in the Wilderness Area above its confluence with Fish Creek and the Federal riparian lands immediately adjacent to the river.

(c) RESERVE PURPOSES.—The purposes of the Redband Trout Reserve are—

(1) to conserve, protect, and enhance the Donner und Blitzen River population of redband trout and the unique ecosystem of plants, fish, and wildlife of a river system; and

(2) to provide opportunities for scientific research, environmental education, and fish and wildlife oriented recreation and access to the extent compatible with paragraph (1).

(d) EXCLUSION OF PRIVATE LANDS.—The Redband Trout Reserve does not include any private lands adjacent to the Donner und Blitzen River or its tributaries.

(e) ADMINISTRATION.—

(1) IN GENERAL.—The Secretary shall administer all lands, waters, and interests therein in the Redband Trout Reserve consistent with the Wilderness Act (16 U.S.C. 1131 et seq.) and the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.).

(2) CONSULTATION.—In administering the Redband Trout Reserve, the Secretary shall consult with the advisory council and cooperate with the Oregon Department of Fish and Wildlife.

(3) RELATION TO RECREATION.—To the extent consistent with applicable law, the Secretary shall manage recreational activities in the Redband Trout Reserve in a manner that conserves the unique population of redband trout native to the Donner und Blitzen River.

(4) REMOVAL OF DAM.—The Secretary shall remove the dam located below the mouth of Fish Creek and above Page Springs if removal of the dam is scientifically justified and funds are available for such purpose.

(f) OUTREACH AND EDUCATION.—The Secretary may work with, provide technical assistance to, provide community outreach and education programs for or with, or enter into cooperative agreements with private landowners, State and local governments or agencies, and conservation organizations to further the purposes of the Redband Trout Reserve.

TITLE IV—MINERAL WITHDRAWAL AREA

SEC. 401. DESIGNATION OF MINERAL WITHDRAWAL AREA.

(a) DESIGNATION.—Subject to valid existing rights, the Federal lands and interests in lands included within the withdrawal boundary as depicted on the map referred to in section 101(a) are hereby withdrawn from—

(1) location, entry and patent under the mining laws; and

(2) operation of the mineral leasing and geothermal leasing laws and from the minerals materials laws and all amendments thereto except as specified in subsection (b).

(b) ROAD MAINTENANCE.—If consistent with the purposes of this Act and the management plan for the Cooperative Management and Protection Area, the Secretary may permit the development of saleable mineral resources, for road maintenance use only, in those locations identified on the map referred to in section 101(a) as an existing "gravel pit" within the mineral withdrawal boundaries (excluding the Wilderness Area, wilderness study areas, and designated segments of the National Wild and Scenic Rivers System) where such development was authorized before the date of the enactment of this Act.

SEC. 402. TREATMENT OF STATE LANDS AND MINERAL INTERESTS.

(a) ACQUISITION REQUIRED.—The Secretary shall acquire, for approximately equal value and as agreed to by the Secretary and the State of Oregon, lands and interests in lands owned by the State within the boundaries of the mineral withdrawal area designated pursuant to section 401.

(b) ACQUISITION METHODS.—The Secretary shall acquire such State lands and interests in lands in exchange for—

(1) Federal lands or Federal mineral interests that are outside the boundaries of the mineral withdrawal area;

(2) a monetary payment to the State; or

(3) a combination of a conveyance under paragraph (1) and a monetary payment under paragraph (2).

TITLE V—ESTABLISHMENT OF WILDLANDS JUNIPER MANAGEMENT AREA

SEC. 501. WILDLANDS JUNIPER MANAGEMENT AREA.

(a) ESTABLISHMENT.—To further the purposes of section 113(c), the Secretary shall establish a special management area consisting of certain Federal lands in the Cooperative Management and Protection Area, as depicted on the map referred to in section 101(a), which shall be known as the Wildlands Juniper Management Area.

(b) MANAGEMENT.—Special management practices shall be adopted for the Wildlands Juniper Management Area for the purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and native vegetation communities on Steens Mountain.

(c) AUTHORIZATION OF APPROPRIATIONS.—In addition to the authorization of appropriations in section 701, there is authorized to be appropriated $5,000,000 to carry out this title and section 113(c) regarding juniper management in the Cooperative Management and Protection Area.

SEC. 502. RELEASE FROM WILDERNESS STUDY AREA STATUS.

The Federal lands included in the Wildlands Juniper Management Area established under section 501 are no longer subject to the requirement of section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782(c)) pertaining to managing the lands so as not to impair the suitability of the lands for preservation as wilderness.

TITLE VI—LAND EXCHANGES

SEC. 601. LAND EXCHANGE, ROARING SPRINGS RANCH.

(a) EXCHANGE AUTHORIZED.—For the purpose of protecting and consolidating Federal lands within the Cooperative Management and Protection Area, the Secretary may carry out a land exchange with Roaring Springs Ranch, Incorporated, to convey all right, title, and interest of the United States in and to certain parcels of land under the jurisdiction of the Bureau of Land Management in the vicinity of Steens Mountain, Oregon, as depicted on the map referred to in section 605(a), consisting of a total of approximately 76,374 acres in exchange for the private lands described in subsection (b).

(b) RECEIPT OF NON-FEDERAL LANDS.—As consideration for the conveyance of the Federal lands referred to in subsection (a) and the disbursement referred to in subsection (d), Roaring Springs Ranch, Incorporated, shall convey to the Secretary parcels of land consisting of approximately 10,909 acres, as depicted on the map referred to in section 605(a), for inclusion in the Wilderness Area, a wilderness study area, and the no livestock grazing area as appropriate.

(c) TREATMENT OF GRAZING.—Paragraphs (2) and (3) of section 113(e), relating to the effect of the cancellation in part of grazing permits for the South Steens allotment in the Wilderness Area

and reassignment of use areas as described in paragraph (3)(C) of such section, shall apply to the land exchange authorized by this section.

(d) DISBURSEMENT.—Upon completion of the land exchange authorized by this section, the Secretary is authorized to make a disbursement to Roaring Springs Ranch, Incorporated, in the amount of $2,889,000.

(e) COMPLETION OF CONVEYANCE.—The Secretary shall complete the conveyance of the Federal lands under subsection (a) within 70 days after the Secretary accepts the lands described in subsection (b).

SEC. 602. LAND EXCHANGES, C.M. OTLEY AND OTLEY BROTHERS.

(a) C. M. OTLEY EXCHANGE.—

(1) EXCHANGE AUTHORIZED.—For the purpose of protecting and consolidating Federal lands within the Cooperative Management and Protection Area, the Secretary may carry out a land exchange with C. M. Otley to convey all right, title, and interest of the United States in and to certain parcels of land under the jurisdiction of the Bureau of Land Management in the vicinity of Steens Mountain, Oregon, as depicted on the map referred to in section 605(a), consisting of a total of approximately 3,845 acres in exchange for the private lands described in paragraph (2).

(2) RECEIPT OF NON-FEDERAL LANDS.—As consideration for the conveyance of the Federal lands referred to in paragraph (1) and the disbursement referred to in paragraph (3), C. M. Otley shall convey to the Secretary a parcel of land in the headwaters of Kiger gorge consisting of approximately 851 acres, as depicted on the map referred to in section 605(a), for inclusion in the Wilderness Area and the no livestock grazing area as appropriate.

(3) DISBURSEMENT.—Upon completion of the land exchange authorized by this subsection, the Secretary is authorized to make a disbursement to C.M. Otley, in the amount of $920,000.

(b) OTLEY BROTHERS EXCHANGE.—

(1) EXCHANGE AUTHORIZED.—For the purpose of protecting and consolidating Federal lands within the Cooperative Management and Protection Area, the Secretary may carry out a land exchange with the Otley Brother's, Inc., to convey all right, title, and interest of the United States in and to certain parcels of land under the jurisdiction of the Bureau of Land Management in the vicinity of Steens Mountain, Oregon, as depicted on the map referred to in section 605(a), consisting of a total of approximately 6,881 acres in exchange for the private lands described in paragraph (2).

(2) RECEIPT OF NON-FEDERAL LANDS.—As consideration for the conveyance of the Federal lands referred to in paragraph (1) and the disbursement referred to in subsection (3), the Otley Brother's, Inc., shall convey to the Secretary a parcel of land in the headwaters of Kiger gorge consisting of approximately 505 acres, as depicted on the map referred to in section 605(a), for inclusion in the Wilderness Area and the no livestock grazing area as appropriate.

(3) DISBURSEMENT.—Upon completion of the land exchange authorized by this subsection, the Secretary is authorized to

make a disbursement to Otley Brother's, Inc., in the amount of $400,000.

(c) COMPLETION OF CONVEYANCE.—The Secretary shall complete the conveyances of the Federal lands under subsections (a) and (b) within 70 days after the Secretary accepts the lands described in such subsections.

SEC. 603. LAND EXCHANGE, TOM J. DAVIS LIVESTOCK, INCORPORATED.

(a) EXCHANGE AUTHORIZED.—For the purpose of protecting and consolidating Federal lands within the Wilderness Area, the Secretary may carry out a land exchange with Tom J. Davis Livestock, Incorporated, to convey all right, title, and interest of the United States in and to certain parcels of land under the jurisdiction of the Bureau of Land Management in the vicinity of Steens Mountain, Oregon, as depicted on the map referred to in section 605(a), consisting of a total of approximately 5,340 acres in exchange for the private lands described in subsection (b).

(b) RECEIPT OF NON-FEDERAL LANDS.—As consideration for the conveyance of the Federal lands referred to in subsection (a) and the disbursement referred to in subsection (c), Tom J. Davis Livestock, Incorporated, shall convey to the Secretary a parcel of land consisting of approximately 5,103 acres, as depicted on the map referred to in section 605(a), for inclusion in the Wilderness Area.

(c) DISBURSEMENT.—Upon completion of the land exchange authorized by this section, the Secretary is authorized to make a disbursement to Tom J. Davis Livestock, Incorporated, in the amount of $800,000.

(d) COMPLETION OF CONVEYANCE.—The Secretary shall complete the conveyance of the Federal lands under subsection (a) within 70 days after the Secretary accepts the lands described in subsection (b).

SEC. 604. LAND EXCHANGE, LOWTHER (CLEMENS) RANCH.

(a) EXCHANGE AUTHORIZED.—For the purpose of protecting and consolidating Federal lands within the Cooperative Management and Protection Area, the Secretary may carry out a land exchange with the Lowther (Clemens) Ranch to convey all right, title, and interest of the United States in and to certain parcels of land under the jurisdiction of the Bureau of Land Management in the vicinity of Steens Mountain, Oregon, as depicted on the map referred to in section 605(a), consisting of a total of approximately 11,796 acres in exchange for the private lands described in subsection (b).

(b) RECEIPT OF NON-FEDERAL LANDS.—As consideration for the conveyance of the Federal lands referred to in subsection (a) and the disbursement referred to in subsection (d), the Lowther (Clemens) Ranch shall convey to the Secretary a parcel of land consisting of approximately 1,078 acres, as depicted on the map referred to in section 605(a), for inclusion in the Cooperative Management and Protection Area.

(c) TREATMENT OF GRAZING.—Paragraphs (2) and (3) of section 113(e), relating to the effect of the cancellation in whole of the grazing permit for the Fish Creek/Big Indian allotment in the Wilderness Area and reassignment of use areas as described in paragraph (3)(D) of such section, shall apply to the land exchange authorized by this section.

(d) DISBURSEMENT.—Upon completion of the land exchange authorized by this section, the Secretary is authorized to make

a disbursement to Lowther (Clemens) Ranch, in the amount of $148,000.

(e) COMPLETION OF CONVEYANCE.—The Secretary shall complete the conveyance of the Federal lands under subsection (a) within 70 days after the Secretary accepts the lands described in subsection (b).

SEC. 605. GENERAL PROVISIONS APPLICABLE TO LAND EXCHANGES.

(a) MAP.—The land conveyances described in this title are generally depicted on the map entitled "Steens Mountain Land Exchanges" and dated September 18, 2000.

(b) APPLICABLE LAW.—Except as otherwise provided in this section, the exchange of Federal land under this title is subject to the existing laws and regulations applicable to the conveyance and acquisition of land under the jurisdiction of the Bureau of Land Management. It is anticipated that the Secretary will be able to carry out such land exchanges without the promulgation of additional regulations and without regard to the notice and comment provisions of section 553 of title 5, United States Code.

(c) CONDITIONS ON ACCEPTANCE.—Title to the non-Federal lands to be conveyed under this title must be acceptable to the Secretary, and the conveyances shall be subject to valid existing rights of record. The non-Federal lands shall conform with the title approval standards applicable to Federal land acquisitions.

(d) LEGAL DESCRIPTIONS.—The exact acreage and legal description of all lands to be exchanged under this title shall be determined by surveys satisfactory to the Secretary. The costs of any such survey, as well as other administrative costs incurred to execute a land exchange under this title, shall be borne by the Secretary.

TITLE VII—FUNDING AUTHORITIES

SEC. 701. AUTHORIZATION OF APPROPRIATIONS.

Except as provided in sections 501(c) and 702, there is hereby authorized to be appropriated such sums as may be necessary to carry out this Act.

SEC. 702. USE OF LAND AND WATER CONSERVATION FUND.

(a) AVAILABILITY OF FUND.—There are authorized to be appropriated $25,000,000 from the land and water conservation fund established under section 2 of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 460l–5) to provide funds for the acquisition of land and interests in land under section 114 and to enter into nondevelopment easements and conservation easements under subsections (b) and (c) of section 122.

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(b) TERM OF USE.—Amounts appropriated pursuant to the authorization of appropriations in subsection (a) shall remain available until expended.

Speaker of the House of Representatives.

Vice President of the United States and President of the Senate.

Appendix B - Subbasin Review Report - Andrews Management Unit/Steens Mountain Cooperative Management and Protection

Introduction

"The Interior Columbia Basin Ecosystem Management Project (ICBEMP) was established in 1994...to develop and then adopt a scientifically sound ecosystem based strategy for managing all USFS or BLM administered lands within the (Interior Columbia) Basin." (Status of the Interior Columbia Basin, Summary of Scientific Findings [USFS 1996]). The ICBEMP covered an area of 145 million acres, 53 percent of which is public land managed by the BLM or the USFS. The size of this area requires some means to bring findings and information down to a level where they can be applied in a USFS or BLM management unit such as a ranger district or resource area. A process was developed with which the pertinent information could be "stepped down" to the local management level. This is called the subbasin review process.

The ICBEMP area was divided for analysis and review purposes into four geographic scales: broad-scale (Interior Columbia Basin), mid-scale (subbasins or groups of subbasins), fine-scale (watershed), and site scale (project). The mid-scale or subbasin level is the level at which field offices would undertake long range planning for all resources within their respective administrative boundaries. The subbasins are based on the US Geological Survey 4th field hydrologic unit codes (HUCs). On average these 4th field HUCs comprise an area of 500,000 to 1,000,000 acres. The Planning Area subbasin review area included six subbasins identified in the ICBEMP scientific assessment: Guano, Harney/Malheur Lakes, Alvord Lake, Donner und Blitzen, Thousand-Virgin, and Crooked-Rattlesnake comprising an area of approximately 6,200,110 million acres. Land ownership and administrative responsibilities included private, county, State of Oregon, BLM, and USFWS. The majority of the land in the Planning Area portion of the subbasin review area is administered by the BLM, Burns DO (Figure 2.9). Only those portions of the subbasins in the Planning Area are described.

In anticipation of preparing a comprehensive RMP/EIS, the Burns DO collected a considerable amount of data and information about the resources on BLM administered lands. Much of this information was in GIS format. Data and information needed for the resources in the subbasin review area and from other agencies were identified prior to preparation of the AMS/subbasin review.

A BLM team was assembled to be the core group responsible for gathering data and putting it into a written or GIS format. This team was comprised of a planning/NEPA specialist, a wildlife biologist, a fisheries biologist, a botanist, a recreation specialist, a wilderness specialist, a GIS specialist and a management support specialist. This core group is also part of a larger Inter Disciplinary (ID) team comprised of many other resource specialists and representatives for cooperating agencies. The subbasin review team would deal primarily with health-of-the-land issues.

Issues and Findings

Broad-scale information from the ICBEMP provides a general characterization of the Planning Area subbasin review area relative to the rest of the Interior Columbia Basin. The broad-scale information indicates that essentially 100 percent of this subbasin review area is rangeland. Rangeland in the subbasin review area is classified as low integrity. The rangeland is described as being dominated by dry shrubland vegetation that is highly sensitive to overgrazing and susceptible to invasion by noxious weeds. Hydrologic integrity is low to moderate and the integrity of riparian environments is commonly low. Some native fish species occur in highly fragmented habitat.

The conditions described above significantly increase the subbasins' susceptibility to wildland fire, insects and disease, soil erosion, loss of native species, and other problems that threaten ecological integrity, water quality, species recovery, timber and forage production, and other uses of public lands (Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin, USFS, BLM 1996).

Potential issues were identified by the Burns DO prior to the beginning of the subbasin review process and are included in Section 1.4.2 (Planning Criteria) of the RMP/EIS. These mid-scale issues generally reflect many of the broad-scale findings in the ICBEMP scientific assessment.

The group then examined the list of findings in "Using Key Broad-scale Findings in Mid-scale Issue Identification" documented in the ICBEMP Scientific Assessment (Quigley and Arbelbide 1997) and EIS. The participants determined that many of the findings applied to the Planning Area subbasin review area. Some of the findings were modified to more accurately reflect conditions within the Planning Area subbasin review. Of the approximately 60 findings or conditions listed, only 18 were considered not applicable to the Planning Area subbasin review. Either the resources did not occur in the area or conditions were known to be better than indicated in the ICBEMP findings.

The findings dealt primarily with terrestrial and aquatic habitat, water quality, riparian health, landscape health, and social and economic concerns including tribal rights. The group then developed the refined list of broad scale findings. These were discussed and small changes were made. Several findings dealt with designated priority issues including noxious weed and juniper expansion, water quality, special status species management, aquatic habitat, and riparian and wetland vegetation. Listed at the end of this chapter are those findings the group felt were not applicable to the Planning Area subbasin review. A complete description of the individual findings follows.

Revised List of Key Broad-Scale Findings Used in Issue Identification for the Andrews MU/Steens Mountain CMPA Subbasin Review Area

These findings are from *Ecosystem Review at the Subbasin Scale (Subbasin Review), Volume 1 - The Process,* August 1999, Appendix A. As stated above, some findings have been modified to more accurately reflect conditions within the Planning Area subbasin review. The ICBEMP did not address issues related to current management practices on cultural resources, including archaeological and Native American traditional values, and are therefore not addressed in this section.

Terrestrial Habitat/Landscape Health

(1) Rangelands

- Noxious weeds are spreading on roadway disturbance.
- Woody species encroachment by and/or increasing density of woody species (sagebrush and juniper), especially on dry grasslands and cool shrublands, has reduced herbaceous understory and biodiversity.
- Cheatgrass has taken over many dry shrublands, increasing soil erosion and fire frequency and reducing biodiversity and wildlife habitat. Cheatgrass and other exotic plant infestations have simplified species composition, reduced biodiversity, changed species interactions and forage availability, and reduced the systems' ability to buffer against changes.
- Expansion of agricultural and urban areas on non-federal lands has reduced the extent of some rangeland potential vegetation groups, most notably dry grasslands, dry shrublands, and riparian areas. Changes in some of the remaining habitat patches and loss of native species diversity have contributed to a number of wildlife species declines, some to the point of special concern (such as sage-grouse, Columbian sharptailed grouse, California bighorn sheep, pygmy rabbit, kit fox, and Washington ground squirrel).
- Increased fragmentation and loss of connectivity within and between blocks of habitat, especially in shrub steppe and riparian areas, have isolated some habitats and populations and reduced the ability of populations to move across the landscape, resulting in long-term loss of genetic interchange.
- Slow-to-recover rangelands (in general, rangelands that receive less than 12 inches of precipitation per year) are not recovering naturally at a pace that is acceptable to the general public, and are either highly susceptible to degradation or already dominated by cheatgrass and noxious weeds.
- Fire frequency has decreased in many locations resulting in an increase in conifer encroachment; an increase in tree density in formerly savanna-like stands of juniper and ponderosa pine; and increased density and/or coverage of big sagebrush and other shrubs, with an accompanying loss of herbaceous vegetation.
- Fire frequency has increased in some areas, particularly in drier locations where exotic annual grasses have become established. Increased fire frequency has caused a loss of shrub cover and reduction in bunchgrasses.

(2) Forests

- Interior ponderosa pine has decreased across its range with a significant decrease in old single story structure. The primary transitions were to interior Douglas fir and grand fir/white fir.
- There has been a loss of the large tree component (live and dead) within roaded and harvested areas. This decrease affects terrestrial wildlife species that are closely associated with these old forest structures.

- Western larch has decreased across its range. The primary transitions were to interior Douglas fir, lodgepole pine, or grand fir/white fir.
- Western white pine has decreased by 95 percent across its range. The primary transitions were to grand fir/white fir, western larch, and shrub/herb/tree regeneration.
- The whitebark pine/alpine larch potential vegetation type has decreased by 95 percent across its range, primarily through a transition into the whitebark pine cover type. Overall, however, the whitebark pine cover stand has also decreased, with compensating increases in Engelmann spruce/subalpine fir.
- Generally, mid-seral forest structures have increased in dry and moist forest potential vegetation groups (PVG), with a loss of large, scattered, and residual shade-intolerant tree components, and an increase in the density of smaller shade-tolerant diameter trees.
- There has been an increase in fragmentation and a loss of connectivity within and between blocks of late-seral, old forests, especially in lower elevation forests and riparian areas. This has isolated some animal habitats and populations and reduced the ability of populations to move across the landscape, resulting in a long-term loss of genetic interchange.
- Habitat for several forest carnivores and omnivores is in decline.
- Insects and diseases always existed in forests, but the size and intensity of their attacks has increased in recent years due to increased stand density.
- Dry forests have had an increase in fuel loading, duff depth, stand density, and a fuel ladder that can carry fire from the surface into the tree crowns. As a result, wildfire intensity has increased.
- Noxious weeds are spreading rapidly, and in some cases exponentially, in most dry forest types.

Aquatic Habitat/Landscape Health

(3) Hydrology and Watershed Processes

- Management activities throughout watersheds in the Planning Area have affected the quantity and quality of water, processes of sedimentation and erosion, and the production and distribution of organic material, thus affecting hydrologic conditions.

(4) Source Habitat

- Source habitats for the majority of species in the basin declined strongly (>20 percent decline) from historical to current.
- The strongest declines were for species dependent on low-elevation, old-forest habitats, species dependent on combinations of rangeland or early-seral forests with late-seral forests, and species dependent on native grassland and open canopy sagebrush habitats (Wisdom et al., in press).
- Primary causes of decline in old-forest habitats and early-seral habitats are intensive timber harvest and large-scale fir exclusion.
- Primary causes for decline in native herbland, woodland, grassland, and sagebrush habitats are excessive livestock grazing, invasion of exotic plants, and conversion of land to agriculture, residential, and urban development. Altered fire regimes have also contributed to a decline in grassland and shrubland habitats.
- A variety of road-associated factors negatively affect habitats or populations of many species.
- Human interactions with wide-ranging carnivores are generally negative and large areas of the basin may not be used by wide-ranging carnivores; because of this, habitats for many riparian dependent terrestrial species, especially shrubland habitats, have declined.
- Snag and down wood habitats in managed woodland and riparian areas have declined.

(5) Streams, Rivers and Lakes

- Banks and beds of streams, rivers, and lakes have been altered. In general, the changes have been greatest for the larger streams, rivers, and lakes.
- Water quantity and flow rates have been locally affected.
- Many BLM administered steams are “water quality limited” as defined by the Clean Water Act. On Forest Service-administered lands, the primary water quality problems are sedimentation, turbidity, flow alteration, and elevated temperatures. On BLM administered lands, sedimentation, turbidity, and elevated temperatures are the primary reasons for listing as water quality limited.
- Streams and rivers are highly variable across the project area, reflecting diverse physical settings and disturbance histories. Nevertheless, important aspects of fish habitat, such as pool frequency and large woody debris abundance, have decreased throughout much of the project area.

(6) Riparian Areas and Wetlands

- The overall extent and continuity of riparian areas and wetlands has decreased.
- Riparian ecosystem function, has decreased in most subbasins within the project area.
- A majority of riparian areas on BLM administered lands are either "not meeting objectives," "non-functioning," or "functioning at risk." However, the rate has slowed and a few areas show increases in riparian cover and large trees.
- Within riparian woodlands, the abundance of mid-seral vegetation has increased, whereas the abundance of late and early seral structural stages has decreased.
- Within riparian shrublands, there has been extensive spread of western juniper and introduction of exotic grasses and forbs.
- The frequency and extent of seasonal floodplain and wetland inundation has been altered by changes in flow regime, and by changes in channel morphology.
- There is an overall decrease in large trees and late seral vegetation in riparian areas.
- Riparian areas are important for about three quarters of the terrestrial wildlife species. Wildlife numbers have declined in proportion to the decline in riparian habitat conditions.

(7) Fish

- The composition, distribution, and status of fishes within the Planning Area are substantially different than they were historically. Some native fishes have been eliminated from large portions of their historical ranges.
- Many native nongame fish are vulnerable because of their restricted distribution or fragile or unique habitats.
- Although several of the key salmonids are still broadly distributed (notably the cutthroat trouts and redband trout), declines in abundance, loss of life history patterns, local extinctions, and fragmentation and isolation in smaller blocks of high quality habitat are apparent.
- Wild chinook salmon and steelhead are near extinction in a major part of their remaining distribution.
- Core areas for rebuilding and maintaining biological diversity associated with native fishes still exist within the basin.

Landscape Health

(8) Air Quality

- The current condition of air quality in the project area is considered good, relative to other areas of the country.
- Wildland fires significantly affect the air resources. Current wildland fires produce higher levels of smoke emissions than historically. Within the project area, the current trend in prescribed fire use is expected to result in an increase of smoke emissions.

Social/Economic

(9) Human Uses and Values

- The Planning Area is sparsely populated and rural, especially in areas with a large amount of agency lands.
- Development for a growing human population is encroaching on previously undeveloped areas adjacent to lands administered by the BLM. New development can put stress on the political and physical infrastructure of rural communities, diminish habitat for some wildlife, and increase agency costs to manage fire to protect people and structures.
- Recreation is an important use of agency lands in the Planning Area in terms of economic value and amount of use. Most recreation use is tied to roads and accessible water bodies, though primitive and semi-primitive recreation is also important.
- Industries customarily served by agency land uses, such as logging, wood products manufacturing and livestock grazing, no longer dictate the economic prosperity of the region, but remain economically and culturally important in rural areas. The economic dependence of communities on these industries is highest in areas that are geographically isolated and offer few alternative employment opportunities.
- The public, including individuals and Harney County through gross receipts sharing, has invested substantial land and capital to develop road systems on agency lands, primarily to serve commodity uses.

- For those counties that have benefitted from federal sharing of gross receipts from commodity sales on agency lands, changing levels of commodity outputs can affect county budgets.
- Agency social and economic policy has emphasized the goal of supporting rural communities, specifically promoting stability in those communities deemed dependent on agency timber harvest and processing. Even-flow of timber sales, timber sale bidding methods, timber export restrictions, and small business set asides of timber sales have been the major policy tools on Forest Service-administered commercial forestlands. Regulation of grazing practices has been important on BLM administered rangelands.
- The factors that appear to help make communities resilient to economic and social change include population size and growth rate, economic diversity, social and cultural attributes, amenity setting, and quality of life. The ability of agencies to improve community resiliency depends on the effectiveness of agency land uses and management strategies to positively influence these factors.
- Predictability in timber sale volume from agency lands has been increasingly difficult to achieve. Advancing knowledge of ecosystem processes, changing societal goals, and changing forest conditions has undermined conventional assumptions underlying the quantity and regularity of timber supply from agency lands.
- Lands now administered by the BLM make up the traditional homelands of affected American Indian Tribes. Land management actions and decisions on these lands affect the rights and/or interests of these tribes and their members.
- American Indian tribes in the Basin depend on lands and resources administered by the BLM for a myriad of needs and uses ranging from subsistence uses and economic purposes to religious and cultural purposes.
- Agency social and economic policy has emphasized the goal of supporting rural communities, including tribal communities. The ability of agencies to assist tribal members and tribal communities depends on the effectiveness of agency land uses and management strategies to positively consider and influence these factors (tribal employment, subsistence, treaty/reserved rights, spiritual, cultural/social purposes).

(10) American Indian Rights and Interests

- There is low confidence and trust that American Indian rights and interests are considered when decisions are proposed and made for actions to be taken on BLM administered lands.
- American Indian values on federal lands may be affected by proposed actions on woodlands and rangelands because of changes in vegetation structure, composition, and density; existing roads; and watershed conditions.
- Indian tribes do not feel that they are involved in the decision-making process commensurate with their legal status. They do not feel that government-to-government consultation is taking place.
- Culturally significant species such as anadromous fish and the habitat necessary to support healthy, sustainable, and harvest able populations constitute a major, but not the only, concern. American Indian people have concern for all factors that keep the ecosystem healthy.

Findings from the ICBEMP Scientific Assessment Not Applicable to the Andrews MU/Steens Mountain CMPA Subbasin Review Area

Following is a description of ICBEMP broad-scale findings determined by the BLM team to be not applicable to the subbasin review area. The reasons why the findings are not applicable are given.

Finding: Noxious weeds are spreading rapidly, and in some cases exponentially, on rangelands in every range cluster.

Response: Noxious weeds, although present on the Planning Area, are not spreading rapidly in every range cluster and the Burns BLM has implemented an integrated weed management program.

Finding: Expansion of agricultural and urban areas on non-federal lands has reduced the extent of some rangeland potential vegetation groups, most notably dry grasslands, dry shrublands, and riparian areas. Changes in some of the remaining habitat patches and loss of native species diversity have contributed to a number of wildlife species declines, some to the point of special concern (such as sage-grouse, Columbian sharptailed grouse, California bighorn sheep, pygmy rabbit, kit fox, and Washington ground squirrel).

Response: The Planning Area has not experienced expansion of agricultural and urban areas on non-federal lands.

Finding: Increased fragmentation and loss of connectivity within and between blocks of habitat, especially in shrub steppe and riparian areas, have isolated some habitats and populations and reduced the ability of populations to move across the landscape, resulting in long-term loss of genetic interchange.

Response: There has not been fragmentation and loss of habitat connectivity in the Planning Area; in fact, the BLM has acquired parcels for incorporation into contiguous lands under BLM administration, which increases habitat connectivity.

Finding: Fire frequency has decreased in many locations resulting in an increase in conifer encroachment; an increase in tree density in formerly savanna-like stands of juniper and ponderosa pine; and increased density and/or coverage of big sagebrush and other shrubs, with an accompanying loss of herbaceous vegetation.

Response: Conifers are not readily present in the Planning Area and are not encroaching.

Finding: Interior ponderosa pine has decreased across its range with a significant decrease in old single story structure. The primary transitions were to interior Douglas fir and grand fir/white fir.

Response: Ponderosa pine has not occurred historically and does not presently occur within the Planning Area.

Finding: There has been a loss of the large tree component (live and dead) within roaded and harvested areas. This decrease affects terrestrial wildlife species that are closely associated with these old forest structures.

Response: The Planning Area is not forested; therefore, a loss of large trees has not occurred.

Finding: Western larch has decreased across its range. The primary transitions were to interior Douglas fir, lodgepole pine, or grand fir/white fir.

Response: Western larch has not occurred historically and does not presently occur within the Andrews MU/Steens Mountain CMPA subbasin review area.

Finding: Western white pine has decreased by 95 percent across its range. The primary transitions were to grand fir/white fir, western larch, and shrub/herb/tree regeneration.

Response: The Planning Area contains a very small (approximately 40 acres) stand of white fir and it has not changed substantially in size

Finding: The whitebark pine/alpine larch potential vegetation type has decreased by 95 percent across its range, primarily through a transition into the whitebark pine cover type. Overall, however, the whitebark pine cover stand has also decreased, with compensating increases in Engelmann spruce/subalpine fir.

Response: Whitebark pine/alpine larch potential vegetation type has not occurred historically and does not presently occur within the Andrews MU/Steens Mountain CMPA subbasin review area.

Finding: Generally, mid-seral forest structures have increased in dry and moist forest potential vegetation groups (PVG), with a loss of large, scattered, and residual shade-intolerant tree components, and an increase in the density of smaller shade-tolerant diameter trees.

Response: The Planning Area does not have forest habitat.

Finding: There has been an increase in fragmentation and a loss of connectivity within and between blocks of late-seral, old forests, especially in lower elevation forests and riparian areas. This has isolated some animal habitats and populations and reduced the ability of populations to move across the landscape, resulting in a long-term loss of genetic interchange.

Response: The Planning Area does not contain old-growth forests.

Finding: Habitat for several forest carnivores and omnivores is in decline.

Response: The Planning Area does not have forest habitat.

Finding: Insects and diseases always existed in forests, but the size and intensity of their attacks has increased in recent years due to increased stand density.

Response: The Planning Area does not have forest habitat.

Finding: Dry forests have had an increase in fuel loading, duff depth, stand density, and a fuel ladder that can carry fire from the surface into the tree crowns. As a result, wildfire intensity has increased.

Response: The Planning Area does not have forest habitat.

Finding: Noxious weeds are spreading rapidly, and in some cases exponentially, in most dry forest types.

Response: Noxious weeds, although present on the Planning Area, are not spreading rapidly in dry forest types and the Burns BLM has implemented an integrated weed management program.

Finding: Primary causes of decline in old-forest habitats and early-seral habitats are intensive timber harvest and large-scale fir exclusion.

Response: Old-growth forest habitat has not occurred historically and does not presently occur within the Andrews MU/Steens Mountain CMPA subbasin review area.

Finding: Human interactions with wide-ranging carnivores are generally negative and large areas of the basin may not be used by wide-ranging carnivores; because of this, habitats for many riparian dependent terrestrial species, especially shrubland habitats, have declined.

Response: Wide-Ranging carnivores are not prevalent in the Planning Area; therefore, there are no commensurate elevated levels of herbivores impacting the identified habitat.

Finding: The composition, distribution, and status of fishes within the Planning Area are substantially different than they were historically. Some native fishes have been eliminated from large portions of their historical ranges.

Response: The composition, distribution, and status of fishes within the Planning Area have not substantially changed.

Finding: Wild chinook salmon and steelhead are near extinction in a major part of their remaining distribution.

Response: Chinook salmon and steelhead do not occur in the Andrews MU/Steens Mountain CMPA subbasin review area. No anadromous fish occur in the subbasin review area since only one drainage in the subbasin review area is a tributary to the Columbia River (Wild Cat Creek), and it is an ephemeral stream.

Finding: Development for a growing human population is encroaching on previously undeveloped areas adjacent to lands administered by the Forest Service and the BLM. New development can put stress on the political and physical infrastructure of rural communities, diminish habitat for some wildlife, and increase agency costs to manage fire to protect people and structures.

Response: The Planning Area is sparsely populated and rural; however, it is not experiencing any rapid population growth. The population is stable or declining.

Finding: Agency social and economic policy has emphasized the goal of supporting rural communities, specifically promoting stability in those communities deemed dependent on agency timber harvest and processing. Even-flow of timber sales, timber sale bidding methods, timber export restrictions, and small business set asides of timber sales have been the major policy tools on Forest Service-administered commercial forestlands. Regulation of grazing practices has been important on BLM administered rangelands.

Response: The BLM does not have a social and economic policy.

Finding: Agency social and economic policy has emphasized the goal of supporting rural communities, including tribal communities. The ability of agencies to assist tribal members and tribal communities depends on the effectiveness of agency land uses and management strategies to positively consider and influence these factors (tribal employment, subsistence, treaty/reserved rights, spiritual, cultural/social purposes).

Response: The BLM does not have a social and economic policy.

Finding: Predictability in timber sale volume from agency lands has been increasingly difficult to achieve. Advancing knowledge of ecosystem processes, changing societal goals, and changing forest conditions has undermined conventional assumptions underlying the quantity and regularity of timber supply from agency lands.

Response: The Planning Area does not have forest habitat and there are no timber sales.

Finding: There is low confidence and trust that American Indian rights and interests are considered when decisions are proposed and made for actions to be taken on BLM administered lands.

Response: The Burns Paiute Tribe is the primary consultation partner for the Planning Area. The BLM has an active relationship with this tribe.

Finding: Indian tribes do not feel that they are involved in the decision-making process commensurate with their legal status. They do not feel that government-to-government consultation is taking place.

Response: The BLM has semi-annual project summary meetings and consultation on all projects in the Planning Area of interest to the tribe.

Finding: Culturally significant species such as anadromous fish and the habitat necessary to support healthy, sustainable, and harvest able populations constitute a major, but not the only, concern. American Indian people have concern for all factors that keep the ecosystem healthy.

Response: The Planning Area does not have and has not historically had anadromous fish and the habitat necessary to support healthy, sustainable, and harvest able populations of anadromous fish.

Mid-scale Character Description (Resource Area Profile)

The Description of the Mid-scale Character, Step 3 of the subbasin review process, was combined with the Resource Area Profile (RAP) of the AMS. Both the RAP and the Mid-scale Character are descriptions of the existing resources in the subbasin review area as well as their condition and use. The only difference is that the RAP covers all resources in the Planning Area, whereas the Description of the Mid-scale Character is tied to the ICBEMP findings for issue identification. Resources addressed by the findings are described for the subbasin review area as a whole. These include rangelands, woodlands, vegetation, fish and wildlife habitat, water quality, riparian habitats, and human uses and values. Those resources not addressed by the findings are described for the Andrews MU and Steens Mountain CMPA only.

Prior to the meeting of the subbasin review team, the Burns DO staff had begun to prepare mid-scale characterization, by resource, as they pertained to the mid-scale findings and issues for the subbasin review area. This was the next step in the subbasin review process. At the meeting, the group went over the draft characterizations and suggested changes and additions. The current status of each resource pertaining to the findings was described. Management concerns for the resources were identified. A listing of the concerns, by resource, is presented as the issues in Section 6.1.

These management concerns will be used in developing the Management Opportunities chapter of the AMS (Chapter 4) and will also be used in setting priorities and making recommendations as the final step in the subbasin review process. Eventually, this information will feed into the development of alternatives for the RMP/EIS.

The complete descriptions of the mid-scale character are included as Chapter 2 of this AMS.

Priorities and Recommendations (Management Opportunities)

This is Step 4 of the subbasin review process. This step is analogous to the Management Opportunities step in preparing the AMS. In both cases, management opportunities or management recommendations are identified and priority setting is begun. In the subbasin review, the priorities would set the stage for fine scale, or activity level or project planning; however, in this situation where the subbasin review and AMS are combined, the priority setting is begun at this stage, but is carried forward and refined in preparing the RMP/EIS. After that would come the fine scale planning. The Management Opportunities/Priorities and Recommendations are in Chapter 4 of the AMS document.

The group then examined the mid-scale descriptions of 22 resources of concern. The team discussed the management concerns pertaining to these resources and “brainstormed” management opportunities and recommendations to address

these concerns. This set the stage for the BLM staff to identify management opportunities for all resources to be addressed in the RMP/EIS. The following is a listing of the management opportunities by resource.

Air Resources

Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration with all authorized actions.

Energy and Mineral Resources

Provide opportunities for exploration and development of leasable energy and mineral resources while protecting other sensitive resources. Provide opportunities for exploration and development of locatable mineral resources while protecting other sensitive resources. Provide for public demand for saleable minerals from public land while protecting sensitive resources.

Fire

Provide an Appropriate Management Response (AMR) on all wildland fires, with emphasis on fire fighter and public safety, minimizing suppression costs, benefits, and values to be protected, consistent with resource objectives. Recognize fire as a critical natural process and use it to protect, maintain, and enhance resources.

Vegetation

Restore, protect, and enhance the diversity and distribution of desirable vegetation communities, including perennial native and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles. Manage big sagebrush cover in seedings and on native rangelands to meet the life history requirements of sagebrush dependent wildlife. Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.

Woodlands

Manage woodlands to maintain or restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, and disease do not exceed levels normally expected in a healthy woodland. Manage woodlands for long-term healthy habitat for animal and plant species. Restore productivity and biodiversity in juniper and aspen woodland areas. Manage juniper areas where encroachment or increased density is threatening other resource values. Retain old growth characteristics in historic juniper sites not prone to frequent fire. Manage aspen to maintain diversity of age classes and to allow for species reestablishment.

Special Status Plant Species

Manage public land to maintain, restore, or enhance populations and habitats of special status plant species. Priority for the application of management actions would be: (1) federal endangered species, (2) federal threatened species, (3) federal proposed species, (4) federal candidate species, (5) state listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.

Water Resources and Riparian/Wetlands

Ensure that surface water and groundwater influenced by BLM activities comply with or are making progress toward achieving State of Oregon water quality standards for beneficial uses as established per stream by the ODEQ. Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands. Where water rights are needed to support programs and projects within the Planning Area, they will be secured through normal channels as prescribed by state law.

Fish and Aquatic Habitat

Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.

Wildlife and Wildlife Habitat

Maintain, restore, or enhance riparian areas and wetlands so they provide diverse and healthy habitat conditions for wildlife. Manage upland wildlife habitats to ensure that the necessary forage, water, cover, structure, and security are available on public land.

Special Status Animal Species

Manage public land to maintain, restore, or enhance populations and habitats of Special status animal species. Priority for the application of management actions would be: (1) federal endangered species, (2) federal threatened species, (3) federal proposed species, (4) federal candidate species, (5) state listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species. Facilitate the maintenance, restoration, and enhancement of bighorn sheep populations and habitat on public land. Pursue management in accordance with Oregon's Bighorn Sheep Management Plan in a manner consistent with the principles of multiple-use management.

Wild Horses

Maintain and manage wild horse herds in established HMAs at AMLs to ensure or enhance a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values. Enhance and perpetuate special and unique characteristics that distinguish the respective herds.

Grazing Management

Grazing will be in compliance with current policy which includes the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington. Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations. Livestock grazing in the Andrews MU will be managed under laws provided by the Taylor Grazing Act, Public Rangelands Improvement Act, national Environmental Policy Act, Wilderness Act, the Act and BLM regulations. The RMP will include the Standards for Rangeland Health and Guidelines for grazing management which apply to all BLM lands in Oregon. The RMP will address several pasture and allotment boundary changes occurring as a result of land exchanges, forage offsets for creation of the No Livestock Grazing Area and grazing management changes.

Recreation

Provide and enhance developed and undeveloped recreation opportunities and manage the increasing demand for resource-dependent recreation activities while protecting resources.

Off-Highway Vehicles

Manage OHV use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.

Visual Resources

Manage public land actions and activities in a manner consistent with VRM class objectives.

Areas of Critical Environmental Concern

Retain existing and designate new ACECs/RNAs where relevance and importance criteria are met and special management is required to protect the values identified.

Wild and Scenic Rivers

Protect and enhance ORVs of designated NWSRS and protect and enhance ORVs of rivers found suitable for WSR status until Congress acts.

Wilderness

Designated Wilderness Areas will be managed under the Wilderness Management Policy. The wilderness resources will be dominant whenever choices must be made between preservation of the wilderness character and visitor use.

Wilderness Study Areas

BLM administered land identified in the Wilderness Study Report and determined to have wilderness values could be included in adjacent WSAs and managed under the WSA IMP.

Human Uses and Values

Manage public land and pursue partnerships in order to provide social and economic benefits to local residents, businesses, visitors, and for future generations.

Cultural Resources

Protect and conserve cultural and paleontological resources. Increase the public's knowledge, appreciation, and sensitivity regarding cultural and paleontological resources. Consult and coordinate with American Indian groups to ensure that their traditional religious sites, land forms, resources, and other interests are considered.

Land and Realty

Retain public land with high public resource values. Consolidate public land holdings and acquire land or interests in land with high public resource values to ensure effective administration and improve resource management. Acquired land would be managed for its intended purpose. Make public land available for disposal within Zone 3 by state indemnity selection, private or state exchange, Recreation and Public Purpose Act lease or sale, public sale, or other authorized method. Establish utility and transportation system corridor routes to the extent possible, considering avoidance areas, and consistent with resource objectives.

BLM Resource Management Planning Process

During the resource management planning process, the BLM will set priorities for acting on these recommendations and opportunities. Emphasis will be placed on opportunities for protecting and managing special areas such as Areas of Critical Environmental Concern; opportunities for management of resources across administrative boundaries such as watersheds, aquatic species, and noxious weeds; and opportunities for control of juniper expansion.

BLM staff incorporated the descriptions of the mid-scale character and the recommendations into the RAP and management opportunities sections, respectively, of the AMS. The similarities between the subbasin review process and the AMS process are shown in the following table. The integrated priority setting described in the subbasin review for BLM actions will be conducted through the RMP.

Table 6.1: Steps in the Subbasin Review and Analysis of Management Situation

Subbasin Review		Analysis of the Management Situation	
Step		**Step**	
1.	Prepare for the Review	1.	Collect and Consolidate Data
2.	Identify Mid-scale Issues	2.	Conduct Internal and Public Scoping
3.	Describe Mid-scale Character (Describe character of the review area in relationship to the issues)	3.	Resource Area Profile (Describe the condition of the resource area, including its physical, biological and human environment)
	No step in subbasin review corresponds to Existing Management Situation of the AMS	4.	Existing Management Situation (Describe for each resource its current uses, production, or protection problems and the management practices and direction)
4.	Develop recommendations and integrated priority setting. (Develop recommended actions and determine urgency and timing of actions)	5.	Identify Management Opportunities (Identify and evaluate all reasonable opportunities and/or actions to address the planning issues and management concerns)
5.	Subbasin Review Report (Document the subbasin review results and the process. Provide information for further planning)	6.	Prepare the AMS (Develop a comprehensive document for use by the BLM and a summary document for public distribution. Provide information for RMP/EIS)

Appendix C - Summary of Public Scoping Comments for the Andrews Management Unit/Steens Mountain and Cooperative Management and Protection Area Postmarked or Delivered by April 15, 2002

Introduction

469 different scoping letters were received (this includes an original version of each form letter) and 1,844 copies of various form letters. Each individual scoping letter and one of each form letter were numbered and each comment in each letter was numbered. Then each comment was summarized and included in a comment table that will be used to track how the comment will be addressed in the Resource Management Plan (RMP)/Environmental Impact Statement(EIS). A total of 3,601 comments were identified. The comments were categorized into the following 23 categories: Alternative Choices; Cultural; Development Issues; Fire; Fish/Wildlife/Wild Horses; Geology/Mining/Energy; Lakes/Springs; Lands; Livestock Grazing; Noxious Weeds; Off-Highway Vehicles/Snowmobiles (OHV); Planning and Process Issues; Recreation; Roads/Access; Special Management Areas/Areas of Critical Environmental Concern; Socioeconomics; Special Recreation; Vegetative Ecosystems; Water Quality/Water Quantity; Wilderness/Wilderness Study Areas (WSA); Wild and Scenic Rivers; Soils; and, Other. Less than two percent of the comments (Other) listed in the table were considered beyond the scope of this planning process and will not be addressed in the RMP/EIS.

The following is a bulleted summary of comments listed by category with the exception of the comments categorized as Other, which are not further addressed in this summary.

<u>Alternative Choices</u>

- There was support for currently proposed Alternatives A, B, C and D.
- Cooperative management and promoting current and historical uses that are sustainable need to be focus of all alternatives.
- An Alternative E (No discretionary commercial use) should be proposed.
- All alternatives should meet the legislative requirements for the CMPA mandated by the Act and other laws and regulations.
- RMP should cover an adequate range of alternatives that are comprehensive and reasonable as required by NEPA.
- Alternatives should balance resource uses and ecological integrity.
- The BLM must evaluate a reasonable range of alternatives in the Draft EIS.
- Alternatives should be considered simply and within the intent of the legislation.
- Alternatives should be framed around the Steens Act Section 102 and meet the objectives of Sections 102 and 111.
- The “no grazing alternative” is not possible within the CMPA based on the Steens Act.
- Socioeconomics must be analyzed in all of the alternatives.

<u>Cultural</u>

- Interest in protection, preservation and interpretation of cultural resources.
- Cultural Resource sites should be closed to off road vehicles.
- The RMP should consider the Archaeological Resources Protection Act, provide for further inventory of the Planning Area, and protect known and reasonably inferred resources within the area.

<u>Development Issues (commercial, recreation, signs, trails campgrounds, toilets)</u>

- No development on Steens Mountain and keep everything primitive.
- The BLM should minimize recreational development including new trails and signage.
- Post rules or educational signs only at the entrance and/or down in the low areas.
- Consider another campground on the east side of Steens Mountain in the vicinity of Alvord Playa and Pike Creek.

- Hiking trails in wilderness/WSAs should not be initiated, but existing recognized trails could be maintained in a manner that keeps the path primitive.
- No new fences or other developments should be allowed and existing developments should be removed unless specifically authorized by the establishing legislation.
- No commercial development, no resort or concessionaire, no concrete parking lots, no RV parks and no housing developments.
- Don't pave the road or build a visitors center or anything like that.
- Construct an information booth or kiosk with bathrooms in Frenchglen or somewhere in that area.
- Develop a short walking trail in the Page Springs Campground.
- Develop the Fir Grove trail that was originally proposed in the SEORMP.
- More campgrounds along Fields/Denio Road especially along east face of Steens.
- Focus development on passive recreation, such as hiking and nature study, over destructive activities such as hunting and vehicular recreation.
- No more roads or campgrounds but a pit toilet on top and a few trails might be good (trails into Wildhorse Lake, Kiger, Blitzen and Big Indian and along summit rim).
- Make it very difficult to get permits for habitation or any damaging mining, logging, or drilling.
- A proactive and comprehensive plan to prevent recreational and commercial development except in very limited areas must be included in the RMP.
- Pursue land exchanges and conservation easements; work with landowners to prevent development of lodges, condos, summer homes, etc.
- Trailheads and campgrounds should be designated and constructed with the historic and current equestrian use in mind. Turn-arounds, trailer parking spaces, and camping areas must be designed with stock use and today's large stock trailers in mind.
- Pullout places should be provided along the roads to accommodate day use or camping.
- Please consider developing new campsites away from the mountain and in areas where increased use will not adversely affect the environment.
- Utilize fences to manage lands, designate wilderness.
- Maintenance and development of water developments should continue.
- Any development in the area must comply with the Wilderness Act.
- Any permanent recreational structures should be located outside the wilderness boundary.
- Avoid overdevelopment of trailheads and upgrading of wilderness access roads.
- Some areas within WSAs may warrant minimal developments such as pit toilets, garbage cans, fire rings and appropriate signage.
- Management decisions could include maximum number of designated campsites allowed within a certain distance.

Fire

- Fire rehabilitation deemed necessary should only be done to prevent ecological degradation.
- RMP must give specific direction on a natural/prescribed burn plan.
- Fire management policies must emphasize grazing as a superior alternative to burning.
- Designated replacement grazing acres must be incorporated into any prescribed fire management plans to minimize economic loss to grazing permittees.
- Wildfires should meet a specified prescription to be allowed to burn especially in Wilderness, WSAs and RNAs.
- Develop fire suppression techniques to reduce damage caused by suppression equipment. Vehicles and equipment should especially be restricted in wilderness, WSAs, ACECs/RNAs.
- Burned areas must be rested from livestock grazing and other activities for at least ten years following a fire.
- Prescribed fires, especially in Wilderness, WSAs, and RNAs, should only be done when fire ecology is better understood.
- Fire/fuels management must continue.
- The RMP/EIS must address how the rehabilitation plans will deal with cheatgrass invasions.
- The RMP/EIS must be explicit in the criteria to be used to decide when and where prescribed fire will be used.
- Construct the policy for fire rehabilitation with regard to critical wildlife habitats.
- Prescribed burning should occur in the summer, when wildfires normally occur.

Fish/Wildlife/Wild Horses

- Leave wild horses alone, maintain herds, manage them in a sustainable manner through capture and adoption, keep them off grazing allotments, address wild horse herd management in the RMP and adhere to the 1971 Wild and Free Roaming Horse and Burro Act.
- No dams, protect the native trout and address fisheries management issues concerning the trout preserve.
- Areas containing redband trout should be catch and release.
- Biodiversity should be the first management concern and inventories and monitoring should be conducted.
- Animal damage control activites should be held to the same restrictions as other activities in Wilderness, WSAs and in ACECs.
- The no livestock grazing area should remain open to wild horses.
- Consider expanding South Steens HMA to include Fish Creek/Big Indian Allotment.
- Wildlife management requires cooperation with private property owners.
- Predator control program must continue.
- When dealing with Special Management Areas (SMAs), USDA WS will use the preferred method of choice (aerial hunting) for coyotes, which in most cases is the least intrusive to these sites.
- Wildlife habitat must be managed in a method consistent with livestock grazing and production of forage for wild and domestic ungulates.
- No predator control is the greatest threat to sage grouse populations.
- The option to protect game or threatened and endangered species from predation as well as address wildlife threats to human health and safety should be present in the plan as well.
- The RMP/EIS should include measures to improve the likelihood of persistence of sage grouse and other species dependent on sagebrush and rangeland habitats.
- The draft plan should clearly state how it will adhere to "Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines" (2000).
- The RMP/EIS should comply fully with the BLM National Policy on Special Status Species (BLM 6840 Manual).
- It is critical that the RMP/EIS incorporate recently adopted sage grouse guidelines that were developed by the Western Association of Fish and Wildlife Agencies and published in the *Wildlife Society Bulletin* (28:967-985).
- Important parameters such as grass residues for sage grouse nesting cover must be addressed and the BLM must make some hard and needed changes to improve the sage grouse's plight.
- Special status species on the Andrews RA should be covered under the RMP so that their priority habitats are clearly identified and management standards and guidelines are adopted.
- The RMP should specify that transplanting to or removing game from wilderness should not entail the use of motorized equipment.
- In Wilderness, the RMP should not allow manipulation of native wildlife populations for purposes of artificially augmenting hunting or fishing opportunities.
- The mainstem Donner und Blitzen and its tributaries should be limited to catch and release, barbless flies and lures only.
- If the redbands are going to be protected and the resource improved, people should not be allowed to fish with bait or kill redbands.
- If anglers want to kill and eat fish, that should be limited to the lakes in the area.
- The weir at Page Springs should be removed or altered for better fish passage.
- There is room for habitat improvement on the stretch of river below Page Springs to Krumbo Reservoir.

Geology/Mining/Energy

- Prohibit all mining and geothermal exploration or development and prohibit all oil and gas development.
- Leave the 1872 mining law alone.
- Since 900,000 acres of the planning area have been withdrawn from mineral production, emphasis on development of mineral resources must be a priority for the remaining acres.
- Address potential development by geothermal power within the resource boundary.
- Energy and Mineral lands may be necessary in the near future and should be considered.

Lands (private, exchanges, easements)

- Address Native American lands, private property and mineral rights and property sales.
- Discourage the development of private land and secure private property to consolidate federal lands through exchange, sale or donation of remote, non-contiguous or land-locked holdings.
- Specific concerns about private parcels and how private landowners will be affected (see Scoping Table).
- Concerned that if the public is restricted from recreating on public land they may be forced onto private land and then private landowners will restrict access to their lands.
- Transfer private lands out of "Fork Big Trout Creek" valley.
- McClains cabin area and Reschene Spring should be transferred to BLM to block up area with proposed wilderness area.
- Transfer Denio Basin private land out to become public land.
- Private lands and realty should remain in place or traded for equal value. Public lands do not support the economy of Harney County. Private businesses do.
- The private lands in the wilderness earmarked to be acquired and exchanged, should be acquired. and exchanged.
- Protection of private lands should be a priority.
- Private property rights should be recognized in the RMP and the interrelationship with BLM lands should be addressed.

Livestock Grazing

- No grazing on the mountain.
- AMPs need to be re-assessed from an ecosystem viewpoint.
- BLM should identify and close all grazing allotments in the Andrews RA, that are not suitable for grazing.
- BLM should identify special management areas that would allow for closure of allotments where a grazing permit is voluntarily relinquished.
- Assess conflict between livestock grazing and wildlife forage.
- Please keep cattle off sensitive areas subject to harm by grazing.
- Phase out all grazing in all wilderness and WSAs asap.
- No new areas should be opened for grazing.
- I would like to continue the grazing rotation system that we are using in the riparian area of Riddle Creek and Coyote Creek. It has improved the area in the last ten years.
- Why isn't livestock grazing an "issue"?
- Address whether livestock grazing should be used as a tool to mitigate and/or to abate potential wildfire.
- Please use the grazing standards used in the conservation ranches in New Mexico where cows are moved very often and have their own water holes.
- Soil stability and impact on native vegetation and Redband trout should be crucial factors when considering grazing management issues.
- The BLM should provide for automatic plan amendments (decided under a categorical exclusion [no need for supplementary NEPA]) to define grazing allotments as unsuitable if a permittee participates in a permit buyout deal with a conservation group or other agency that wishes to permanently retire an allotment from grazing.
- The RMP/EIS must address how individual grazing allotment plans will be incorporated into the overall plan.
- Stocking rates of all herbivores must be addressed.
- During the Scoping Process, the "Big Field" in the Riddle Ranch, Inc. allotment was divided in half length-wise, the line running north and south. If ever this line is fenced, there is no livestock water in the east half.
- In a land trade, a third party's grazing permit should not have been deeded to another without his/her permission. In cases where this has happened and cannot be revoked, the permittee losing the permit should be given equal AUMs elsewhere.
- The area of Riddle and Coyote Creeks are included in the CMPA with the line even going through the middle of one field. All of this area plus the connecting land are in one permit of one ranch. The entire permit in the Three Rivers District is presently under a management plan that is showing improvement and its rotation system is successful, therefore, the entire permit should continue to be managed under the plan in place.
- Riparian and wetland areas should be grazed. Grazing is necessary for wildlife management.
- I suggest you consider allowing a rancher to graze buffalo within the "No Livestock Grazing Area".
- Cows should only be grazing on lands that receive more than 12 inches of precipitation per year.
- It would be helpful to publish pasture use dates once a month in the local newspaper.

- I would like to see the BLM print individual maps and construct large map bulletin boards showing allotment and pasture boundaries and the authorized grazing dates.
- The grazing season in the desert pasture in the Pueblo-Lone Mountain allotment and areas north, Mahogany point and Fields Basin, need to be shortened. The season of use should end September 1 or mid August.
- The Pueblo-Lone Mountain allotment three year re-evaluation that was to have been started at the end of the 1998 grazing season needs to happen.
- The Andrews/Steens Resource Management Plan needs to recognize the need to protect livestock that legally graze on or adjacent to legal federal grazing allotments.
- I am a firm believer in striking a balance between ranching and protecting the environment.
- Set up a process to reassess livestock grazing and permit it only as it supports the restoration of ecosystem health as part of an ecosystem management plan.
- The BLM must stop permitting the grazing of livestock where riparian habitats are no longer functioning at their full capacity, where grazing is causing or contributing to violations of water quality standards, where grazing is damaging soil health and where grazing is degrading or prohibiting recovery of microbiotic crusts.
- We recommend that information and data on range condition and frequency of allotment evaluations be tabulated and displayed for easy review by the public.
- Clear data on range condition should be compiled and listed so that information on the category (I, M, or C) is listed along with the dates and results of all allotment inspections.
- Livestock grazing will be allowed only where it has been found to be suitable and the lands chiefly valuable for livestock grazing.
- Ranching interests depending on the land in the area must be allowed to continue to use the lands as they have in the past unless they choose to change.
- Whenever adequate monitoring is not carried out, or evaluation of the monitoring cannot take place within a year of data collection, then livestock grazing must be immediately terminated pending completion of monitoring and evaluation.
- Livestock grazing shall be terminated or otherwise reduced unless it can be shown that grazing does not cause or contribute to the spread of invasive weeds.
- Livestock grazing shall be terminated or otherwise reduced unless it can be shown that grazing does not cause the destruction of microbiotic crust or retard the restoration of microbiotic crust.
- All temporary non-renewable permits shall be permanently withdrawn.
- The Oregon Farm Bureau would support only a plan that allows livestock grazing to continue on the area as it was prior to the creation of the CMPA.
- The BLM must assemble the information to understand the impacts of grazing and present and analyze that information in the RMP/EIS.
- BLM should allow for the voluntary relinquishment of a grazing permit for conservation.
- The BLM must consider whether an allotment is meeting the Standards and Guidelines.
- The BLM must address grazing suitability at the RMP level.
- Please ensure the RMP/EIS discloses adequate criteria for the BLM's assessment of acres suitable for livestock grazing.
- Promotion of viable and sustainable grazing is one purpose of the Steens Act.

Lakes/Springs

- No camping at Wildhorse Lake or at Mickey Hot Springs.
- Improve Mann Lake and protect Borax Lake and Springs.
- Install outhouses at Frog Spring.

Noxious Weeds

- BLM should engage in an aggressive policy of weed eradication using chemical, grazing and biological techniques.
- Perhaps the noxious weeds could be eradicated by benefit of companion planting which would thereby eliminate them without the utilization of harmful chemical intervention.
- Tell people to quit bringing them in. Catch the people who are bringing them in.

- Noxious weeds must be controlled by burning or spraying.
- The BLM must comply with the Executive Order on Invasive Species.

OHV/Snowmobiles

- Eliminate winter motorized use (snowmobiles) on Steens.
- Eliminate snowmobile use access to the Steens.
- Snowmobiles should not be allowed in wilderness or WSAs.
- Eliminate ATV travel on all roads except maybe the Loop Road.
- Assess ORV designations and limit use throughout the Andrews RA.
- I strongly support the designation of snowmobile play areas within the WSAs on the Steens consistent with historical use before the Act.
- No snowmobiles at Fish Lake.
- Off-road vehicle use should be banned in all existing Wilderness Study Areas (WSAs) and trails where such use conflicts with other resourse values.
- I request that off road vehicles be restricted to designated roads.
- OHV and snowmobiles are the perfect way for AMERICANS to visit OUR public lands.
- Regulate and monitor ORV use in non-wilderness areas.
- Whenever ORV's are discussed, the OHV strategy is referred to as guidance. While it is indeed a handbook for BLM staff use, appropriate laws, regulations and executive orders are the ones that establish criteria that will hold up in courts.
- OHV use should be classified as limited or closed in the Steens area covered by the Act. Limit OHV use to recognized routes and in some places seasonal restrictions should be applied to reduce or eliminate damage to roads - to the same for the Pueblos and Trout Creek Mountains. Close the main Trout Creek loop road in the winter along with most of higher elevation routes in the Pueblos. Close OHV use in RNAs and Wilderness. There could be some open areas like in the Catlow Valley. An analysis or research should be conducted to determine the legality of allowing OHV use to occur in the Alvord Playa.
- Areas that have been open to snowmobiles should remain as such as long as they stay over the roads.
- When discussing ORV designations, the Preplan says that the CMPA outside the Wilderness will be "limited to existing roads" but Sec. 112(b)(1)[B] of the Steens legislation requires 'designation' of any roads that are to be used in the transportation plan. Designated vs. existing is an important distinction.
- You can limit access of snowmobiles to the areas least likely to be damaged or destroyed by them.
- I am very concerned about BLM's interpretation of the Steens Mountain Act as to the use of snowmobiles within the management area.
- I am asking that BLM work with all the snowmobilers of Oregon and develop a sound plan that will allow us to have trail and play areas and to be able to continue to enjoy our sport in the Steens Mountain.
- As part of a recreation plan, BLM should evaluate designating trails for motorized use both summer and winter. BLM should fully evaluate designating a trail area for a snowmobile play area.
- The Alvord Desert WSA was not grandfathered in by FLPMA as an open dune and Burns BLM has been in violation of regulations by allowing open use. This RMP is the appropriate place to correct this error.
- The RMP/EIS must address an adequate range of alternatives with respect to OHV use; must manage OHVs pursuant to FLPMA's principles of multiple use and in accordance with FLPMA's requirement to prevent unnecessary and undue degradation of the public lands; and must conform to Executive Orders 11644, 11989, the BLM's "National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands," and the BLM's OHV regulations.
- Areas open to OHV use must minimize harassment of wildlife and disruption of wildlife habitats and minimize conflicts with other recreational users of the public lands.
- The BLM must present inventories and evaluations of the effects of OHVs in ecosystems and specific ecosystem components such as soils, microbiotic crusts, fish and wildlife and their habitat, native vegetation, and the spread of weeds. Unless and until the BLM provides this information, the public lands should be closed to OHV use unless specifically designated as open.
- OHV use must be allowed for managing allotments and public lands.
- SMAs should be closed to OHVs.
- OHV use should not be restricted outside of CMPA unless monitoring indicates permanent damage from use.

Planning Process Issues (RMP/EIS, Scoping)

- In the scoping meetings explain many features that are unique in the Steens Act.
- Information was received too late to avail the use of public meeting dates.
- The amount of information provided and the willingness of the representatives to answer my questions at the scoping meeting was impressive. The graphic presentations and maps at the scoping meeting were very well done.
- I urge you to welcome constructive public involvement in any form. Use the comments to demonstrate that this area is of national interest, and to support BLM's best efforts to fully protect the wilderness character and native ecosystems of the Steens area.
- Each letter is unique as it is sent from a different person, please treat each letter individually and do not diminish the voice of the public.
- We support this open process of comment and review.
- Plan should be comprehensive and written to be understood by a lay person.
- The Andrews Management Plan and Steens Management Plan should be separate.
- The RMP should be site specific and not include the SEORMP or ICBEMP.
- The comment process should be extended until June.
- Intent of the Steens Act is to emphasize Cooperative Management. Purposes 1, 5, 10, 11, 12, and 13 of Section 1(b) of the Steens Act should guide the process.
- Baseline data must be collected.
- The Proposed SEORMP says that the comments received when the Andrews RA was included in the SEORMP process would be used in the RMP for Andrews.
- I recommend reviewing the Protest filed by ONDA, et. Al., on the PSEORMP to see the way in which the environmental community might react to proposals put forth within this RMP.
- There are fewer and fewer places left in Oregon that have not been destroyed by improper use and over-use. It is late in the game, but it is time to call a halt to the abuse of public lands. We must learn to live with nature, not try to mold it for our short-term profits. We plead with you to include these concepts into the planning process.
- Item 9 on page 13 [Preplan] says the Science Advisory Committee will be established, but the legislation seems less conclusive on whether one is mandatory.
- BLM is contending that it cannot meet the legislated deadline for completing the Andrews RMP if it were to try to analyze limiting recreational and ORV use and to assess AMPs. Given the importance of these issues however, BLM needs either to hire consultants or establish a schedule for handling them through separate EISs to be completed after the LUP.
- Address issues 4 [wildlife habitat], 6 [energy and minerals], 9 [recreation management], 10 [lands and realty], and 14 [OHV management].
- You are the trustee of a very special place belonging to all American citizens. Please ensure that the interests of all citizens of this country are recognized in development of the RMP.
- Monitoring must be conducted.
- Effectiveness monitoring and evaluation should be integrated with land use and implementation plans to establish thresholds for various resource parameters that have been identified as triggers or indicators that a new decision is required. We recommend that this process, which provides an objective, science-based means of determining whether a new plan decision is required, should be used in the Andrews/Steens RMP.
- It is important that plans be current and address pressing issues such as fire rehabilitation and conservation of sage steppe habitats. It also is important that plans be based on the direction provided by the Interior Columbia Basin Management Project (ICBEMP) as well as the latest federal laws, regulations, standards, guidelines, and policies.
- Management under the new RMP should be conducted as an experiment so that ten years from now we will have learned as much as possible about the effects of our land management activities.
- We believe the BLM must plan for long-term stewardship responsibilities that do not permit an irreplaceable or irretrievable loss of resources.
- Much of the CMPA boundary was drawn on section and township lines. In several places this isn't compatible with the topography, permits, and/or existing fences.
- We ask that the RMP clearly reiterate the clear intent of Section 121, which is that the Secretary may enter into cooperative management agreements with local interests only if doing so is appropriate to achieving resource or land use management objectives.
- The RMP/EIS must provide meaningful objective, numerical standards for management of rangelands and their associated vegetative and soil resources. NEPA requires that resource management plans inform the public and decision makers how the resources will be managed in the future.

- There has been considerable controversy over the "cooperative management" language in the Steens Act. We request that the RMP address this language straight-on so as to clarify any confusion regarding how it will affect management of the CMPA and wilderness.
- The High Desert Committee would like the Burns BLM to keep in mind that the time line mandated in the Act for the CMPA does not apply to the Andrews MU. We understand combining these plans, however, we do not want important aspects of the land use planning process to inadequately addressed as a result. The Andrews MU can be pulled out and dealt with separately, contractors can be hired to provide more assistance, or parts of the process can be mandated to be dealt with by separate EISs within a specific period after the RMP is completed.
- True standards having a definite timeline shall be incorporated.
- In order to fulfill NEPA and FLPMA directives, the BLM must consider and give credence to the overall goal of landscape level health and properly functioning ecosystems.
- Adaptive management requires that well developed and statistically valid monitoring programs be in place to identify the positive and negative effects of management.
- We urge the RMP to adopt the following analysis of what the Act meant by establishing the potential for cooperative agreements: all cooperative agreements with any party must still be governed by existing law, policy and regulation; it is common policy across the federal land management agencies to reach out cooperatively to local communities and interests when formulating management direction.

Recreation (hiking, birdwatching, camping, hunting)

- Limit recreational use to protect solitude.
- Work with the State of Oregon Wildlife folks to reduce hunting permits issued on the Steens.
- The existing wildlife populations must be of paramount concern for recreation management.
- BLM should consider limiting party size and perhaps imposing quotas on permits for especially sensitive areas.
- The ad hoc campground across the road from the Alvord Hot Springs has to be prevented.
- Camping etiquette should be a priority.
- The best use of the vast majority of the lands is for dispersed recreation.
- Install a horse unloading facility near the Little Blitzen trail head on the north side of the Loop Road to reduce horse and traffic conflicts.
- Monitor dispersed camping in sensitive areas for signs of high/negative impact and regulate if necessary.
- Design new facilities for management (not promotion) of recreation.
- Overnight camping at Wildhorse and Little Wildhorse Lake should not be allowed.
- I support winter recreation on Steens Mountain. I think opportunities should be expanded to provided public access to use public land near or on both the North and South Loop Roads and I support the designation of trails within the CMPA for year-round motorized use.
- Encourage and promote primitive recreation and the enjoyment of the areas scenery and solitude.
- Recreation management plans must emphasize public access, maintenance of public roads and trails, including RS2477 public roads.
- Establish a recreation use carrying capacity especially in Wilderness and ACECs.
- Please keep the Steens open to horse and equestrian use. Don't close the horse camp.
- Address signage and trailhead parking areas for Pueblo Mountains area and Trout Creek Mountains area.
- Recreational sites can be defined in the RMP as something quite different from Wilderness and should be described to eliminate those activities which undermine those natural and primitive qualities provided by wilderness experience.
- No horse or pack animals should be allowed in the Wildhorse/Little Wildhorse Canyons.
- The plan should establish group size limits that apply equally to private visitors and commercial outfitters.
- BLM should fully engage in a recreational plan for the CMPA as part of the RMP/EIS.
- Regulations should not reduce the number of recreational stock use days below approximate levels existing at the time the Steens Mountain Wilderness was designated.
- If total use is allowed to increase beyond that which existed at the time of classification as Wilderness, recreational stock use should be allowed to increase at a proportionate rate to which existed at the time of classification.
- I am interested in your treatment of the Donner und Blitzen River in your RMP. With all the other wonderful things the Steens are, it is also an excellent whitewater experience for the few who run it.

- We presume then, that provisions in the 1964 Act recognizing the public purposes of "recreational, scenic, scientific, educational, conservation, and historical uses," and the mandate to preserve the character and conditions that existed at the time the area was included in the National Wilderness Preservation System, will apply to recreational stock use and grazing will be allowed and managed, as a component of total use, as necessary to achieve that mandate.
- Proposed regulations that further restrict recreational or historical use must be based on verifiable evidence that such use is resulting in a deterioration of wilderness character and conditions.
- It is critical that current baseline data be collected and added to that which is already available.
- Camping should be restricted to sites designated with fire rings.
- If a maximum party size is determined to be necessary, in consideration of the use that has occurred in the Steens in the past, we suggest that it be set at a relatively high level. We recommend a standard similar to the USFS Region 5 maximum party size in their larger northern wilderness areas, 25 people without consideration for animals to start with.
- The BLM needs to consider how to keep people on developed trails around popular overlooks such as Kiger Gorge.
- I am concerned about the future of recreation on the Steens Mountain. I am very concerned about BLM's interpretation of the Steens Mountain Act as to the use of snowmobiles within the management area.
- We are very concerned that agency administrators will react to pressure from extremist elements of the Wilderness community and impose unnecessarily restrictive limits or regulations based on their perceptions of recreational impact or their personal values and preferences.
- We insist that the following statement (which should have been included in the Actof 2000) is included in the Management Plan: "Traditional recreation saddle and pack stock use is an appropriate, current, and historical use of the Steens Mountain Wilderness."
- It would be premature to propose limits on recreation use until a baseline inventory of existing conditions is completed and monitored for an adequate period to determine if recreation use is resulting in unacceptable levels of impact.
- Neither the Wilderness Act nor the Steens Act mandate improvement of the condition in the designated Wilderness area to a higher standard than existed at the time the Wilderness was created. Both, however, require that traditional forms of recreation be preserved.
- Broken Trails would like the BLM to maintain quality recreation opportunities in the Andrews Resource Area for individuals as well as commercially guided groups.
- I strongly support the designation of trails and play areas within the management area including the WSAs. I believe this would be consistent with the historic trails and play areas historically used before the Act was passed.
- The BLM needs to curb illegal recreating use, guided or otherwise.
- I do not want my uses on public lands, motorized and non motorized, to be restricted, or if restricted to be no more than is actually necessary within the spirit and intent of the Act.
- The BLM needs to avoid "parklike" management practices, i.e. designated campsites, toll fees, BLM ranger guided tours for a fee.
- Non-motorized recreational use should be allowed on the loop road.
- We believe you will need a permit system for camping and overnight use to encourage registering, control numbers and to provide information on user ethics.
- Campfires are a difficult issue and should be decided based on the resource (is there enough wood, what is the fire danger). We are in favor of requiring camp stoves.
- Include a provision that camping areas and trails may have closures when the resource is impacted beyond acceptable levels.
- Hunting, fishing and recreation are historic use and should be continued.

Roads/Access

- Eliminating roads due to inaccurate classifications as "ways" is bureaucratic manipulation.
- The BLM should make a seasonal closure on the Moon Hill road from the end of elk season to the middle of March as goose hunters and snowmobilers tear up the road to where it is impassible.
- Vehicle use should be limited to established roads.
- Close all the cherry stems in the Wilderness to as part of the Transportation Plan.
- No new roads should ever be built on that mountain.
- Allow reasonable access for inholders and ranchers, but only that minimally necessary under the Wilderness Act and establishing legislation.
- Maintaining access to recreating areas and private property is essential in the management plan.

- Please restrict motorized use to designated roads and close all trails where conflicts with other resource values exist.
- Address land use and public access.
- Maintain motorized access as currently regulated.
- As a handicapped senior citizen, the only way I'm able to enjoy and visit the Steens area is by motorized transportation. I would like this area to be kept open for motorized use on existing trails and roads.
- Address closure of "ways" to vehicular traffic to limit the spread of noxious weeds.
- I would like to see the north and south loop roads designated for winter trails and some play areas for hill climbing.
- Please leave unroaded areas road- and vehicle-free.
- I would encourage another look at the application of your agency's definitions for what a road is and what a "way" is. Seems to me that there are many roads (now) defined as "ways". Obviously this by itself has substantial "restrictive"impacts.
- All the jeep roads should be closed except to nonmotorized transportation.
- Establish the roads for other vehicles outside the Wilderness area.
- Do not pave the Loop road.
- We would like to see the South Loop Road in the vicinity of the Rooster Comb section to remain rough or better yet, closed and rehabilitated.
- Close Arizona Creek Road from east WSA boundary to Stergen Meadows.
- I would like to see more access for hiking and birdwatching on the eastern side of the Steens, can some public easement be worked out to provide access for hikers and climbers to access high eastside basins. I oppose ORV access and am only talking about pedestrian access.
- I do not want my uses on public lands (motorized and non-motorized) to be restricted, or more restricted than is actually necessary within the spirit and intent of the Act.
- You should encourage the building of trails with good signs while reducing areas accessible to vehicles.
- I would like to be able to drive anywhere that is needed on my grazing permit. So I can fix fence, repair reservoirs, scatter salt or do whatever is needed.
- The BLM now sanctions some motor vehicle use in the Wilderness allowing an outfitter motorized access to leased land within the Wilderness and for a realtor to drive clients to a parcel of private land also within the Wilderness. This type of motor vehicle access must be denied.
- Decisions on access to private inholdings should be evaluated on a case-by-case basis with opportunities for public comment. Past modes of transportation should not be used as the main criteria for determining access. Instead, foot and horseback access should receive priority consideration to protect the area's wilderness values.
- I would like to see part of the Alvord Desert be closed to motor vehicles.
- One mile of open road per six square miles of land is acceptable for both hunting and wildlife enjoyment.
- Take hunter access into account when you are closing roads (for those who do not have horses or ATVs).
- Continue to close Loop road in winter.
- Allow vehicle travel only on roads that are posted open.
- Administrative use of motorized vehicles should be addressed in Wilderness, WSAs, and RNAs. While certain administrative use is permitted, it should not be just for convenience. Hiking or horseback activity should be a rule for administrative use with only rare exceptions permitted.
- The industries that create all new wealth and harvest resources ... must be allowed access and use of the land.
- The Steens Mountain CMP Act guarantees landowners reasonable access to their private lands with the CMPA including lands and interest therein within the Wilderness. Since the private lands within the CMPA were homesteaded, landowners have had the right to free, unrestricted and unfettered access to their lands. According to PL 106-399, BLM cannot make any decision which affects these rights to real property. Any attempt to change the private landowner's, and interests therein, current and historic access would be a violation of at least four different parts of the Steens Mountain CMP Act.
- We recommend the BLM complete a road and trail atlas (inventory) and a transportation plan for the Andrews/Steens planning area.
- As part of the winter recreation planning, BLM should evaluate ways in which more of the public lands can be accessible for all public use.
- The Transportation Plan and the final decisions on open and closed roads are very important to current and historic recreational and other public use is protected including dispersed use camping areas, pull-outs and other areas of use which may not be considered within the boundaries of a "road".
- BLM will have to identify and allow for at least the minimum road maintenance required to ensure the agency meets its obligation of allowing access to both private and public lands.

- Please consider limiting access to roads that can be maintained and that access to unique and sensitive habitats such as wetlands and riparian areas be limited.
- Access should be controlled by permit to assure that the wilderness experience is maintained.
- End motorized access of inholdings.
- Transportation plan may find it necessary to bus more and more people to the high Steens and other popular areas, as visitor numbers increase.
- All minor roads, unnecessary for BLM management, should be closed.
- Assess the desirable practicality of leaving existing roads and ways open as cherry stemmed access ways for the motorized recreationist.
- We are not happy with restricting access within the management area.
- Regarding access to private property, landowners need the security of permanent general easements that remain intact even with land ownership changes. Easement location should be economical for the private landowner to create or maintain. Access by permit would be a constant concern to the landowner, as permits can be challenged and/or eliminated.
- Close/block access to jeep tracks and post open roads to inform people that unless posted as open, any road/track is closed to vehicle use.
- Carefully control motorized access to private inholdings so as to minimize disturbance to wildlife, fragile alpine vegetation, scenic vistas and the quiet enjoyment of this wonderful mountain environment.
- Any ways that have deteriorated from non-use to the extent no longer easily visible, should specifically be excluded from use by anyone working in WSAs.
- The RMP should identify the size and location of all state and private inholdings within the Steens Mountain Wilderness and specifically stipulate that individual special use permits will be required for any proposed motorized access to inholdings, as required by 43 CFR part 2920 regulations. The RMP should also state that special use permits will be evaluated within a NEPA process and the RMP should reiterate the three criteria for determining access to inholdings as described in national BLM regulations (43 CFR Part 6305).
- During winter the loop road should be closed to all motorized use.
- We ask that the RMP confirm, as an important statement of policy, that a special use permit will be required for each livestock permittee requesting motorized access into the wilderness. The RMP should specify that the special use permitting process must include a site-specific minimum requirement and tool analysis using the Carhart model.
- Trailhead parking areas should be kept to a fairly small size to discourage future crowding and loss of wilderness solitude.
- The Transportation Plan should be the second priority in planning after economics.
- Law enforcement must be addressed in the Transportation Plan.
- Access should be provided unless substantial impairment or damage occurs.
- It is not consistent with the Steens Act to require permits to access inholdings within the wilderness, plan should utilize notice of reasonable and normal access.
- Designate roads as private property access roads.

SMAs/ACECs

- Establish more RNAs for native plant communities.
- Each native plant association/community type should be represented in more than one RNA
- What does this do to the rights of landowners. Who manages the area? How is the management paid for?
- An inventory of the lands within the Andrews Resource Area should be undertaken to identify "areas of critical environmental concern in accordance with 43 USC 1711(a).
- A new plan for the Andrews RA should give priority to areas of critical environmental concern.
- In ACECs/RNAs a recommended goal where unique plants, wildlife or scenic attributes are involved could read, “Activities are allowed that enhance the values that made the area unique.”

Socioeconomics

- Steens Mountain’s greatest economic value is as a destination for tourists.
- Concern about maintaining the economic base of local communities as is required of federal land management agencies under the federal code of regulations and various federal statutes.
- Riparian and wetland areas must be managed for production of forage for domestic wildlife woodland management resulting in a sustained output of goods and services that can be captured by local communities, recreation, mining and off-road vehicle use.

- Socioeconomic considerations must emphasize sustainable local communities. Emphasis must be management alternatives selected to sustain, maintain and enhance commercial, value added and job creating opportunities.
- The needs of the local citizens must take priority over all other interests.
- If WS wildlife management activity is reduced in magnitude or not allowed at all, there would be an adverse effect on the local rural economy.
- The draft RMP/EIS should focus closely on the economic needs, both current and future, of Harney County and its residents.
- Every effort should be made to protect the natural resource economies of the communities which will be potentially affected by the management of the Andrews/Steens Planning Area.
- Consider economic feasibility and impacts throughout the RMP.
- The number one issue should be the economic health of Harney County.

Special Recreation (SRPs, outfitters, running camp)

- Establish a good base line of data before issuing any new permits.
- Consider repercussions of permitting entities that have been illegally outfitting for years.
- Permitted outfitters should be allowed at present levels providing they are also included with any equation used to establish carrying capacity.
- The summer running camp Big Indian should be discontinued or be subject to any group limitations and should be off limits in RNAs.
- Limits of Acceptable Change might be a good management avenue to figure out use and activity, especially in Wilderness/WSAs.
- Any group that the agency plans to permit needs to be licensed in the state of Oregon as a guide.

Vegetative Ecosystems (upland, woodland, riparian)

- Emphasize conservation of biological diversity, ecological processes, plant community restoration.
- Management actions should not keep or place plant communities (seral stages) outside the range of natural variation, or further degrade them.
- BLM doesn't have the money or time to manage resources to improve and maintain the integrity of upland or riparian ecological communities.
- Woodland management should emphasize juniper eradication, with strong emphasis on the capture of fish, fuel wood and primary forest products utilization. Reforestation and afforestation should also be emphasized.
- No vegetation manipulation in Wilderness or WSAs.
- Need to manage high desert vegetation now, before noxious weeds replace distinctive flora.
- The key objective of the RMP/EIS should be maintenance of the sagebrush steppe ecosystem so that important ecosystem functions continue.
- The bottom line of the RMP/EIS should be to ensure that soil stability, watershed health, and ground cover all are within ranges that promote sound ecosystem function.
- The RMP/EIS should consider providing greater emphasis on restoring rangeland habitat.
- Rangelands should only be replanted with native species.
- All rangelands in poor or fair condition should be withdrawn from livestock grazing until they have developed an adequate herbaceous layer and a healthy microbiotic crust.
- All rangelands in excellent condition should be permanently withdrawn from livestock grazing to allow baseline conditions to be studied and to act as a genetic reservoir of native species that are necessary for future reintroductions into degraded rangelands of the region.
- Provide whatever evidence and data that pertains to the causes of unsatisfactory range condition.
- The plan needs to assure that the BLM can continue the effort to manage western juniper over the whole management area, including the Steens CMPA.
- The RMP/EIS must provide objective and numerical standards for management of rangelands and their associated vegetative and soil resources.
- Vegetation management must address ongoing scientific studies.
- Riparian and wetland areas must be managed as dynamic communities.
- Juniper must be controlled.

Water Quality/Water Quantity

- Maintain water sources, protect and restore watersheds, save streams and limit fishing and boating.
- It is imperative that the use of water resources be fairly apportioned in ways that sustain economic values that can be captured by individuals holding valid water rights and grazing permits, and for other uses, including mining and recreation.
- Eliminate grazing from entire planning area, WSAs and adjoining areas in the contiguous ecosystem to improve water quality and riparian habitat.
- Develop a management plan that would prevent pollution of the water or erosion of the banks.
- Do not allow development, grazing or camping near the streams.
- The water taken from Dip Creek could be replaced by the present well on Rincon Flat or by a newly drilled well.
- Taking water via pipeline from any riparian area should not be a part of any BLM projects.
- A comprehensive program of annual water quality monitoring for all major waterways and their tributaries should be implemented immediately including actions to reverse, and then restore water quality through the resource area. BLM should abandon the pipeline taking water from Dip Springs (Pueblo Mountains).
- We recommend setbacks from water for tethered animals, but free roaming animals should not be restricted except around springs.
- We recommend that springs/seeps outside the "No Grazing" designation be fenced with stock water available outside the fence.
- Water developments should be required to function during the hot summer and early fall months after removal of livestock.
- To improve the historic riparian area at Dip Creek, I would propose that the South Rincon reseeding well (identified on the enclosed map) be redeveloped. Another option would be drilling a new well to supply the existing tank and pipeline. The BLM should take over maintenance responsibilities at the Rincon seedings water system.
- Water quality, aquatic resources and fisheries should be managed with common sense with all affected parties involved.
- I urge you to consider accelerating your water development efforts on the lands you manage.
- The draft RMP/EIS must provide for compliance with water quality standards by providing for objective standards with definite triggers and responses to water quality problems. TMDLs should be developed to insure water quality is improved and impaired waters de-listed.
- The draft RMP/EIS should avoid issuance of grazing permits for grazing allotments adjacent to water quality limited streams.
- We urge the Burns BLM District to make the production of high quality water a very high priority.
- The draft RMP/EIS should acknowledge that the primary cause of water quality degradation on the public lands is pollution from nonpoint sources.
- To meet standards and guidelines as well as to avoid violations of the CWA, the plan should include a specific, immediate promise to address water quality standards violations.
- Cooperative riparian management should be addressed.
- Water quality should be addressed in the plan only to the extent that it is authorized by the state.

Wilderness/WSAs

- Steens Mountain should be managed for its primitive and natural conditions through strong enforcement of the Wilderness Act.
- The wilderness and the rest of Steens Mountain should receive a high level of protection.
- The [Wilderness] Act must take precedence over the extremely broad interpretation of the "cooperative and historical" language in the Steens Mountain agreement that interest groups are attempting to impose.
- The BLM should re-inventory wildlands not designated as WSAs for wilderness suitability.
- BLM needs to survey all lands outside WSAs for suitability for wilderness designation, especially since BLM regulations call for this inventory to be done as part of the LUP process.
- The BLM has its present wilderness regulations that should not be circumvented.
- Trailhead signboards should stress the importance of leave-no-trace camping techniques and educate visitors about the special restrictions that apply to traveling in a Wilderness.
- We recommend that land restoration activities be initiated within WSAs where it is deemed natural characteristics have been compromised, unnatural features in a specific area exist, or where wilderness qualities can be enhanced.

- Manage all WSAs and Wilderness as primitive (as described in the Recreation Opportunity Spectrum (ROS) system.
- Trout Creek Mountains and Pueblo Mountains should be made into wilderness areas.
- Protect other lands within the Andrews RA that have not yet received the official "wilderness" designation - Alvord Desert, Pueblo Mountains and Trout Creek Mountains.
- I am opposed to any plan that creates any more useless-wasted wilderness that no one can visit.
- Campfires in Wilderness/WSAs should be discouraged and if monitoring indicates a problem they may need to be excluded.
- In WSAs, not only does FLPMA section 603 and the subsequent IMP need to be followed, but we would like to see the following goal be included: "The quality of wilderness values and attributes would not be diminished."
- Some fences were said to be removed should wilderness designation occur as outlined in EAs. If this hasn't been done it now needs to be initiated.
- In its most primitive definition, the term "Untrammeled" is violated in Wilderness and WSAs when fencing is erected because it adversely restricts "Free movement." Wilderness is also supposed to be areas of "undeveloped Federal land", but construction of new fences infringe on this mandate - it does not matter if fences were existing before it was a wilderness because the designation of wilderness constitutes a new and different method of land use administration.
- Steens Mountain Wilderness should be managed for its primitive and natural conditions through strong enforcement of the Wilderness Act.
- Assuming that the tiny orphans [of wilderness] created by the Steens Legislation can not be managed as wilderness they should be dealt with appropriately.
- This RMP must prioritize the wilderness values of these public lands.
- Assuming that all of the land exchanges can be completed, we will end up with a number of new Wilderness units that deserve their place within the Wilderness preservation System. The left-over scraps of "wilderness" created by this legislation need to be re-evaluated.
- Adjacent lands excluded from the WSAs should be inventoried for additional wilderness inclusion, as suitable.
- I would like to see current wilderness preserved and expanded a little over the years into the fish Lake creek drainage and down further into Kiger Gorge.
- The Steens Wilderness is an inappropriate name and misleading name ... as there are either 8 or 9 separate and distinct units. It does harm to the concept of Wilderness for the public to think of Steens Wilderness areas as a single wilderness. In reality, what we are dealing with is a number of wilderness areas separated by roads. It is a travesty for people to continue to speak of "The 175,000 acre Wilderness" created by the Steens Legislation and I hope this practice will end sooner than later.
- Strong and active enforcement of the Wilderness Act from low over flights to keeping an eye on pre-existing mining claims.
- Wilderness quality lands on the Alvord Desert, Pueblo Mountains and Trout Creek Mountains must be designated as WSAs.
- Your new RMP for the Andrews RA (including Steens) must emphasize conservation and protection of wilderness values.
- All land within the RMP not originally inventoried for Wilderness potential during the original review required by FLPMA should be surveyed now (pg. 35 discussion says "could") and any lands originally surveyed should be reviewed for changes that might have occurred to allow them consideration now. This would seem to be required by the new Land Use Planning Handbook and Manual 1600, and the Wilderness Inventory Handbook H-6310-1.
- Wilderness is not the same as a recreation site.
- I am opposed to any plan to help create more Wilderness in Oregon.
- Future management must not detract from the primitive wilderness experience.
- The BLM should continue to avoid management actions that detract from the primitive wilderness experience.
- Section 2(a) of the Wilderness Act refers to wilderness as a singular entity in its own right when it describes "an enduring resource of wilderness." The analysis of impacts and the affected environment in the RMP should therefore evaluate impacts to wilderness as a separate resource category.
- The RMP/EIS must adequately protect WSAs from adverse impacts from livestock grazing, off-highway vehicles, and actions on lands adjacent to WSAs.
- We urge the BLM to adopt an alternative in its final RMP that adequately addresses grazing pressures within WSAs.
- We request livestock grazing be suspended in WSAs where monitoring shows a decline in ecological condition.

- We request structures, such as fences and water developments, be prohibited from WSAs.
- OHVs should be prohibited from use within WSAs.
- Provisions for strict compliance with legal mandates for wilderness protection and management should be incorporated into the RMP.
- While the BLM has argued elsewhere that recommended WSAs submitted by the President to Congress in 1991 need not be re-inventoried this assumption runs counter to FLPMA and is particularly erroneous with respect to WSA acreages not so recommended in the 1989 and 1991 documents. The BLM must continue to inventory these lands with respect to their wilderness suitability of those non-recommended areas that may have occurred in the past ten-plus years.
- We also ask that the RMP emphasize that the statutory land use management objective for designated wilderness is the preservation of wilderness character.
- The RMP should adopt a minimum requirement and minimum tool analysis model that will be applied in writing to all administrative actions in wilderness that propose any of the actions prohibited by Section 4(c) of the Wilderness Act.
- The overarching mandate of the 1964 Wilderness Act to land managers is to preserve an area's wilderness character in at least the same quality or better as existed at the time of wilderness designation. We ask that the RMP specifically acknowledge this management mandate to preserve wilderness character in its discussions of topics affecting the Steens Mountain Wilderness and to recognize that wilderness character is comprised of both tangible and intangible qualities which cannot be fully assessed simply by discussing biophysical resources.
- Management methods used in the wilderness should have the least possible impact on recreational users while assuring wilderness values are not impaired.
- Management must be consistent with Steens Act to recognize and allow current and historic recreational use.

<u>WSRs</u>

- Recommend waterways eligible for inclusion in the National Wild and Scenic River System.
- All rivers and streams in the planning area should be designated WSR.
- I am opposed to any plan to designate any stream or river as wild & scenic.
- If all rivers cannot be considered for WSR designation at this time, they should be managed as WSR until the studies can be done.
- Please extend WSR protection to all the tributaries and creeks of Kiger, Wildhorse, Fish, Donner and Blitzen Rivers.
- The Wild and Scenic Rivers Act requires that the administering agency must develop a comprehensive management plan for designated river corridors within three years after the date of designation. This means the Wildhorse and Kiger Creeks plan must be completed by October 30, 2003.
- BLM should utilize this opportunity to inventory and recommend streams in the Pueblo and Trout Creek Mountains as well as streams on Steens which have previously gone unconsidered.

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Appendix D - Legal Authorities, Planning Criteria, and Management Direction and Consistency with Other Plans

Legal Authorities

Several federal statutes have been enacted over time to establish and define the authority of the BLM to make decisions regarding management and use of public land resources. Following is a list of major legal authorities relevant to BLM land use planning.

1. The Federal Land Policy and Management Act of 1976 (FLPMA), as amended, 43 U.S.C. 1701 *et seq*., provides the authority for BLM land use planning.

   a. Sec. 102(a)(7) and (8) sets forth the policy of the United States concerning the management of BLM lands.
   b. Sec. 201 requires the Secretary of the Interior to prepare and maintain an inventory of all BLM lands and their resource and other values, giving priority to areas of critical environmental concern (ACECs); and, as funding and workforce are available, to determine the boundaries of the public lands, provide signs and maps to the public, and provide inventory data to state and local governments.
   c. Sec. 202 (a) requires the Secretary, with public involvement, to develop, maintain, and when appropriate, revise land use plans that provide by tracts or areas for the use of the BLM lands.
   d. Sec. 202 (c) (9) requires that land use plans for BLM lands be consistent with tribal plans and, to the maximum extent consistent with applicable federal laws, with state and local plans.
   e. Sec. 202 (d) provides that all public lands, regardless of classification, are subject to inclusion in land use plans, and that the Secretary may modify or terminate classifications consistent with land use plans.
   f. Sec. 202 (f) and Sec. 309 (e) provide that federal, state, and local governments and the public be given adequate notice and an opportunity to comment on the formulation of standards and criteria for, and to participate in, the preparation and execution of plans and programs for the management of the public lands.
   g. Sec. 302 (a) requires the Secretary to manage the BLM lands under the principles of multiple use and sustained yield, in accordance with, when available, land use plans developed under Sec. 202 of FLPMA, except that where a tract of BLM lands has been dedicated to specific uses according to any other provisions of law, it shall be managed in accordance with such laws.
   h. Sec. 302 (b) recognizes the entry and development rights of mining claimants, while directing the Secretary to prevent unnecessary or undue degradation of the public lands.

2. The National Environment Policy Act of 1969 (NEPA), as amended, 42 U.S.C. 4321 *et seq*., requires the consideration and public availability of information regarding the environmental impacts of major federal actions significantly affecting the quality of the human environment. This includes the consideration of alternatives and mitigation of impacts.

3. The Clean Air Act of 1990, as amended, 42 U.S.C. 7418, requires federal agencies to comply with all federal, state, and local requirements regarding the control and abatement of air pollution. This includes abiding by the requirements of State Implementation Plans.

4. The Clean Water Act of 1987, as amended, 33 U.S.C. 1251, establishes objectives to restore and maintain the chemical, physical, and biological integrity of the Nation's water.

5. The Federal Water Pollution Control Act, 33 U.S.C. 1323, requires the federal land manager to comply with all federal, state, and local requirements, administrative authority, process, and sanctions regarding the control and abatement of water pollution in the same manner and to the same extent as any non-governmental entity.

6. The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755) as amended by: Chapter 634; June 20, 1936; 49 Stat. 1556; P.L. 86-732; September 8, 1960; 74 Stat. 866; P.L. 90-578; October 17, 1968; 82 Stat. 1118; P.L. 91-135; December 5, 1969; 83 Stat. 282; P.L. 93-300; June 1, 1974; 88 Stat. 190; P.L. 95-616; November 8, 1978; 92 Stat. 3111; P.L. 99-645; November 10, 1986; 100 Stat. 3590 and P.L. 105-312; October 30, 1998; 112 Stat. 2956.The original 1918 statute implemented the 1916 Convention between the U.S. and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the U. S. and Mexico, the U.S. and Japan, and the U.S. and the Soviet Union (now Russia).

7. The Safe Drinking Water Act, 42 U.S.C. 201, is designed to make the Nation's waters "drinkable" as well as "swimmable." Amendments in 1996 establish a direct connection between safe drinking water and watershed protection and management.

8. The Endangered Species Act (ESA) of 1973, as amended, 16 U.S.C. 1531 *et seq*.:
   a. Provides a means whereby the ecosystems upon which endangered and threatened species depend may be conserved and to provide a program for the conservation of such endangered and threatened species (Sec. 1531 (b), Purposes).
   b. Requires all federal agencies to seek to conserve endangered and threatened species and utilize applicable authorities in furtherance of the purposes of the ESA (Sec. 1531 (c) (1), Policy).
   c. Requires all federal agencies to avoid jeopardizing the continued existence of any species that is listed or proposed for listing as threatened or endangered or destroying or adversely modifying its designated or proposed critical habitat (Sec. 1536 (a), Interagency Cooperation).
   d. Requires all federal agencies to consult (or confer) in accordance with Sec. 7 of the ESA, with the Secretary of the Interior, through the Fish and Wildlife Service and/or the National Marine Fisheries Service, to ensure that any federal action (including land use plans) or activity is not likely to jeopardize the continued existence of any species listed or proposed to be listed under the provisions of the ESA, or result in the destruction or adverse modification of designated or proposed critical habitat (Sec. 1536 (a), Interagency Cooperation, and 50 CFR 402).

9. The Wild and Scenic Rivers Act, as amended, 16 U.S.C. 1271 *et seq*., requires the federal land management agencies to identify potential river systems and then study them for potential designation as wild, scenic, or recreational rivers.

10. The Wilderness Act, as amended, 16 U.S.C. 1131 *et seq*., authorizes the President to make recommendations to the Congress for federal lands to be set aside for preservation as wilderness.

11. The Antiquities Act of 1906, 16 U.S.C. 431-433, protects cultural resources on federal lands and authorizes the President to designate National Monuments on federal lands.

12. The National Historic Preservation Act (NHPA), as amended, 16 U.S.C. 470, expands protection of historic and archaeological properties to include those of national, state, and local significance and directs federal agencies to consider the effects of proposed actions on properties eligible for or included in the National Register of Historic Places.

13. The American Indian Religious Freedom Act of 1978, 42 U.S.C. 1996, establishes a national policy to protect and preserve the right of American Indians to exercise traditional Indian religious beliefs or practices.

14. The Recreation and Public Purposes Act of 1926, as amended, 43 U.S.C. 869 *et seq*., authorizes the Secretary of the Interior to lease or convey BLM lands for recreational and public purposes under specified conditions.

15. The Federal Coal Leasing Amendments Act of 1976, 30 U.S.C. 201 (a)(3)(A)(i), requires that coal leases be issued in conformance with a comprehensive land use plan.

16. The Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. 1201 *et seq*., requires application of unsuitability criteria prior to coal leasing and also to proposed mining operations for minerals or mineral materials other than coal.

17. The Mineral Leasing Act of 1920, as amended, 30 U.S.C. 181 *et seq*., authorizes the development and conservation of oil and gas resources.

18. The Onshore Oil and Gas Leasing Reform Act of 1987, 30 U.S.C. 181 *et seq*., provides:
   a. Potential oil and gas resources be adequately addressed in planning documents;
   b. The social, economic, and environmental consequences of exploration and development of oil and gas resources be determined; and
   c. Any stipulations to be applied to oil and gas leases be clearly identified.

19. The General Mining Law of 1872, as amended, 30 U.S.C. 21 *et seq*., allows the location, use, and patenting of mining claims on sites on public domain lands of the United States.

20. The Mining and Mineral Policy Act of 1970, 30 U.S.C. 21a, establishes a policy of fostering development of economically stable mining and minerals industries, their orderly and economic development, and studying methods for disposal of waste and reclamation.

21. The Taylor Grazing Act of 1934, 43 U.S.C. 315, "[T]he Secretary of the Interior is authorized, in his discretion, by order to establish grazing districts or additions thereto...of vacant unappropriated and unreserved lands from any part of the public domain...which in his opinion are chiefly valuable for grazing and raising forage crops[.]..." The Act also provides for the classification of lands for particular uses.

22. The Public Rangelands Improvement Act of 1978, 43 U.S.C. 1901, provides that the public rangelands be managed so that they become as productive as feasible in accordance with management objectives and the land use planning process established pursuant to 43 U.S.C. 1712.

23. Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), 49 *Fed. Reg*. 7629 (1994), requires that each federal agency consider the impacts of its programs on minority populations and low income populations.

24. Executive Order 13007 (Indian Sacred Sites), 61 *Fed. Reg.* 26771 (1996), requires federal agencies to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, to:
    a. Accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners; and
    b. Avoid adversely affecting the physical integrity of such sacred sites.

25. Executive Order 13084 (consultation and Coordination with Indian Tribal Governments) provides, in part, that each federal agency shall establish regular and meaningful consultation and collaboration with Indian tribal governments in the development of regulatory practices on federal matters that significantly or uniquely affect their communities.

26. Executive Order 13112 (Invasive Species) provides that no federal agency shall authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk or harm will be taken in conjunction with the actions.

27. Executive Order 13186 of January 10, 2001 (responsibilities of federal agencies to protect Migratory Birds) *66 Fed. Reg. 3853* (2001), provides the furtherance of the purposes of the migratory bird conventions, the Migratory Bird Treaty Act (16 U.S.C. 703-711), the Bald and Golden Eagle Protection Acts (16 U.S.C. 668-668d), the Fish and Wildlife Coordination Act (16 U.S.C. 661-666c), the ESA of 1973 (16 U.S.C. 1531-1544), the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347), and other pertinent statutes.

28. Secretarial Order 3175 (incorporated into the Departmental manual at 512 DM 2) requires that if Department of the Interior (DOI) agency actions might impact Indian trust resources, the agency explicitly address those potential impacts in planning and decision documents, and the agency consult with the tribal government whose trust resources are potentially affected by the federal action.

29. Secretarial Order 3206 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the ESA) requires DOI agencies to consult with Indian Tribes when agency actions to protect a listed species, as a result of compliance with ESA, affect or may affect of Indian lands, tribal trust resources, or the exercise of American Indian tribal rights.

An additional legal authority specific to the Andrews MU/Steens Mountain CMPA RMP/EIS is as follows:

30. The Steens Mountain Cooperative Management and Protection Act of 2000, P.L. 106-399, October 30, 2000, establishes the Steens Mountain Wilderness Area, the Steens Mountain Cooperative Management and Protection Area, the Redband Trout Reserve and the Wildland Juniper Management Area and designates

additional components of the National Wild and Scenic Rivers System. This act requires the Burns BLM District to:

- maintain the cultural, economic, ecological, and social health of the Steens Mountain Area in Harney County, Oregon,
- acquire private lands through exchange for inclusion in the Steens Mountain Wilderness and the Steens Mountain CMPA,
- provide for and expand cooperative management activities between public and private landowners in the vicinity of the Steens Mountain Wilderness and surrounding lands,
- authorize the purchase of land as well as development and non-development rights,
- establish a citizens' management advisory council for the Steens Mountain CMPA,
- maintain and enhance cooperative and innovative management practices between the public and private land managers in the Steens Mountain CMPA,
- promote viable and sustainable grazing and recreation operations on private and public lands,
- conserve, protect, and manage for healthy watersheds and long-term ecological integrity of Steens Mountain, and
- authorize only such uses on federal lands in the Steens Mountain CMPA as are consistent with the purposes of the Act.

Planning Criteria

BLM planning regulations (43 Code of Federal Regulations 1610) require preparation of planning criteria for all RMPs. Planning criteria are the constraints or ground rules guiding and directing the development of the Plan. They determine how the planning team and the public approach the development of alternatives and ultimately the selection of a Preferred Alternative. Criteria ensure that plans are tailored to the identified issues, and that unnecessary data collection and analyses are avoided. Planning criteria are based on analyses of information pertinent to the Planning Area; professional judgment; standards prescribed by applicable laws, regulations, and agency guidance; and are the result of consultation and coordination with the public, other federal, state, and local agencies, and Indian tribes.

The preliminary criteria listed below were developed by the BLM and will be reviewed by the public before being used in the RMP process. The criteria will be included in a Federal Register Notice along with notification of public scoping meetings. After public input, criteria become proposed criteria and can be added to or changed as issues are addressed or new information is presented. The Burns District Manager will approve the issues, criteria, and any changes.

General Planning Criteria

The following general planning criteria will guide the preparation of the RMP/EIS and future land-use decisions.

- The RMP/EIS will be completed in compliance with FLPMA and all other applicable laws.
- The planning team will work cooperatively with the state, SMAC, RAC, tribal governments, county and municipal governments, other federal agencies, and all other interested groups, agencies, and individuals. Public participation will be encouraged throughout the process.
- The RMP/EIS will establish the guidance upon which the BLM will rely in managing the Planning Area.
- The planning process will include an EIS that complies with NEPA standards.
- The RMP/EIS will emphasize the protection and enhancement of the Planning Area's biodiversity while at the same time providing the public with opportunities for compatible commodity-based and recreation activities.
- The RMP/EIS will recognize valid existing rights within the Planning Area and review how such rights are verified. The Plan will outline the process used by the BLM to address applications or notices filed on existing claims or other land use authorizations after completion of the Plan.
- The lifestyles and concerns of area residents, including the activities of grazing, fishing, and hunting, will be recognized in the Plan.
- Any land within the Planning Area's administrative boundary and subsequently acquired by the BLM will be managed consistent with the Plan, subject to any constraints associated with the acquisition.
- The RMP/EIS will recognize the state's responsibility to manage wildlife. The BLM would consult with the ODFW before establishing no-hunting zones or periods for the purposes of protecting public safety, administration, or public use and enjoyment. Methods of access and the manner in which wildlife management activities are to be conducted will be governed by the BLM, consistent with language in the Act.

- The RMP/EIS will address transportation and access, and will identify where better access is warranted, where it should remain as is, and where decreased access is appropriate to protect Planning Area resources and manage visitation.
- The management of grazing is regulated by laws and regulations. The RMP/EIS will incorporate the Rangeland Health Standards and Guidelines. It will define a strategy for ensuring that proper grazing practices are followed within the Planning Area.
- The planning process will involve American Indian tribal governments and will provide possible strategies to protect recognized traditional uses, if such uses are identified.
- Consistent with federal law and the Act, decisions in the RMP/EIS will strive to be compatible with existing plans and policies of adjacent local, state, federal, and tribal agencies.
- In addition to the general criteria listed above, specific criteria apply to the Steens Mountain CMPA.

The RMP/EIS will meet the following specific requirements of the Act:

a. Protect the Steens Mountain CMPA's natural resources and outstanding recreation opportunities, while encouraging cooperative management;

b. Describe appropriate uses and management of the Steens Mountain CMPA consistent with the Act;

c. Incorporate, as appropriate, decisions contained in any current or future management or activity plan for the Steens Mountain CMPA; use information developed in previous studies of the land within or adjacent to the Steens Mountain CMPA;

d. Coordinate with state, county, and private landowners and the Burns Paiute Tribe; and

e. Determine measurable and achievable management objectives consistent with the Act to ensure the ecological integrity of the area.

Project Specific Criteria

In addition to the general planning criteria identified above, other specific planning criteria have been developed and apply to the RMP/EIS.

(1) Air Quality

Under the Clean Air Act, air quality of the Planning Area is designated as Class II. All land will be managed under Class II standards unless reclassified by the State of Oregon.

(2) Water Quality

The Federal Water Pollution Control Act of 1977 as amended (Clean Water Act) requires the BLM to be consistent with state nonpoint source management program plans and relevant water quality standards. Section 313 requires compliance with state water quality standards. The RMP/EIS will incorporate Best Management Practices (BMPs) or other conservation measures for specific programs and activities. Water quality will be maintained or improved in accordance with state and federal standards. In addition, Total Maximum Daily Loads (TMDLs) will be developed pursuant to the Clean Water Act that address water quality limited stream segments. The TMDLs are being developed cooperatively between the BLM and the ODEQ.

(3) Soil

Soil will be managed to protect long-term productivity. BMPs will be incorporated into other programs to minimize soil erosion and compaction resulting from management actions.

(4) Vegetation

Vegetation will be managed to provide for biological diversity at the landscape level, to protect and restore native perennial and desirable nonnative perennial species, and to provide for consumptive uses and non-consumptive values, including visual quality and watershed condition. Livestock forage allocations established in the Andrews MU grazing program EIS and subsequent agreements and decisions, will not be revised by this plan.

Grazing management adjustments will occur on a priority basis over the life of the plan through the adaptive management process and subsequent agreements, decisions, or activity plan revisions. Authorization of livestock use in the Planning Area will be subject to change through the life of the plan. The RMP/EIS will include provisions for plant maintenance, watershed protection and stability, wildlife habitat, as well as for livestock and wild horses. Fire and other treatment methods are considered tools to meet vegetation management objectives.

(5) Riparian Areas, Floodplains, and Wetlands

Riparian areas, floodplains, and wetlands will be managed to restore, protect or improve their natural functions relating to water storage, ground water recharge, water quality, and fish and wildlife values.

(6) Woodlands

All juniper and quaking aspen woodlands will be managed to protect long-term biological productivity and diversity and watershed values.

(7) Noxious Weed Control

The BLM will work with county, state, and federal agencies to monitor the locations and spread of noxious weeds. Noxious weed control will be conducted in accordance with the integrated weed management guidelines and design features identified in the Burns District Noxious Weed Management Program. The BLM will assess land prior to acquisition to determine if noxious weeds are present.

(8) Special Status Species

The BLM is mandated by law to assist in the conservation and recovery of species listed as Threatened or Endangered or proposed for listing under the ESA. Federal actions that may affect the well-being of these species require consultation with the USFWS. BLM policy requires that authorized actions do not contribute to the need to list any other special status species under the provisions of the ESA. The intent is to avoid the need for future listings of species as threatened or endangered.

(9) Wild Horses

Forage will be provided to support wild horse populations at levels established in accordance with the Wild Free-Roaming Horse and Burro Act. Adjustments in range allocation will be based on monitoring to ensure a thriving natural ecological balance within HMAs.

(10) Grazing Management

Grazing of public land will be authorized under the principles of multiple-use and sustained yield. Livestock will be managed to maintain or improve public land resources and rangeland productivity and to stabilize the livestock industry dependent on the public range over the long term. Forage will be allocated by allotment for livestock grazing on suitable rangeland based on multiple-use and sustained yield objectives. Existing management systems, including those outlined in AMPs, will continue until evaluations indicate that change is needed to meet objectives.

The process for determining livestock forage allocations through allotment evaluations will proceed in accordance with BLM regulations and policy.

(11) Fire Management

Wildland fire will be integrated into land and resource management planning to help achieve resource management objectives. The use of surface-disturbing equipment to suppress wildland fires will be restricted in Steens Mountain Wilderness, WSAs, and areas containing significant cultural or paleontological values, except when needed to protect human life or property. Public land affected by fire will be managed in accordance with multiple-use objectives.

(12) Land Tenure Adjustments

BLM administered land will be retained in public ownership unless disposal of a particular parcel will serve the public interest. Land may be identified for disposal by sale, exchange, state indemnity selection or other authorized methods. Land will be identified for acquisition based on public benefits, management considerations, and public access needs. Specific actions meeting land tenure adjustment criteria as established in the RMP/EIS will occur with public participation and will be made in consultation with local, county, state, and tribal governments.

(13) Rights-of-Way and Land Use Authorizations

Public land will generally be available for land use authorizations including transportation and utility ROWs with preference given to existing corridors. Exceptions will include areas specifically prohibited by law or regulation (e.g., wilderness) and specific areas identified to protect resource values.

(14) Energy and Minerals

Except where specifically withdrawn, public land will be available for energy and mineral exploration and development, subject to applicable federal and state laws and regulations.

(15) Recreation

All public land will be within Special Recreation Management Areas or Extensive Recreation Management Areas. Some areas may be subject to special measures to protect resources or reduce conflicts among uses. Where there is a demonstrated need, the BLM may develop and maintain recreation facilities including campgrounds, picnic areas, interpretive sites, boat access, and trails.

(16) Off Highway Vehicles

All public land will be designated as open, limited or closed for OHV use. Public safety, resource protection, user access needs, and conflict resolution will be considered in assigning these designations.

(17) Visual Resources

The BLM will manage public land to protect the quality of scenic (visual) values in accordance with established guidelines. All public land will be designated as VRM Class I, II, III or IV.

(18) Wild and Scenic Rivers

As required by law, streams will be evaluated for addition to WSRs. The evaluation will be conducted according to BLM Manual Section 8351 - Wild and Scenic Rivers - Policy and Program Direction for Identification, Evaluation and Management. Designated WSRs will be managed in accordance with laws and existing plans.

(19) Wilderness and Wilderness Study Areas

Wilderness will be managed according to the Wilderness Act and wilderness regulations. WSAs designated under authority of FLPMA, Sections 603 and 202, will be managed in accordance with the BLM IMP for lands under wilderness review. This planning effort will not reopen the initial wilderness review mandated by Section 603 of FLPMA, and it will not change existing decisions, signed by the Secretary of the Interior, to recommend areas as suitable for wilderness designation. New areas could be inventoried for wilderness characteristics during the planning process. Any new wilderness inventories and studies will be conducted under the authority of Sections 201 and 202 of FLPMA.

(20) Cultural and Paleontological Resources

Cultural and paleontological resources will be managed to maintain or enhance scientific, interpretive, and educational values. Cultural resources will be managed to protect American Indian interests where possible.

(21) Areas of Critical Environmental Concern

ACECs will be designated where special management attention is required to protect historical, cultural, or scenic values; natural resources or processes; or human life and safety. Management requirements for ACECs will be identified in the RMP/EIS.

Management Direction and Consistency with other Plans

This section describes the management direction found within the Andrews MFP and the following associated NEPA documents applicable to the Planning Area:

Animal Damage Control Final Environmental Impact Statement, 3 Volumes (APHIS 1994); Steens Mountain CMPA IMP Draft (BLM 2001b); Decision Record and Finding of No Significant Impact for the Projects for Implementation of the Steens Mountain Cooperative Management and Protection Act of 2000, EA-OR-027-01-27 (BLM 2001c); Three Rivers RMP, Record of Decision, and Rangeland Program Summary (BLM 1992a); Donner und Blitzen National Wild and Scenic River Management Plan Environmental Assessment (BLM 1993b); National Wild and Scenic River Donner und Blitzen Management Plan Environmental Assessment (BLM 1992b); Noxious Weed Management Project Environmental Assessment EA No. OR-020-98-05 (BLM 1998a); Decision Record and Finding of No Significant Impact for Steens Mountain Trail Maintenance (BLM 2001d); Pueblo-Lone Mountain Management Plan EA (BLM 1995b); Andrews Grazing Management Program EIS (BLM 1982); Burns District Environmental Assessment for Commercial Day-Use Activities OR-020-EA-99-24 (BLM 1999a); the Land Tenure Adjustment Plan Amendment for the Andrews and Drewsey MFPs (BLM 1988b); and The Riddle Brothers Ranch Historic District Cultural Resources Management Plan, Environmental Assessment (BLM 1994b).

Several activity level plans have also been completed in recent years as follows:

Steens Mountain Final Recreation Area Management Plan (BLM 1985); Andrews Rangeland Program Summary Update (BLM 1986); Pueblo-Lone Mountain Allotment Management Plan (BLM 1995c); Andrews Plan Amendment for Recreation Access Surrounding the Steens Mountain Loop Road (BLM 1993c); The Riddle Brothers Ranch Historic District Cultural Resources Management Plan (Crespin 1990); Kiger Mustang Area of Critical Environmental Concern Management Plan (BLM 1996a); Riddle Mountain and Kiger Wild Horse Herd Management Area Plan (BLM 1996b); SE Oregon Recreation Plan for Harney, Lake and Malheur Counties (Oregon Parks and Recreation Department 2000); Noxious Weed Policy and Classification System (Oregon Department of Agriculture 1997); Oregon's Bighorn Sheep Management Plan (ODFW 1992-1997); Oregon's Elk Management Plan (ODFW 1992); Mule Deer Plan (ODFW 1990); Oregon Cougar Management Plan Public Review Draft (ODFW 1993); Catlow Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy (ODFW 1997); Oregon Outdoor Recreation Plan 1994-1999 (Oregon Parks and Recreation Department 1994); Oregon Wildlife Diversity Plan, 2nd edition (Puchy and Marshall 1993); Recovery Plan for the Pacific Bald Eagle (USFWS 1986); The Pacific Coast American Peregrine Falcon Recovery Plan (USFWS Pacific Coast American Peregrine Falcon Recovery Team 1982); and Recovery Plan for the Borax Lake Chub, *Gila boraxobius* (USFWS 1997).

Several BLM program documents or Inter-Agency plan/NEPA documents and decisions which also guide current management of lands within the Planning Area include the following:

Visual Resource Management Program (BLM 1980);1613 - Areas of Critical Environmental Concern Resource Management Planning Guidance (BLM 1988a); Oregon Wilderness Final Environmental Impact Statement (BLM 1989a); Vegetation Treatment on BLM Lands in Thirteen Western States Final Environmental Impact Statement (BLM 1991a); Federal Land Policy and Management Act of 1976, as amended; Land Use Planning Handbook H-1601-1 Handbook (BLM Updated 2001e); National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands (BLM 2001f); Environmental Impact Statement, Volume III Appendices for all WSAs beginning with OR-2 plus OR-3-114 (BLM 1989b); National Environmental Policy Act Handbook H-1790-1 (BLM 1988c); Wilderness Management (BLM 2001g); Wilderness Management: Final Rule (BLM 2001h); Oregon Wilderness Environmental Impact Statement, Volume I-Statewide (BLM 1989c); Upper Columbia River Basin Draft Environmental Impact Statement, Volume 1 (BLM 1997b); Proposed Southeast Oregon Resource Management Plan and Final Environmental Impact Statement, Volume 1 of 3 - Text (BLM 2000a); Rangeland Reform '94, Draft Environmental Impact Statement Executive Summary (BLM 1994c); Interior Columbia Basin Final Environmental Impact Statement (BLM 2000b); House Report 101-405 (Arizona Desert Wilderness Act of 1990); House Report 101-405 Appendix A, Grazing Guidelines (1990) ; Oregon Natural Heritage Plan (Oregon Natural Heritage Advisory Council 1998a); Reformatted Comprehensive

Plan for the City of Burns, Oregon (1997); The National Environmental Policy Act of 1969, as amended; Oregon Wilderness Final Environmental Impact Statement (BLM 1989a); H-8550-1: IMP for lands under Wilderness Review (BLM 1995c); Wildland and Prescribed Fire Management Policy (National Park Service et al. 1998); Endangered and Threatened Wildlife and Plants: Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rules (USFWS 1991); National Wildland Fire Policy (BLM 1998); and Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines (BLM et al. 2000j).

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Appendix E - Consistency with Oregon Statewide Plans

The RMP is consistent with the following Department of Land Conservation and Development planning goals and guidelines:

Goal 1: Citizen Involvement - To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Goal 2: Land Use Planning - To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Goal 3: Agricultural Lands - To preserve and maintain agricultural lands.

Goal 5: Open Spaces, Scenic and Historic Areas and Natural Resources - To protect natural resources and conserve scenic and historic areas and open spaces.

Goal 6: Air, Water, and Land Resources Quality - To maintain and improve the quality of the air water, and land resources fo the state.

Goal 7: Areas Subject to Natural Disasters and Hazards - To protect life and property from natural disasters and hazards.

Goal 8: Recreational Needs - To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destinations resorts.

Goal 9: Economy of the State - To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

Goal 11: Public Facilities and Services - To plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Goal 12: Transportation - To provide and encourage a safe, convenient, and economical transportation system.

Goal 13: To Conserve Energy

Statewide Department of Land Conservation and Development goals which do not apply to the Planning Area or resource management opportunities include the following: Goal 4: Forest Lands; Goal 10: Housing; Goal 14: Urbanization; Goal 15: Willamette River Greenway; Goal 16: Estuarine Resources; Goal 17: Coastal Shorelands; Goal 18: Beaches and Dunes; and Goal 19: Ocean Resources.

The RMP is also consistent with the following Division of State Lands asset management prescriptions for state lands:

Rangelands will be managed to ensure forage yields for livestock grazing consistent with BMPs. Grazing levels may be adjusted, in consultation with lessees, on both trust and nontrust lands to protect rangeland health and the long-term value of the land.

Rangelands will be managed to prevent human-induced loss of rangeland health. Work with lessees to continue to implement rangeland practices that maintain, achieve or restore healthy functioning ecosystems and maintain, restore or enhance water quality.

Special interest lands will be managed primarily to ensure the protection of unique scenic, wildlife, cultural, natural or recreation values. Revenue generation activities will generally be permitted only if they do not adversely impact these values.

Land owned by theland board will be open to mineral exploration and development subject to existing laws, regulations, and management plans. Land will be open to mineral activity unless the proposed use (1) would have significant adverse and nonmitgatable impacts on watershed integrity, and natural, cultural, and archeological features, (2) be located within a WSR, state scenic waterway, or similarly designated area, or (3) the proposal would not be permitted under the appropriate management plan.

Appendix F - Best Management Practices

Introduction

Best management practices (BMPs) are those land and resource management techniques designed to maximize beneficial results and minimize negative impacts of management actions. Interdisciplinary site-specific analysis is necessary to determine which management practices would be necessary to meet specific objectives and goals. BMPs described in this appendix are designed to assist in achieving the objectives for maintaining or improving water quality, soil productivity, and the protection of watershed resources. These guidelines will apply, where appropriate, to all use authorizations, including BLM-initiated projects. Modifications may be necessary on a site-specific basis to minimize the potential for negative impacts. Each of the following BMPs are a part of the coordinated development of the plan and may be updated as new information becomes available. Applicants can suggest alternate conditions that could accomplish the same result.

BMPs are selected and implemented as necessary, based on site-specific conditions, to meet water, soil, and watershed objectives for specific management actions. This document does not provide an exhaustive list of BMPs. Additional BMPs may be identified during an interdisciplinary process when evaluating site-specific management actions. Implementation and effectiveness of BMPs need to be monitored to determine whether the practices are achieving water, soil, and other watershed resource objectives and progressing toward desired goals. Adjustments will be made as necessary to ensure objectives are met and as needed to conform with changes in BLM regulations, policy, direction, or new scientific information.

These BMPs are a compilation of existing policies, guidelines, and commonly employed practices to minimize water quality degradation from nonpoint sources, to minimize the loss of soil productivity, to provide guidelines for aesthetic conditions within watersheds from surface disturbing activities, while facilitating multiple-use resource management.

BMPs are considered one of the primary mechanisms to achieve Oregon water quality standards and reduce impacts from nonpoint source pollution. Nonpoint sources of pollution result from natural causes, human actions, and the interactions between natural events and conditions associated with human use of the land and its resources. Nonpoint source pollution is caused by diffuse sources rather than from a discharge at a specific, single-source location. Such pollution results in alteration of the chemical, physical, and biological integrity of water.

BMPs are defined as methods, measures, or practices selected to meet nonpoint source control needs. BMPs include, but are not limited to, structural and nonstructural controls, operations, and maintenance procedures. BMPs can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters (40 CFR 130.2(m), Environmental Protection Agency Water Quality Standards Regulation).

Because the control of nonpoint sources of pollution is an ongoing process, continual refinement of BMP design is necessary. This process can be described in five steps which are: 1) selection of design of a specific BMP; 2) application of the BMP; 3) monitoring; 4) evaluation; and 5) feedback. Data gathered through monitoring in BMP design, application, or in the monitoring program.

Road Design and Maintenance

1. Design roads to minimize total disturbance, to conform with topography, and to minimize disruption of natural drainage patterns.

2. Base road design criteria and standards on road management objectives such as traffic requirements of the proposed activity and the overall transportation plan, economic analysis, safety requirements, resource objectives, and minimizing damage to the environment.

3. Locate roads on stable terrain such as ridge tops, natural benches, and flatter transitional slopes near ridges and valley bottoms and moderate sideslopes and away from slumps, slide prone areas, concave slopes, clay beds, and where rock layers dip parallel to the slope. Locate roads on well-drained soil types; avoid wet areas.

4. Construct cut and fill slopes to be approximately 3(h):1(v) or flatter where feasible. Locate roads to minimize heights of cutbanks. Avoid high, steeply sloping cutbanks in highly fractured bedrock.

5. Avoid head walls, midslope locations on steep, unstable slopes, fragile soils, seeps, old landslides, sideslopes in excess of 70 percent, and areas where the geologic bedding planes or weathering surfaces are inclined with the slope. Implement extra mitigation measures when these areas can not be avoided.

6. Construct roads for surface drainage by using outslopes, crowns, grade changes, drain dips, waterbars and/or insloping to ditches as appropriate.

7. Sloping the road base to the outside edge for surface drainage is normally recommended for local spurs or minor collector roads where low volume traffic and lower traffic speeds are anticipated. This is also recommended in situations where long intervals between maintenance will occur and where minimum excavation is wanted. Out-sloping is not recommended on steep slopes. Sloping the road base to the inside edge is an acceptable practice on roads with steep sideslopes and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.

8. Crown and ditching is recommended for arterial and collector roads where traffic volume, speed, intensity and user comfort are considerations. Recommended gradients range from 0 to 15 percent where crown and ditching may be applied, as long as adequate drainage away from the road surface and ditch lines is maintained.

9. Minimize excavation, when constructing roads, through the use of balanced earthwork, narrowing road widths, and end hauling where sideslopes are between 50 and 70 percent.

10. If possible, construct roads when soils are dry and not frozen. When soils or road surfaces become saturated to a depth of three inches, BLM-authorized activities should be limited or ceased unless otherwise approved by the authorized officer.

11. Consider improving inadequately surfaced roads, that are to be left open to public traffic during wet weather with gravel or pavement to minimize sediment production and maximize safety.

12. Retain vegetation on cut slopes unless it poses a safety hazard or restricts maintenance activities. Roadside brushing of vegetation should be done in a way that prevents disturbance to root systems and visual intrusions (i.e., avoid using excavators for brushing).

13. Retain adequate vegetation between roads and streams to filter runoff caused by roads.

14. Avoid riparian/wetland areas where feasible; locate in these areas only if the roads do not interfere with the attainment of PFC and RMOs.

15. Minimize the number of unimproved stream crossings. When a culvert or bridge is not feasible, locate drive-through (low water crossings) on stable rock portions of the drainage channel. Harden crossings with the addition of rock and gravel if necessary. Use angular rock if available.

16. Locate roads and limit activities of mechanized equipment within stream channels to minimize their influence on riparian areas. When stream crossing is necessary, design the approach and crossing

perpendicular to the channel where practical. Locate the crossing where the channel is well-defined, unobstructed, and straight.

17. Avoid placing fill material in floodplain unless the material is large enough to remain in place during flood events.

18. Use drainage dips instead of culverts on roads where gradients would not present a safety issue. Locate drainage dips in such a way so water would not accumulate or where outside berms prevent drainage from the roadway. Locate and design drainage dips immediately upgrade of stream crossings and provide buffer areas and catchment basins to prevent sediment from entering the stream.

19. Construct catchment basins, brush windrows, and culverts in a way to minimize sediment transport from road surfaces to stream channels. Install culverts in natural drainage channels in a way to conform with the natural streambed gradients with outlets that discharge onto rocky or hardened protected areas.

20. Design and locate water crossing structures in natural drainage channels to accommodate adequate fish passage, provide for minimum impacts to water quality and capable of handling a 100-year event for runoff and floodwaters.

21. Use culverts that pass, at a minimum, a 50-year storm event and/or have a minimum diameter of 24 inches for permanent stream crossings and a minimum diameter of 18 inches for road crossdrains.

22. Replace undersized culverts and repair or replace damaged culverts and down spouts. Provide energy dissipators at culvert outlets or drainage dips.

23. Locate culverts or drainage dips in such a manner as to avoid discharge onto unstable terrain such as head walls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or road surfaces. Culverts should be placed on solid ground to avoid road failures.

24. Proper sized aggregate and riprap should be used during culvert construction. Place riprap at culvert entrance to streamline water flow and reduce erosion.

25. Establish adapted vegetation on all cuts and fill immediately following road construction and maintenance.

26. Remove berms from the down slope side of roads, consistent with safety considerations.

27. Leave abandoned roads in a condition that provides adequate drainage without further maintenance. Close abandoned roads to traffic. Physically obstruct the road with gates, large berms, trenches, logs, stumps, or rock boulders as necessary to accomplish permanent closure.

28. Abandon and rehabilitate roads no longer needed. Leave these roads in a condition that provides adequate drainage. Remove culverts.

29. When plowing snow for winter use of roads, provide breaks in snow berms to allow for road drainage. Avoid plowing snow into streams. Plow snow only on existing roads.

30. Maintenance should be performed to conserve existing surface material, retain the original crowned or out-sloped self-draining cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Avoid wasting loose ditch or surface material over the shoulder where it can cause stream sedimentation or weaken slump-prone areas. Avoid undercutting back slopes.

31. Do not disturb the toe of cut slopes while pulling ditches or grading roads. Avoid sidecasting road material into streams.

32. Grade roads only as necessary. Maintain drain dips, waterbars, road crown, in-sloping and out-sloping, as appropriate, during road maintenance.

33. Maintain roads in SMAs [Special Management Areas] according to SMA guidance. Generally, retain roads within existing disturbed areas and sidecast material away from the SMA.

34. When landslides occur, save all soil and material usable for reclamation or stockpile for future reclamation needs. Avoid side casting of slide material where it can damage, overload, and saturate embankments, or flow into down-slope drainage courses. Reestablish vegetation as needed in areas where vegetation has been destroyed due to side casting.

35. Strip and stockpile topsoil ahead of construction of new roads, if feasible. Reapply soil to cut and fill slopes prior to revegetation.

Surface-Disturbing Activities

1. Special design and reclamation measures may be required to protect scenic and natural landscape values. This may include transplanting trees and shrubs, mulching and fertilizing disturbed areas, use of low profile permanent facilities, and painting to minimize visual contrasts. Surface-disturbing activities may be moved to avoid sensitive areas or to reduce the visual effects of the proposal.

2. Above ground facilities requiring painting should be designed to blend in with the surrounding environment.

3. Disturbed areas should be contoured to blend with the natural topography. Blending is defined as reducing form, line, and color contrast associated with the surface disturbance. Disturbance in visually sensitive areas should be contoured to match the original topography, where matching is defined as reproducing the original topography and eliminating form, line, and color caused by the disturbance as much as possible.

4. Reclamation should be implemented concurrent with construction and site operations to the fullest extent possible. Final reclamation actions shall be initiated within six months of the termination of operations unless otherwise approved in writing by the authorized officer.

5. Fill material should be pushed into cut areas and up over back slopes. Depressions should not be left that would trap water or form ponds.

Rights-of-Way and Utility Corridors

1. Rights-of-way and utility corridors should use areas adjoining or adjacent to previously disturbed areas whenever possible, rather than traverse undisturbed communities.

2. Waterbars or dikes should be constructed on all of the rights-of-way and utility corridors, and across the full width of the disturbed areas, as directed by the authorized officer.

3. Disturbed areas within road rights-of-way and utility corridors should be stabilized by vegetation practices designed to hold soil in place and minimize erosion. Vegetation cover should be reestablished to increase infiltration and provide additional protection from erosion.

4. Sediment barriers should be constructed when needed to slow runoff, allow deposition of sediment, and prevent transport from the site. Straining or filtration mechanisms may also be employed for the removal of sediment from runoff.

Forest Management

1. Design harvest units and forest health treatments to blend with natural terrain.

2. Consider clearcutting only where it is siverculturally essential to accomplish site-specific objectives. Areas with fragile watershed conditions or high scenic values should not be clearcut.

3. When soils or road surfaces become saturated to a depth of three inches, BLM-authorized activities, such as log yarding and hauling, should be limited or cease unless otherwise approved by the authorized officer.

4. Scatter unmerchantable material (tops, limbs, etc.) in cutting units and treatment areas, consistent with fuel loading limitations.

5. Ground-yarding systems are not recommended on slopes that are of 30 percent or greater.

6. Utilize designated skid trails and haul roads, where feasible, when ground-yarding timber harvest operations.

7. Locate skid trails on upper slope positions, as far as possible from surface water. Avoid skidding across drainage bottoms or creating conditions that concentrate and channelize surface flow.

8. Use directional felling, when applicable, to minimize skidding distance and locate skid trails as far as possible from sensitive areas.

9. Install waterbars and apply native seed, when available, to skid trails and landings prior to temporary seasonal closures and following harvest operations. Consider ripping or subsoiling on skid trails and abandoned haul roads to reduce compaction where soil and slope conditions permit.

10. When ground- or cable-yarding, logs should be fully, or at least have the lead end, suspended.

11. Locate landings away from surface water. Design landings to minimize disturbance consistent with safety and efficiency of operation.

12. Use low pressure grapple equipment, if possible, when piling slash.

13. Conduct forested land treatments when soil surfaces are either frozen, dry, or have adequate snowpack to minimize impacts to soil and water resources.

Fire Suppression

1. Minimize surface disturbances and avoid the use of heavy earth-moving equipment where possible, on all fire suppression and rehabilitation activities, including mop-up, except where high value resources (including lives and property), are being protected.

2. Install waterbars and seed all constructed firelines with native or adapted nonnative species as appropriate.

3. Avoid dropping fire retardant detrimental to aquatic communities on streams, lakes, ponds, and in riparian/wetland areas.

4. The location and construction of handlines should result in minimal surface disturbance while effectively controlling the fire. Hand crews should locate lines to take full advantage of existing land features that represent natural fire barriers. Whenever possible, handlines should follow the contour of the slope to protect the soil, provide sufficient residual vegetation to capture and retain sediment, and maintain site productivity.

5. Suppression in riparian areas should be by hand crews when possible.

Prescribed Burning

1. To protect soil productivity, burning should be conducted, if possible, under conditions when a low-intensity burn can accomplish stated objectives. Burn only when conditions of organic surface or duff layer have adequate moisture to minimize effects to the physical and chemical properties of the soil. When possible, maximize the retention of the organic surface or duff layer.

2. Slash should not be piled and burned within riparian/wetland areas. If riparian/wetland areas are within or adjacent to the prescribed burn unit, piles should be firelined or scattered prior to burning.

3. When preparing the unit for burning, avoid piling concentrations of large logs and stumps; pile small material (three to eight inches in diameter). Slash piles should be burned when soil and duff moisture are adequate to reduce potential damage to soil resources.

Livestock Grazing Management

Grazing management projects and improvements are constructed as a portion of adaptive management to reduce resource management conflicts and to achieve multiple use management objectives. Rangeland improvements may include, but are not limited to the following examples:

- Water developments (i.e., spring developments, pipelines/troughs and reservoirs) to facilitate upland distribution and reduce concentration in riparian-wetland areas of livestock, wildlife and wild horses.
- Hardened crossings and water access points, or water gaps to direct livestock use to specific watering locations and reduce use over larger riparian-wetland areas.
- Placement of salt and/or other supplements to distribute livestock throughout uplands and away from riparian areas.
- Riding and herding livestock to control use in sensitive areas.
- Planting desirable forage species in uplands to attract livestock away from riparian or other sensitive areas.
- Fencing to delineate pastures associated to area-specific management objective(s), or to establish permanent, temporary or seasonal exclusion from specific areas.
- Barriers (i.e., trees, brush, boulder, gap fences) to reduce access or avoid specific areas.

Grazing schedules are developed and adjusted through the adaptive management process on an allotment-specific basis. This is to mitigate impacts to resource values and progress towards multiple use management objectives and sustainability of desirable values. Appendix O provides further details on intensity and season of use.

Mining

1. Reclaim all disturbed surface areas promptly, performing concurrent reclamation as necessary, and minimize the total amount of all surface disturbance.

2. All surface soil should be stripped prior to conducting operations, stockpiled, and reapplied during reclamation, regardless of soil quality. Minimize the length of time soil remains in stockpiles and the

depth or thickness of stockpiles. When slopes on topsoil exceed five percent, a berm or trench should be constructed below the stockpile to prevent sediment transport offsite.

3. Strip and separate soil surface horizons where feasible and reapply in proper sequence during reclamation.

4. Locate soil stockpiles and waste rock disposal areas away from surface water to minimize offsite drainage effects.

5. Establish vegetation cover on soil stockpiles that are to be in place longer than one year.

6. Construct and rehabilitate temporary roads to minimize total surface disturbance, consistent with intended use.

7. Consider temporary measures such as silt fences, straw bales, or mulching to trap sediment in sensitive areas until reclaimed areas are stabilized with vegetation.

8. Reshape to the approximate original contour all areas to be permanently reclaimed, providing for proper surface drainage.

9. Leave reclaimed surfaces in a roughened condition following soil application.

10. Complete reclamation and seeding during the fall if possible.

Noxious Weed Management

1. All contractors and land-use operators moving surface-disturbing equipment in or out of weed-infested areas should clean their equipment before and after use on public land.

2. Control all weeds annually in areas frequently disturbed such as gravel pits, recreation sites, road sides, livestock concentration areas.

3. Consider livestock quarantine, removal, or timing limitations in weed-infested areas.

4. All seed, hay, straw, mulch, or other vegetation material transported and used on public land weed-free zones for site stability, rehabilitation, or project facilitation should be certified by a qualified Federal, state of county officer as free of noxious weeds and noxious weed seed. All baled feed, pelletized feed, and grain transported into weed-free zones and used to feed livestock should also be certified as free of noxious weed seed.

5. It is recommended that all vehicles, including off-road and all-terrain, traveling in or out of weed-infested areas should clean their equipment before and after use on public land.

Developed Recreation

1. Construct recreation sites and provide appropriate sanitation facilities to minimize impacts to resource values, public health and safety, and minimize user conflicts of approved activities and access within an area as appropriate.

2. Minimize impacts to resource values or to enhance a recreational setting and recreation experience. Harden site and locations subject to prolonged/repetitive concentrated recreational uses with selective placement of gravel or other porous materials and allow for dust abatement, paving, and engineered road construction.

3. Use public education and/or physical barriers (such as rocks, posts, vegetation) to direct or precluded uses and to minimize impacts to resource values and the quality of recreation experience.

4. As appropriate, employ limitations of specific activities to avoid or correct adverse impacts to resource values, public safety issues, and/or conflicts between recreational uses.

5. Employ land use ethics programs and techniques such as "Leave No Trace" and "Tread Lightly." Use outreach efforts of such programs to lessen needs to implement more stringent regulatory measures to obtain resource protection and a quality recreation experience.

Appendix G - Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington

Introduction

These Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington were developed in consultation with resource advisory councils and provincial advisory committees, tribes, and others. These standards and guidelines meet the requirements and intent of 43 Code of Federal Regulations, Subpart 4180 (Rangeland Health) and are to be used as presented, in their entirety. These standards and guidelines are intended to provide a clear statement of agency policy and direction for those who use public land for livestock grazing, and for those who are responsible for their management and accountable for their condition. Nothing in this document should be interpreted as an abrogation of Federal trust responsibilities in protection of treaty rights of Indian tribes or any other statutory responsibilities including, but not limited to, the Taylor Grazing Act, Clean Water Act, and Endangered Species Act.

Fundamentals of Rangeland Health

The objectives of the rangeland health regulations referred to above are: "to promote healthy sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangelands to properly functioning conditions ... and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands."

To help meet these objectives, the regulations on rangeland health identify fundamental principles providing direction to the states, districts, and on-the-ground public land managers and users in the management use of rangeland ecosystems.

A hierarchy, or order, of ecological function and process exists within each ecosystem. The rangeland ecosystem consists of four primary, interactive components; a physical component, a biological component, a social component, and an economic component. This perspective implies that the physical function of an ecosystem supports the biological health, diversity and productivity of that system. In turn, the interaction of the physical and biological components of the ecosystem provides the basic needs of society and supports economic use and potential.

The fundamentals of rangeland health stated in 43 CFR 4180 are:

1. Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage and the release of water that are in balance with climate and landform and maintain or improve water quality and the timing and duration of flow.

2. Ecological processes, including the hydrologic cycle, nutrient cycle and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.

3. Water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM objectives such as meeting wildlife needs.

4. Habitats are, or are making significant progress toward being, restored or maintained for Federal threatened and endangered species, Federal proposed, Category 1 and 2 Federal candidate and other Special Status species.

The fundamentals of rangeland health combine the basic precepts of physical function and biological health elements of law relating to water quality, and plant and animal populations and communities. They provide direction in the development and implementation of the standards for rangeland health.

Standards for Rangeland Health

The standards for rangeland health (standards), based on the above fundamentals, are expressions of the physical and biological condition or degree of function necessary to sustain healthy rangeland ecosystems. Although the focus of these standards is on domestic livestock grazing on BLM-administered land, on-the-ground decisions must consider the effects and impacts of all issues.

Standards that address the physical components of rangeland ecosystems focus on the roles and interactions of geology and landform, soil, climate, and water as they govern watershed function and soil stability. The biological components addressed in the standards focus on the roles and interactions of plants, animals, and microbes (producers, consumers, and decomposers), and their habitats in the ecosystem. The biological component of rangeland ecosystems is supported by the physical function of the system, and it is recognized that biological activity also influences and supports many of the ecosystem's physical functions.

Guidance contained in 43 CFR 4180 of the regulations directs management toward the maintenance or restoration of the physical function and biological health of rangeland ecosystems. Focusing on the basic ecological health and function of rangelands is expected to provide for the maintenance, enhancement, or creation of future social and economic options.

The standards are based on the ecological potential and capability of each site. In assessing a site's condition or degree of function, it must be understood that the evaluation compares each site to its own potential or capability. Potential and capability are defined as follows:

Potential - The highest level of condition or degree of function a site can attain given no political, social, or economic constraints.

Capability - The highest level of condition or degree of function a site can attain given certain political, social, or economic constraints. For example, these constraints might include riparian areas permanently occupied by a highway or railroad bed that prevent the stream's full access to its original floodplain. If such constraints are removed, the site may be able to move toward its potential.

In designing and implementing management strategies to meet the standards of rangeland health, the potential of the site must be identified, and any constraints recognized, in order that plan goals and objectives are realistic and physically and economically achievable.

Standards and Guidelines in Relation to the Planning Process

The standards apply to the goals of land use plans, activity plans, and project plans (Allotment Management Plans (AMPs)), annual operating plans, habitat management plans, etc.). They establish the physical and biological conditions or degree of function toward which management of publicly-owned rangeland is to be directed. In the development of a plan, direction provided by the standards and the social and economic needs expressed by local communities and individuals are brought together in formulating the goal(s) of that plan.

When the standards and the social and economic goals of the planning participants are woven together in the plan goal(s), the q2uantifiable, time-specific objective(s) of the plan are then developed. Objectives describe and quantify the desired future conditions to be achieve within a specified timeframe. Each plan objective should address the physical, biological, social, and economic elements identified in the plan goal.

Standards apply to all ecological sites and landforms on public rangelands throughout Oregon and Washington. The standards require site-specific information for full on-the-ground usability. For each standard, a set of indicators is identified for use in tailoring the standards to site-specific situations. These indicators are used for rangeland ecosystem assessments and monitoring, and for developing terms and conditions for permits and leased that achieve the plan goal.

Guidelines for livestock grazing management offer guidance in achieving the plan goal and objectives. The guidelines outline practices, methods, techniques, and considerations used to ensure that progress is achieved in a way, and at a rate, that meets the plan goal and objectives.

Indicators of Rangeland Health

The condition or degree of function of a site, in relation to the standards and its trend toward or away from any standard, is determined through the use of reliable and scientifically sound indicators. The consistent application of such indicators can provide an objective view of the condition and trend of a site when used by trained observers.

For example, the amount and distribution of ground cover can be used to indicate that infiltration at the soil surface can take place as described in the standard relating to upland watershed function. In applying this indicator, the specific levels of plant cover necessary to support infiltration in a particular soil should be identified using currently available information from reference areas, if they exist; from technical sources like soil survey reports, ecological site inventories, and ecological site descriptions, or from other existing reference materials. Reference areas are land that best represent the potential of a specific ecological site in both physical function and biological health. In many instances, potential reference areas are identified in ecological site descriptions and are referred to a "type location." In the absence of suitable reference areas, the selection of indicators to be used in measuring of judging condition or function should be made by an interdisciplinary team of experienced professionals and other trained individuals.

Not all indicators identified for each standard are expected to be employed in every situation. Criteria for selecting appropriate indicators and methods of measurement and observation include, but are not limited to, 1) the relationship between the attribute(s) being measured or observed and the desired outcome; 2) the relationship between the activity (e.g., livestock grazing) and the attribute(s) being measured or observed, and 3) funds and workforce available to conduct the measurements or observations.

Assessment and Monitoring

The standards are the basis for assessing and monitoring rangeland condition and trend. Carrying our well-designed assessment and monitoring is critical to restoring or maintaining healthy rangelands and determining trends and conditions.

Assessments are a cursory form of evaluation based on the standards that can be used at different landscape scales. Assessments, conducted by qualified interdisciplinary teams (which may include, but are not limited to, physical, biological, and social specialists and interagency personnel) with participation from permittees and other interested parties, are appropriate at the watershed and subwatershed level, at the allotment and pasture levels, and on individual ecological sites or groups of sites. Assessments identify the condition or degree of function within the rangeland ecosystem and indicate resource problems and issues that should be monitored or studied in more detail. The results of the assessments are a valuable tool for managers in assigning priorities within an administrative area and the subsequent allocation of personnel, money, and time in resource monitoring and treatment. The results of assessments may also be used in making management decisions where an obvious problem exists.

Monitoring, which is the well-documented and orderly collection, analysis, and interpretation of resource data, serves as the basis for determining trends in the condition or degree of function of rangeland resources and for making management decisions. Monitoring should be designed and carried out to identify trends in resource conditions, to point out resource problems, to help indicate the cause of such problems, to point out solutions, and/or to contribute to adaptive management decisions. In cases where monitoring data do not exist, professional judgement, supported by interdisciplinary team recommendation, may be relied upon by the authorized officer in order to take necessary action. Review and evaluation of new information must be an ongoing activity.

To be effective, monitoring must be consistent over time, throughout administrative areas, and in the methods of measurement and observation of selected indicators. Those doing the monitoring must have the knowledge and skill required by the level or intensity of the monitoring being done, as well as the experience to properly interpret the results. Technical support for training must be made available.

Measurability

It is recognized that not every area will immediately meet the standards and that it will sometimes be a long-term process to restore some rangelands to properly functioning condition. It is intended that in cases where standards are not being met, measurable progress should be made toward achieving those standards, and significant progress should be made toward fulfilling the fundamentals of rangeland health. Measurability is defined on a case-specific basis based upon the stated planning objectives (e.g., quantifiable, time-specific), taking into account economic and social goals along with

the biological and ecological capability of the area. To the extent that a rate of recovery conforms with the planning objectives, the area is allowed the time to meet the standard under the selected management regime.

Implementation

The material contained in this document will be incorporated into existing land use plans and used in the development of new land use plans. According to 43 CFR 4130.3-1, permits and leases shall incorporate terms and conditions that ensure conformance with 43 CFR 4180. Terms and conditions of existing permits and leases will be modified to reflect standards and guidelines at the earliest possible date, with priority for modification being at the discretion of the authorized officer. Terms and conditions of new permits and leases will reflect standards and guidelines in their development.

Indicators identified in this document will serve as a focus of interpretation of existing monitoring data and will provide the basis of design for monitoring and assessment techniques, and in the development of monitoring and assessment plans.

The authorized officer shall take appropriate action as soon as practicable, but not later than the start of the next grazing year, upon determining through assessment or monitoring by experienced professionals and interdisciplinary teams that a standard is not being achieved and that livestock are a significant contributing factor to the failure to achieve the standards and conform with the guidelines.

Standards for Rangeland Health

Standard 1: Watershed Function - Uplands

Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.

Rationale and Intent:

This standard focuses on the basic physical functions of upland soils that support plant growth, the maintenance or development of plant populations and communities, and promote dependable flows of quality water from the watershed.

To achieve and sustain rangeland health, watersheds must function properly. Watersheds consist of three principle components; the uplands, riparia/wetland areas, and the aquatic zone. This standard addresses the upland component of the watershed. When functioning properly, within its potential, a watershed captures, stores, and safely releases the moisture associated with normal precipitation events (equal to or less than the 25-year, 5-hour event) that falls within its boundaries. Uplands make up the largest part of the watershed and are where most of the moisture is received during precipitation events is captured and stored.

While all watersheds consist of similar components and processes, each is unique in its individual makeup. Each watershed displays its own pattern of landform and soil, its unique climate and weather patterns, and its own history of use and current condition. In directing management toward achieving this standard, it is essential to treat each unit of the landscape (soil, ecological site, and watershed) according to its own capability and how ir fits with both smaller and larger units of the landscape.

A set of potential indicators has been identified for which site-specific criteria will be used to determine if this standard is being met. The appropriate indicators to be used in determining attainment of the standard should be drawn from the following list.

Potential Indicators:

Protection of the soil surface from raindrop impact; detention of overland flow; maintenance of infiltration and permeability, and protection of the soil surface from erosion, consistent with the potential/capability of the site, as evidenced by the:

- amount and distribution of plant cover (including forest canopy cover);

- amount and distribution of plant litter;
- accumulation/incorporation of organic matter;
- amount and distribution of bare ground;
- amount and distribution of rock, stone, and gravel;
- plant composition and community structure;
- thickness and continuity of the "A" horizon;
- character of microrelief;
- presence and integrity of biotic crusts;
- root occupancy of the soil profile;
- biological activity (plant, animal, and insect); and
- absence of accelerated erosion and overland flow.

Soil and plant conditions promote moisture storage as evidenced by:

- amount and distribution of plant cover (including canopy cover);
- amount and distribution of plant litter;
- plant composition and community structure; and
- accumulation/incorporation of organic matter.

Standard 2: Watershed Function - Riparian/Wetland Areas

Riparian/wetland areas are in properly functioning physical condition appropriate to soil, climate and landform.

Rational and Intent:

Riparian/wetland areas are grouped into two major categories: 1) lentic, or standing water systems such as lakes, ponds, seeps, bogs, and meadows; and 2) lotic, or moving water systems such as revers, streams, and springs. Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Riparian areas commonly occupy the transition zone between the upland and surface water bodies (the aquatic zone) or permanently saturated wetlands.

Properly functioning condition of riparian and wetland areas describes the degree of physical function of these components of the watershed. Their functionality is important to water quality in the capture and retention of sediment and debris, the detention and detoxification of pollutants, and in moderating seasonal extremes of water temperature. Properly functioning riparian areas and wetlands enhance the timing and duration of streamflow through dissipation of flood energy, improved bank storage, and ground water recharge. Properly functioning condition should not be confused with the desired plant community or the desired future condition since, in most cases, it is the precursor to these levels of resource condition and is required for their attainment.

A set of indicators has been identified for which site-specific criteria will be used to determine if this standard is being met. The criteria are based upon the potential (or upon the capability where potential cannot be achieved) of individual sites or landforms.

Potential Indicators:

Hydrologic, vegetation, and erosional/depositional processes interact in supporting physical function, consistent with the potential or capability of the site, as evidenced by:

- frequency of floodplain/wetland inundation;
- plant composition, age class distribution, and community structure;
- root mass;
- point bars revegetating;
- streambank/shoreline stability;
- riparian area width;
- sediment deposition;
- active/stable beaver dams;
- coarse/large woody debris;
- upland watershed conditions;
- water table fluctuation.

Stream channel characteristics are appropriate for landscape position as evidenced by:

- channel width/depth ratio;
- channel sinuosity;
- gradient;
- rocks and coarse and/or large woody debris;
- overhanging banks;
- pool/riffle ratio;
- pool size and frequency; and
- stream embeddedness.

Standard 3: Ecological Processes

Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.

Rationale and Intent:

This standard addresses the ecological processes of energy flow and nutrient cycling as influenced by existing and desired plant and animal communities without establishing the kinds, amounts, or proportions of plant and animal community compositions. While emphasis may be on native species, an ecological site may be capable of supporting a number of different native and introduced plant and animal populations and communities while meeting this standard. This standard also addresses the hydrologic cycle which is essential for plant growth and appropriate levels of energy flow and nutrient cycling. Standards 1 and 2 address the watershed aspects of the hydrologic cycle.

With a few exceptions, all life on earth is supported by the energy supplied by the sun and captured by plants in the process of photosynthesis. This energy enters the food chain when plants are consumed by insects and herbivores and passes upward through the food chain to the carnivores. Eventually, the energy reaches the decomposers and is released as the thermal output of decomposition or through oxidation.

The ability of plants to capture sunlight energy, to grow and develop, to play a role in soil development and watershed function, to provide habitat for wildlife, and to support economic uses depends on the availability of nutrients and moisture. Nutrients necessary for plant growth are made available to plants through the decomposition and metabolization of organic matter by insects, bacteria and fungi, the weathering of rocks, and extraction from the atmosphere. Nutrients are transported through the soil by plant uptake, leaching, and by rodent, insect, and microbial activity. They follow cyclical patterns as they are used and reused by living organisms.

The ability of rangelands to supply resources and satisfy social and economic needs depends on the buildup and cycling of nutrients over time. Interrupting or slowing nutrient cycling can lead to site degradation, as this land becomes increasingly deficient in the nutrients plants require.

Some plant communities, because of past use, frequent fire or other histories of extreme or continued disturbance, are incapable of meeting this standard. For example, shallow-rooted winter-annual grasses that completely dominate some sites do not fully occupy the potential rooting depth of some soils, thereby reducing nutrient cycling well below optimum levels. In addition, these plants have a relatively short growth period and thus capture less sunlight than more diverse plant communities. Plant communities like those cited in this example are considered to have crossed the threshold of recovery and often require great expense to be recovered. The cost of recovery must be weighed against the site's potential ecological/economic value in establishing treatment priorities.

The role of indicators has been identified for which site-specific criteria will be used to determine if this standard is being met.

Potential Indicators:

Photosynthesis is effectively occurring throughout the potential growing season, consistent with the potential/capability of the site, as evidenced by plant composition and community structure.

Nutrient cycling is occurring effectively, consistent with the potential/capability of the site, as evidenced by:

- plant composition and community structure;
- accumulation, distribution, incorporation of plant litter and organic matter into the soil;
- animal community structure and composition;
- root occupancy in the soil profile; and
- biological activity including plant growth, herbivory, and rodent, insect, and microbial activity.

Standard 4: Water Quality

Surface water and ground water quality, influenced by agency actions, complies with State water quality standards.

Rationale and Intent:

The quality of the water yielded by a watershed is determined by the physical and chemical properties of the geology and soils unique to the watershed, the prevailing climate and weather patterns, current resource conditions, the uses to which the land is put, and the quality of the management of the uses. Standards 1, 2, and 3 contribute to attaining this standard.

States are legally required to establish water quality standards and Federal land management agencies are to comply with those standards. In mixed ownership watersheds, agencies, like any other landowners, have limited influence on the quality of the water yielded by the watershed. The actions taken by the agency will contribute to meeting State water quality standards during the period that water crosses agency administered holdings.

Potential Indicators:

Water quality meets applicable water quality standards as evidenced by:

- water temperature;
- dissolved oxygen;
- fecal coliform;
- turbidity;
- pH;
- populations of aquatic organisms; and
- effects on beneficial uses (e.g., effects on management activities on beneficial uses as defined under the Clean Water Act and State implementing regulations).

Standard 5: Native, Threatened and Endangered, and Locally Important Species

Habitats support healthy, productive, and diverse populations and communities of native plants and animals (including Special Status species and species of local importance) appropriate to soil, climate, and landform.

Rationale and Intent:

Federal agencies are mandated to protect threatened and endangered species and will take appropriate action to avoid the listing of any species. This standard focuses on retaining and restoring native plant and animal (including fish) species, populations, and communities (including threatened, endangered and other Special Status species and species of local importance). In meeting the standard, native plant communities and animal habitats would be spatially distributed across the landscape with a density and frequency of species suitable to ensure reproductive capability and sustainability. Plant populations and communities would exhibit a range of age classes necessary to sustain recruitment and mortality fluctuations.

Potential Indicators:

Essential habitat elements for species, populations, and communities are present and available, consistent with the potential/capability of the landscape, as evidenced by:

- plant community composition, age class distribution, productivity;
- animal community composition, productivity;
- habitat elements;
- spatial distribution of habitat;
- habitat connectivity; and
- population stability/resilience.

Guidelines for Livestock Grazing Management

Guidelines for livestock grazing management offer guidance in achieving plan goals, meeting standards for rangeland health, and fulfilling the fundamentals of rangeland health. Guidelines are applied in accordance with the capabilities of the resource in consultation, cooperation, and coordination with permittees/lessees and the interested public. Guidelines enable managers to adjust grazing management on public land to meet current and anticipated climatic and biological conditions.

General Guidelines

1. Involve diverse interests in rangeland assessment, planning, and monitoring.

2. Assessment and monitoring are essential to the management of rangelands, especially in areas where resource problems exist or issues arise. Monitoring should proceed using a qualitative method of assessment to identify critical, site-specific problems or issues using interdisciplinary teams of specialists, managers, and knowledgeable land users.

Once identified, critical, site-specific problems or issues should be targeted for more intensive, quantitative monitoring or investigation. Priority for monitoring and treatment should be given to those areas that are ecologically at-risk where benefits can be maximized given existing budgets and other resources.

Livestock Grazing Management

1. The season, timing, frequency, duration, and intensity of livestock grazing use should be based on the physical and biological characteristics of the site and the management unit in order to:

    a. Provide adequate cover (live plants, plant litter, and residue) to promote infiltration, conserve soil moisture, and to maintain soil stability in upland areas;

    b. Provide adequate cover and plant community structure to promote streambank stability, debris and sediment capture, and floodwater energy dissipation in riparian areas;

    c. Promote soil surface conditions that support infiltration;

    d. Avoid subsurface soil compaction that retards the movement of water int eh soil profile;

    e. Help prevent the increase and spread of noxious weeds;

    f. Maintain or restore diverse plant populations and communities that fully occupy the potential rooting volume of the soil;

    g. Maintain or restore plant communities to promote photosynthesis throughout the potential growing season;

    h. Promote soil and site conditions that provide the opportunity for the establishment of desirable plants;

    i. Protect or restore water quality; and

    j. Provide for the life cycle requirements, and maintain or restore the habitat elements of native (including threatened and endangered, Special Status, and locally important species) and desired plants and animals.

2. Grazing management plans should be tailored to site-specific conditions and plan objectives. Livestock grazing should be coordinated with the timing of precipitation, plant growth, and plant form. Soil moisture, plant growth stage, and the timing of peak streamflows are key factors in determining when to graze. Response to different grazing strategies varies with differing ecological sites.

3. Grazing management systems should consider nutritional and herd health requirements of the livestock.

4. Integrate grazing management systems into the year-round management strategy and resources of the permittee(s) or lessee(s). Consider the use of collaborative approaches (e.g., coordinated resource management, work groups) in this integration.

5. Consider competition for forage and browse among livestock, big game animals, and wild horses in designing and implementing a grazing plan.

6. Provide periodic rest from grazing for rangeland vegetation during critical growth periods to promote plant vigor, reproduction, and productivity.

7. Range improvement practices should be prioritized to promote rehabilitation and resolve grazing concerns on transitory grazing land.

8. Consider the potential for conflict between grazing use on public land and adjoining land uses in the design and implementation of a grazing management plan.

Facilitating the Management of Livestock Grazing

1. The use of practices to facilitate the implementation of grazing systems should consider the kind and class of animals managed, indigenous wildlife, wild horses, the terrain, and the availability of water. Practices such as fencing, herding, water development, and the placement of salt and supplements (where authorized) are used where appropriate to:

    a. Promote livestock distribution;

    b. Encourage a uniform level of proper grazing use throughout the grazing unit;

    c. Avoid unwanted or damaging concentrations of livestock on streambanks, in riparian areas, and other sensitive areas such as highly erodible soils, unique wildlife habitats, and plant communities; and

    d. Protect water quality.

2. Roads and trails used to facilitate livestock grazing are constructed and maintained in a manner that minimizes the effects on landscape hydrology; concentration of overland flow, erosion, and sediment transport are prevented; and subsurface flows are retained.

Accelerating Rangeland Recovery

1. Upland treatments that alter the vegetation composition of a site, such as prescribed burning, juniper management, and seedings or plantings must be based on the potential of the site and should:

    a. Retain ir promote infiltration, permeability, and soil moisture storage;

    b. Contribute to nutrient cycling and energy flow;

    c. Protect water quality;

    d. Help prevent the increase and spread of noxious weeds;

    e. Contribute to the diversity of plant communities, and plant community composition and structure;

    f. Support the conservation of threatened and endangered, other Special Status species, and species of local importance; and

    g. Be followed up with grazing management and other treatments that extend the life of the treatment and address the cause of the original treatment need.

2. Seedings and plantings of nonnative vegetation should only be used in those cases where native species are not available in sufficient quantities; where native species are incapable of maintaining or achieving the standards; or where nonnative species are essential to the functional integrity of the site.

3. Structural and vegetation treatments and animal introductions in riparian and wetland areas must be compatible with the capability of the site, including the system's hydrologic regime, and contribute to the maintenance or restoration of properly functioning condition.

Rangelands Glossary

Appropriate action - implementing actions pursuant to subparts 4110, 4120, 4130, and 4160 of the regulations that will result in significant progress toward fulfillment of the standards and significant progress toward conformance with the guidelines. (See Significant progress")

Assessment - a form of evaluation based on the standards of rangeland health, conducted by an interdisciplinary team at the appropriate landscape scale (pasture, allotment, subwatershed, watershed, etc.) to determine conditions relative to standards.

Compaction layer - a layer within the soil profile in which the soil particles have been rearranged to decrease void space, thereby increasing soil bulk density and often reducing permeability.

Crust, Abiotic - (physical crust) a surface layer on soils, ranging in thickness from a few millimeters to a few centimeters, that is much more compact, hard, and brittle when dry, than the material immediately beneath it.

Crust, Biotic - (microbiotic or cryptogamic crust) a layer of living organisms (mosses, lichens, liverworts, algae, fungi, bacteria, and/or cyanobacteria) occurring on, or near the soil surface.

Degree of function - a level of physical function relative to properly functioning condition commonly expressed as: properly functioning, functioning-at-risk, or nonfunctional.

Diversity - the aggregate of species assemblages (communities), individual species, and the genetic variation within species and the processes by which these components interact within and among themselves. The elements of diversity are: 1) community diversity (habitat, ecosystem); 2) species diversity; and 3) genetic diversity within a species; all three of which change over time.

Energy flow - the processes in which solar energy is converted to chemical energy through photosynthesis and passed through the food chain until it is eventually dispersed through respiration and decomposition.

Ground water - water in the ground that is in the zone of saturation; water in the ground that exists at, or below the water table.

Guideline - practices, methods, techniques, and considerations used to ensure that progress is made in a way and at a rate that achieves the standard(s).

Gully - a channel resulting from erosion and caused by the concentrated but intermittent flow of water usually during and immediately following heavy rains.

Hydrologic cycle - the process in which water enters the atmosphere through evaporation, transpiration, or sublimation from the oceans, other surface water bodies, or from the land and vegetation, and through condensation and precipitation returns to the earth's surface. The precipitation then occurring as overland flow, streamflow, or percolating underground flow to the oceans or other surface water bodies or to other sites of envirotranspiration and recirculation to the atmosphere.

Indicators - parameters of ecosystem function that are observed, assessed, measured, or monitored to directly or indirectly determine attainment of a standard(s).

Infiltration - the downward entry of water into the soil.

Infiltration rate - the rate at which water enters the soil.

Nutrient cycling - the movement of essential elements and inorganic compounds between the reservoir pool (soil, for example) and the cycling pool (organisms) in the rapid exchange (e.g., moving back and forth) between organisms and their immediate environment.

Organic matter - plant and animal residues accumulated or deposited at the soil surface; the organic fraction of the soil that includes plant and animal residues at various stages of decomposition; cells and tissues of soil organisms, and the substances synthesized by the soil population.

Permeability - the ease with which gases, liquids, or plant roots penetrate or pass through a bulk mass of soil or a layer of soil.

Properly functioning condition - *Riparian/wetland:* adequate vegetation, landform, or large (coarse) woody debris is present to dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid in floodplain development; improve floodwater retention and ground water recharge; develop root masses that stabilize streambanks against cutting action; develop diverse channel and ponding characteristics to provide the habitat and water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity. The result of interaction among geology, soil, water, and vegetation. *Uplands:* soil and plant conditions support the physical processes of infiltration and moisture storage and promote soil stability (as appropriate to site potential); includes the production of plant cover and the accumulation of plant residue that protect the soil surface from raindrop impact, moderate soil temperature in minimizing frozen soil conditions (frequency, depth, and duration), and the loss of soil moisture to evaporation; root growth and development in the support of permeability and soil aeration. The result of interaction among geology, climate, landform, soil, and organisms.

Proper grazing use - grazing that, through the control of timing, frequency, intensity, and duration of use, meets the physiological needs of the desirable vegetation, provides for the establishment of desirable plants, and is in accord with the physical function and stability of soil and landform (properly functioning condition).

Reference area - site that, because of their condition and degree of function, represent the ecological potential or capability of similar sites in an area or region (ecological province); serve as a benchmark in determining the ecological potential of sites with similar soil, climatic, and landscape characteristics.

Rill - a small, intermittent water course with steep sides; usually only a few inches deep.

Riparian area - a form of wetland transition between permanently saturated wetlands and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Land along, adjacent to, or contiguous with perennially and intermittently flowing rivers and stream, glacial potholes, and shores of lakes and reservoirs with stable water levels are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil. Includes, but is not limited to, jurisdictional wetlands.

Significant progress - when used in reference to achieving a standard: (actions), the necessary land treatments, practices, and/or changes to management have been applied or are in effect; (rate), a rate of progress that is consistent with the anticipated recovery rate described in plan objectives, with due recognition of the effects of climatic extremes (drought, flooding, etc.), fire, and other unforeseen naturally occurring events or disturbances. Monitoring reference areas that are ungrazed and properly grazed may provide evidence of appropriate recovery rates. (See Proper Grazing Use)

Soil density - (bulk density) - the mass of dry soil per unit bulk volume.

Soil moisture - water contained in the soil; commonly used to describe water in the soil above the water table.

Special Status species - species proposed for listing, officially listed (threatened/endangered), or candidate for listing as threatened or endangered by the Secretary of the Interior under the provisions of the Endangered Species Act; those listed or proposes for listing by the State in a category implying potential endangerment or extinction; those designated by each BLM State Director as sensitive.

Species of local importance - species of significant importance to American Indian populations (e.g., medicinal and food plants).

Standard - an expression of the physical and biological condition or degree of function necessary to sustain healthy rangeland ecosystems.

Uplands - land that exists above the riparian/wetland area, or active floodplains of rivers and streams; those lands not influenced by the water table or by free or unbound water; commonly represented by toe slopes, alluvial fans, and side slopes, shoulders, and ridges of mountains and hills.

Watershed - an area of land that contributes to the surface flow of water past a given point. The watershed dimensions are determined by the point past, or through which, runoff flows.

Watershed function - the principal functions of a watershed include the capture of moisture contributed by precipitation; the storage of moisture within the soil profile, and the release of moisture through the subsurface flow, deep percolation to ground water, evaporation from the soil, and transpiration be live vegetation.

Wetland - areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

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Appendix H - Herbicides Approved for Use Against Noxious Weeds Listed in "Vegetation Treatment on BLM Lands in Thirteen Western States EIS and ROD"

- Atrazine
- Bromacil
- Bromacil + Diuron
- Chlorsulfuron
- Clopyralid
- Clopyralid + 2,4-D
- 2,4-D*
- Dicamba*
- Dicamba + 2,4-D*
- Diuron
- Diuron + Imazapyr
- Diuron + Tebuthiuron
- Fosamine Ammonium
- Glyphosate*
- Glyphosate + 2,4-D*
- Glyphosate + Dicamba*
- Hexazinone
- Imazapyr
- Metfluidide
- Metsulfuron Methyl
- Picloram*
- Picloram + 2,4-D*
- Simazine
- Sulfometuron Methyl
- Tebuthiuron
- Triclopyr
- Triclopyr + 2,4-D
- Triclopyr + Clopyralid

*chemicals currently approved for noxious weed control in Oregon

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Appendix I - Allotment Management Summaries and Potential Range Improvement Projects

Table I-1: Allotment Management Summaries

Allotment Name:	Happy Valley	Allotment Number:	05309

Management Category:	M	Public Land acres:	16,763	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1996	Private acres:	2,569	Deer	25
Season of Use:	sp,su,fa	State acres:	0	Antelope	4
Yr S & G Assessment:	2001	Other Federal Acres:	0	Elk	88
Active AUMS:	2,267			Wild Horses	132
Suspended AUMs:	131	Total Acres:	19,362		
Total Permitted AUMs:	2,398			Total	249

Pasture/Area	Acres	% Public Domain	Objective[1]
North	1,583	100	B
South	2,599	86	A, B
Government Field	1,389	100	A, B
Deep Creek	2,486	31	A, B, D
West Field	2,247	99	A, B
Tank	1,071	100	A, B
Fisher Field	668	92	A, B
North Big Hill	2,522	93	A, B
South Big Hill	3,633	98	A, B
Smyth Creek Canyon	957	92	A, B, D
Exclosure	30	97	C
Hay Meadow	147	54	A, B

Allotment Management Plan Objectives:
- Maintain good condition in the crested wheatgrass seedings and an upward trend in low or mid-seral stage mountain big sagebrush/Idaho fescue, big sagebrush/squirreltail, and low sagebrush/Idaho fescue range sites in all pastures over the next 5 years. Maintain the sites in late-seral stage.
- Cause upward trend in the riparian conditions on Smyth Creek and Riddle Creek.
- Improve the stands of bitterbrush and snowberry in all pastures by assuring a 1:1 ratio of young and seedlings to dead and decadent plants.

Identified Resource Concerns
- Riparian areas
- Water quality
- Special Status Species: ferruginous hawk, redband trout, Malheur mottled sculpin
- Kiger HMA
- Kiger Mustang ACEC

Other
Only about 20% of the Happy Valley Allotment is within the Planning Area. The remaining portion of the allotment is within the Three Rivers Planning Area.

[1] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Riddle Mountain			Allotment Number: 05310		
Management Category:	I	Public Land acres:	20,479	Other Forage Allocations (AUMS)	
Yr AMP Implemented:	1992	Private acres:	2,436	Deer	177
Season of Use:	sp,su.fa	State acres:	92	Antelope	6
Yr S & G Assessment:	1998	Other Federal Acres:	0	Elk	188
Active AUMS:	3,095			Wild Horses	0
Suspended AUMS:	291	Total Acres:	23,007		
Total Permitted AUMS:	3,386			Total	371

Pasture/Area	Acres	% Public Domain	Objective[2]
Seeding	1,003	92	B
Riddle	3,164	95	A
Paul Creek	3,206	54	A, D
Big	8,081	98	A, D
Dry	4,294	86	B
South	571	100	B
Dollarhide	1,390	98	B, D
Sheep Trail	1,287	100	A
Pony Moore Spring	11	100	E

Allotment Management Plan Objectives
- Maintain 14,360 acres currently in late-seral stage and 805 acres in PNC and cause an upward trend in 9,457 acres currently in mid-seral stage to provide habitat and forage for big game and livestock in the following amounts of forage over the next 6 years: 177 AUMs for deer, 188 AUMs for elk, 6 AUMs for antelope, and 2,600 AUMs for livestock.
- Objective - "Continue to manage Paul Creek, Riddle Creek, and Coyote Creek for an upward trend in riparian condition and water quality."
- Objective - "Maintain the availability and production of upland forbs for sage-grouse from May to mid-July each year in the Big Pasture during the next evaluation period."
- Objective - "Improve 1,500 acres of big game habitat in unsatisfactory condition to satisfactory condition in the Dry, Dollarhide, Sheeptrail, Riddle/Coyote and Big Pastures over the next 6 years by controlling the density and spread of western juniper to promote understory browse species such as chokecherry and bitterbrush.

Identified Resource Concerns
- Water quality
- Big game habitat, deer winter range
- Elk forage allocations
- Playa habitat
- Riparian and aquatic habitat
- Special status species: Greater sage-grouse, redband trout, Malheur mottled sculpin
- Range condition

Other
- Only about 23% of the Riddle Mountain Allotment is within the Planning Area.

[2] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Jenkins B Flat FFR			Allotment Number: 05327		
Management Category:	C	Public Land acres:	1,037	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	3,466	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	283			Wild Horses	0
Suspended AUMs:	0	Total Acres:	4,503		
Total Permitted AUMs:	283			Total	0

Pasture/Area	Acres	% Public Domain	Objective[3]
Jenkins B Flat FFR	4,503	23	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Other

[3] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Riddle/Coyote		Allotment Number: 05329			
Management Category:	I	Public Land acres:	1,549	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1996	Private acres:	98	Deer	0
Season of Use:	sp	State acres:	0	Antelope	0
Yr S & G Assessment:	1998	Other Federal Acres:	0	Elk	0
Active AUMS:	300			Wild Horses	0
Suspended AUMs:	0	Total Acres:	1,647		
Total Permitted AUMs:	300			Total	0

Pasture/Area	Acres	% Public Domain	Objective[4]
Riddle/Coyote	1,647	94	B, D

Allotment Management Plan Objectives:
- Maintain 14,360 acres currently in late-seral stage and 805 acres in PNC and cause an upward trend in 9,457 acres currently in mid-seral stage to provide habitat and forage for big game and livestock in the following amounts of forage over the next 6 years: 177 AUMs for deer, 188 AUMs for elk, 6 AUMs for antelope, and 2,600 AUMs for livestock.
- Objective - "Continue to manage Paul Creek, Riddle Creek, and Coyote Creek for an upward trend in riparian condition and water quality."
- Objective - "Improve 1,500 acres of big game habitat in unsatisfactory condition to satisfactory condition in the Dry, Dollarhide, Sheep trail, Riddle/Coyote and Big Pastures over the next 6 years by controlling the density and spread of western juniper to promote understory browse species such as chokecherry and bitterbrush.

Identified Resource Concerns
- Water quality
- Forage allocations for elk
- Riparian and aquatic habitat condition
- Special status species: Greater sage-grouse
- Range condition

[4] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Smyth/Kiger			Allotment Number: 05331		
Management Category:	I	Public Land acres:	22,706	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1996	Private acres:	7,351	Deer	87
Season of Use:	sp,su,fa	State acres:	0	Antelope	7
Yr S & G Assessment:	1996	Other Federal Acres:	0	Elk	140
Active AUMS:	2,522			Wild Horses	852
Suspended AUMs:	0	Total Acres:	30,057		
Total Permitted AUMs:	2,522			Total	1,086

Pasture/Area	Acres	% Public Domain	Objective[5]
Swamp Creek	5,004	91	A, B, D
Yank Springs	3,453	93	A, B, D
Ant Hill	2,576	91	A, B
Wood Camp	4,865	100	A, B
Ruins	7,514	76	A, B
Hamilton Individual	1,021	100	A, B, D
Seep Creek	668	97	A, B, D
Private	4,956	7	E

Allotment Management Plan Objectives:
- Cause an upward trend in the riparian habitat condition on Deep Creek, Smyth Creek, and Riddle Creek.
- Maintain or increase the availability and production of upland forbs for sage-grouse from April through Mid-July in the allotment every year.
- Cause an upward trend in low- or mid-seral mountain big sagebrush/Idaho fescue, mountain big sagebrush/bluebunch wheatgrass, juniper/snowberry/Idaho fescue, and low sagebrush/Sandberg's bluegrass range sites in all pastures for the next evaluation period.
- Improve the stands of bitterbrush and snowberry in all pastures, ensuring a 1:1 ratio of young plants and seedlings to dead and decadent plants.

Identified Resource Concerns
- Riparian areas
- Water quality
- Kiger HMA
- Kiger Mustang ACEC
- Special Status Species: Greater sage-grouse, redband trout, Malheur mottled sculpin

Other
Only about 36% of the Smyth-Kiger Allotment is within the Planning Area.

[5] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Burnt Flat				Allotment Number: 05604	
Management Category:	I	Public Land acres:	29,154	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1996	Private acres:	5,414	Deer	83
Season of Use:	sp,su,fa	State acres:	394	Antelope	15
Yr S & G Assessment:	2001	Other Federal Acres:	0	Elk	64
Active AUMS:	3,863			Wild Horses	672
Suspended AUMs:	0	Total Acres:	34,962		
Total Permitted AUMs:	3,863			Total	834

Pasture/Area	Acres	% Public Domain	Objective[6]
Louie Hughes	2,303	89	B
Oriana Flat	30,024	87	B
Big Sage	632	76	B
Private	2,003	23	E

Allotment Management Plan Objectives:
- Maintain all seral stages in current status to provide a diversity of habitat types and conditions and forage requirements during the next 5-6 years.
- Maintain the availability and production of upland forbs for Greater sage-grouse from May to mid-July during the next 5 years.

Identified Resource Concerns
- Riddle Mountain Wild Horse Herd Management Area
- Forage allocations for elk
- Playa habitat
- Kiger Mustang ACEC
- Special status species: Greater sage-grouse, ferruginous hawk
- Range condition

Other
- Only 87% of the Burnt Flat Allotment is within the Planning Area.

[6] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: North Catlow			Allotment Number: 06001		
Management Category:	I	Public Land acres:	177,966	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	21,328	Deer	56
Season of Use:	sp,su,fa,wi	State acres:	0	Antelope	14
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	4,424			Wild Horses	0
Suspended AUMs:	0	Total Acres:	199,294		
Total Permitted AUMs:	4,424			Total	70

Pasture/Area	Acres	% Public Domain	Objective[7]
Rock Creek	175,647	89	A, B
North Duhaime	3,996	92	B
North Catlow Winter	16,213	89	A, B
South Duhaime	3,438	100	B

Allotment Management Plan Objectives:

Identified Resource Concerns
- Special Status Species: Greater sage-grouse
- Noxious weeds
- Riparian area

[7] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: South Steens		Allotment Number: 06002			
Management Category:	I	Public Land acres:	89,508	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1995	Private acres:	1,392	Deer	500
Season of Use:	sp,su,fa	State acres:	0	Antelope	22
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	60
Active AUMS:	9,577			Wild Horses	3,540
Suspended AUMs:	0	Total Acres:	90,900		
Total Permitted AUMs:	9,577			Total	4,122

Pasture/Area	Acres	% Public Domain	Objective[8]
Tombstone	29,741	99	A, B, D
Steens	41,699	99	A, B, D
Stephens	15,237	97	A, B, D
Hollywood Field	4,223	92	A, B

Allotment Management Plan Objectives:
- Improve the trend of riparian condition.
- Maintain and/or improve upland condition.
- Manage wild horse populations at an appropriate management level of between 159 and 304 animals to maintain a thriving ecological balance within the HMA.
- Provide viable habitats for threatened, endangered or sensitive species known to exist in the South Steens Allotment.
- Maintain the stability and flexibility of the ranching operation.
- Manage the WSAs within the allotment in accordance with the IMP.
- Manage to protect and enhance the Donner Und Blitzen National Wild and Scenic River as outlined in the Final Donner Und Blitzen River Management Plan and EA of May, 1993.
- Establish baseline data from which target or desired trends for fish and aquatic habitat characteristics will be determined.
- Maintain or improve aspen and riparian vegetation for the benefit of neotropical migrant songbirds and other species.
- Maintain watershed integrity to enhance hydrologic function. Achieve a mosaic of forage production and cover needs for wildlife and livestock. Enhance the richness of plant and animal species.

Identified Resource Concerns
- Steens Mountain CMPA
- Steens Mountain Wilderness
- Riparian areas
- Water quality
- Special Status Species: Greater sage-grouse, bighorn sheep
- Noxious weeds
- Blitzen River WSA
- South Steens HMA
- Donner Und Blitzen WSR
- Recreation
- Juniper encroachment

[8] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Mud Creek		Allotment Number: 06005			
Management Category:	I	Public Land acres:	8,245	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	0	Deer	86
Season of Use:	sp,su	State acres:	0	Antelope	5
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	9
Active AUMS:	590			Wild Horses	0
Suspended AUMs:	0	Total Acres:	8,245		
Total Permitted AUMs:	590			Total	100

Pasture/Area	Acres	% Public Domain	Objective[9]
Lower Field	4,016	100	A, B, D
Upper Field	4,229	100	A, B, D

Allotment Management Plan Objectives:

Identified Resource Concerns
- Bridge Creek WSA
- Riparian area
- Water quality
- Special Status Species: Greater sage-grouse
- Noxious weeds
- Juniper encroachment

[9] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Frazier Field		Allotment Number: 06006			
Management Category:	I	Public Land acres:	20,506	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1991	Private acres:	14	Deer	311
Season of Use:	sp,su	State acres:	0	Antelope	6
Yr S & G Assessment:	None	Other Federal Acres:	80	Elk	9
Active AUMS	1,906			Wild Horses	108
Suspended AUMs	0				
Total Permitted AUMs	1,906	Total:	20,600	Total	434

Pasture/Area	Acres	% Public Domain	Objective[10]
East River	5,101	100	A, B, D
Road	4,476	100	A, B
Old Frazier Field	3,968	100	A, B
Lower Seeding	954	100	B
West Upper River	3,023	100	A, B, D
West Lower River	2,093	96	A, B, D
Mud Creek Exclosure	1,085	100	C

Allotment Management Plan Objectives:
- Maintain existing forage allocations for livestock, wild horses and wildlife.
- Improve riparian condition of Mud Creek and the Donner Und Blitzen River.
- Improve and enhance aquatic habitat and water quality.
- Improve ecological status of upland vegetation.

Identified Resource Concerns
- Critical mule deer winter range
- South Steens HMA
- Steens Mountain Wilderness
- Blitzen River WSA
- Donner Und Blitzen WSR
- Noxious Weeds
- Water quality
- Special Status Species: Redband trout, Greater sage-grouse
- Steens Mountain CMPA
- Juniper encroachment

[10] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Ruby Springs			Allotment Number: 06007		
Management Category:	I	Public Land acres:	14,788	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1991	Private acres:	613	Deer	58
Season of Use:	sp,su	State acres:	0	Antelope	8
Yr S & G Assessment:	None	Other Federal Acres:	36	Elk	36
Active AUMS:	1,950			Wild Horses	0
Suspended AUMs:	0	Total Acres:	15,437		
Total Permitted AUMs:	1,950			Total	102

Pasture/Area	Acres	% Public Domain	Objective[11]
Ruby Springs Seeding	1,284	98	B
Bird Reservoir	2,335	97	B
Ruby Springs	2,932	92	B
Bess Lake	3,762	98	A, B
Moon Hill	2,173	98	A, B
East Seeding	777	81	B
North Seeding	303	91	B
Elliot Field	1,103	100	A, B
Pack Trail	768	99	A, B, D

Allotment Management Plan Objectives:
- Maintain average annual livestock forage production of 2,466 AUMs with utilization targets of 50% on native ranges and 60% on crested wheatgrass seedings.
- Improve bitterbrush condition in Pasture #6 from the present decadent stand with no seedlings to a mixed stand of at least 5% seedlings, young and mature plants over a 10 year period.
- Improve ecological status of upland vegetation.
- Improve ecological condition of 1.25 miles of McCoy Creek from poor to fair by 1997 as represented by maintaining upward trend in willow and herbaceous cover.

Identified Resource Concerns
- Noxious weeds
- Special Status Species: Greater sage-grouse
- Riparian areas
- Water quality
- Steens Mountain CMPA
- Juniper encroachment

[11] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Krumbo			Allotment Number: 06008		
Management Category:	M	Public Land acres:	14,413	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	2000	Private acres:	1,130	Deer	11
Season of Use:	sp,su,fa	State acres:	0	Antelope	10
Yr S & G Assessment:	2000	Other Federal Acres:	681	Elk	0
Active AUMS:	4,133			Wild Horses	0
Suspended AUMs:	0	Total Acres:	16,224		
Total Permitted AUMs:	4,133			Total	21

Pasture/Area	Acres	% Public Domain	Objective[12]
Witzel Well	886	95	B
Witzel Tank	1,273	100	B
West Anderson	1,105	86	B
North Hogwallow	1,810	80	B
East Hogwallow	2,787	94	B
McLean	1,305	100	B
Exchange	381	100	B
East Anderson	1,888	83	B
South Hogwallow	841	86	B
Dell Witzel	1,781	100	B
Middle Hogwallow	1,536	92	B
Private	631	18	E

Allotment Management Plan Objectives:
- Maintain existing seral stage of native plant communities within the allotment over the next 10 years.
- Maintain or improve crested wheatgrass seeding condition and allow an increase in occupancy by Wyoming big sagebrush to a level not to exceed 25% within the allotment over the next 10 years.
- Maintain the stability and flexibility of the ranching operations. Improve productivity of the private land not in the allotment.

Identified Resource Concerns
- Noxious weeds
- Antelope summer range
- Mule deer winter range

[12] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: East Ridge			Allotment Number: 06010		
Management Category:	I	Public Land acres:	5,066	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	5,440	Deer	115
Season of Use:	sp,su	State acres:	0	Antelope	2
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	44
Active AUMS:	431			Wild Horses	0
Suspended AUMs:	0	Total Acres:	10,506		
Total Permitted AUMs:	431			Total	161

Pasture/Area	Acres	% Public Domain	Objective[13]
West Kiger	1,642	78	A, B
Upper Ridge	817	34	A, B
Lower 3 Forks	1,252	41	A, B, D
Upper 3 Forks	1,954	11	A, B, D
Middle Canyon	2,161	67	A, B, D
Lower Gorge	949	28	A, B, D
Upper Gorge	1,731	62	A, B, D

Allotment Management Plan Objectives:

Identified Resource Concerns
- Noxious weeds
- Riparian areas
- Water quality
- Juniper encroachment
- High Steens WSA
- Steens Mountain Wilderness
- Steens Mountain CMPA
- Special Status Species: Bighorn sheep, Greater sage-grouse

[13] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Pollock		Allotment Number: 06011			
Management Category:	I	Public Land acres:	76,812	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1991	Private acres:	4,896	Deer	79
Season of Use:	sp,wi	State acres:	5,681	Antelope	12
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	4,107			Wild Horses	1,224
Suspended AUMs:	0	Total Acres:	87,389		
Total Permitted AUMs:	4,107			Total	1,315

Pasture/Area	Acres	% Public Domain	Objective[14]
Anderson Seeding	4,440	88	A, B
Stonehouse Seeding	5,854	89	B, D
Alberson Seeding	4,824	95	A, B
Road	25,266	90	B
Winter	37,017	100	B
Juniper Lake Seeding	48	100	B
Five Cent Lake	127	100	B
Lambing Canyon	6,391	1	A, B
Folly Farm	3,422	97	B

Allotment Management Plan Objectives:

Identified Resource Concerns
- Wilderness Study Areas: Sheepshead HMA, Stonehouse WSA, Lower Stonehouse WSA
- Noxious weeds
- Special Status Species: Bighorn Sheep, Greater sage-grouse
- Steens Mountain CMPA
- Riparian areas
- Deer winter range

[14] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Alvord		Allotment Number: 06012			
Management Category:	I	Public Land acres:	223,895	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1985	Private acres:	5,600	Deer	244
Season of Use:	sp,su,fa,wi	State acres:	0	Antelope	20
Yr S & G Assessment:	2003	Other Federal Acres:	0	Elk	0
Active AUMS:	7,355			Wild Horses	1,200
Suspended AUMs:	1,892	Total Acres:	229,495		
Total Permitted AUMs:	9,247			Total	1,464

Pasture/Area	Acres	% Public Domain	Objective[15]
Alvord Seeding	2,937	100	A
North Foothills	5,807	63	A, B, D
South Foothills	4,052	60	A, B, D
Table Mountain	20,743	100	B
Desert	190,425	99	B
Pike Creek	5,281	94	A, B, D

Allotment Management Plan Objectives:
- Maintain or improve ecological status of the vegetation.
- Maintain the aesthetic and visual conditions of lands and waters.
- Prevent accelerated erosion.
- Maintain the natural diversity of wildlife by maintaining existing habitat, including adequate browse for mule deer within the Foothills Pasture.
- Maintain naturalness, solitude and primitive recreation.
- Increase production of livestock and wild horse forage through range improvements and changes in grazing systems. Restore 1,892 AUMs of suspended non-use in the Desert Pasture. Maintain a minimum of 1,200 AUMs of forage for wild horses within the Desert Pasture.

Identified Resource Concerns
- Steens Mountain Wilderness
- Wilderness Study Areas: High Steens WSA, Alvord Desert WSA, Winter Range WSA, East Alvord WSA, Table Mountain WSA, Wildcat Canyon WSA
- Riparian areas
- Water quality
- Special Status Species: Bighorn sheep, Greater sage-grouse, Lahontan cutthroat trout
- Areas of Critical Environmental Concern: Mickey Basin RNA/ACEC, Alvord Desert ACEC, Proposed Mickey Hot Springs ACEC, Proposed Big Alvord Creek RNA/ACEC
- Special Status Plant habitat
- Recreation

[15] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Tum Tum		Allotment Number: 06014			
Management Category:	M	Public Land acres:	7,374	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1985	Private acres:	705	Deer	9
Season of Use:	wi	State acres:	0	Antelope	1
Yr S & G Assessment:	1999	Other Federal Acres:	0	Elk	0
Active AUMS:	730			Wild Horses	0
Suspended AUMs:	0	Total Acres:	8,079		
Total Permitted AUMs:	730			Total	10

Pasture/Area	Acres	% Public Domain	Objective[16]
North Tum Tum	6,605	99	B
South Tum Tum	770	100	A, B
Coleman	704	5	A, B

Allotment Management Plan Objectives:
- Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.
- Protect and enhance the diversity and distribution of desirable vegetative communities. Implement appropriate actions to ensure that established regional standards and guidelines of rangeland health are met.
- Manage the allotment to protect and maintain populations and habitat for special status plant species.
- Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.
- Manage the allotment to maintain or enhance populations and habitats of special status animal species.

Identified Resource Concerns
- Special Status Species: Alvord chub
- Noxious weeds

[16] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Trout Creek Mountain				Allotment Number: 06015	
Management Category:	I	Public Land acres:	85,442	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1989	Private acres:	2,931	Deer	483
Season of Use:	sp,su	State acres:	0	Antelope	17
Yr S & G Assessment:	2000	Other Federal Acres:	0	Elk	0
Active AUMS:	8,352			Wild Horses	0
Suspended AUMs:	0	Total Acres:	88,373		
Total Permitted AUMs:	8,352			Total	500

Pasture/Area	Acres	% Public Domain	Objective[17]
Red Mountain	16,925	97	A, B
Antelope Seeding	4,581	100	B
Stony	13,369	97	A, B, D
Flagstaff Seeding	2,189	100	B
Buckskin Mountain	6,523	97	B
Little Trout Creek Seeding	2,869	99	B
Pole Patch	4,910	98	A, B, D
Chalk Canyon	312	98	B
No Name	9,580	100	A, B
East Fork	11,459	92	A, B, D
West Buckskin	4,213	99	B
Rock Creek Springs	36	100	C
Government Corrals	54	94	C
Mahogany	5,176	93	A, B, D
Headwaters	3,419	100	A, B, D
Rock Cabin	2,758	80	A, B, D

Allotment Management Plan Objectives:
- Improve and enhance aquatic habitat and water quality.
- Improve and maintain riparian habitat.
- Improve and maintain upland vegetation.
- Improve and enhance habitat for special status species.
- Maintain and enhance primary wilderness values.
- Maintain existing forage allocation for livestock and wildlife.
- Protect the relevant values of existing/proposed RNA/ACECs

Identified Resource Concerns:
- Water quality
- Special Status Species: Greater Sage-grouse
- Wilderness Study Areas: Disaster Peak WSA, Mahogany Ridge WSA, Red Mountain WSA, Willow Creek WSA
- Proposed East Fork Trout Creek RNA/ACEC
- Noxious weeds
- Riparian areas
- Recreation

[17] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Sandhills		Allotment Number: 06016			
Management Category:	M	Public Land acres:	17,976	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1992	Private acres:	159	Deer	10
Season of Use:	sp,su,fa,wi	State acres:	0	Antelope	5
Yr S & G Assessment:	2002	Other Federal Acres:	0	Elk	0
Active AUMS:	2,294			Wild Horses	0
Suspended AUMs:	0	Total Acres:	18,135		
Total Permitted AUMs:	2,294			Total	15

Pasture/Area	Acres	% Public Domain	Objective[18]
Maggie Creek	4,495	100	A, B
Road	7,199	99	A, B
Winter Seeding	1,376	100	A, B
Holloway Mountain	2,546	98	B
Native Winter	2,175	100	A, B
Ryegrass	344	86	B

Allotment Management Plan Objectives:
- Provide for a sustained level of livestock grazing, consistent with other resource objectives and public land use allocations.
- Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.
- Improve the ecological status of the native range to 25% late-seral, 15% mid-seral, and 5% early-seral in 10 years. Maintain 100% of the good to excellent crested wheatgrass seeding on the Wyoming big sagebrush types and at least 50% of the fair to good seeding on the greasewood and shadscale vegetation types.

Identified Resource Concerns
- Noxious weeds
- Special Status Species: Greater sage-grouse

Other
Portions of the Sandhills Allotment are in Nevada, outside the Planning Area.

[18] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Grassy Basin			Allotment Number: 06017		
Management Category:	M	Public Land acres:	6,927	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1992	Private acres:	3,201	Deer	18
Season of Use:	sp,su	State acres:	0	Antelope	2
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	942			Wild Horses	0
Suspended AUMs:	0	Total Acres:	10,128		
Total Permitted AUMs:	942			Total	20

Pasture/Area	Acres	% Public Domain	Objective[19]
Lower Grassy Basin	2,464	96	A, B
Upper Grassy Basin	1,651	100	B
Lower Crow Creek	594	4	A, B
Middle Crow Creek	670	10	A, B, D
South Fork	2,744	57	A, B, D
Upper Crow Cr/Long Cny	1,320	93	A, B, D
Log Cabin	685	2	A, B

Allotment Management Plan Objectives:
- Maintain livestock forage production of 942 AUMs on public land.
- Improve poor and fair range condition to fair and good within 15 years.

Identified Resource Concerns
- Riparian areas
- Special Status Species: Greater sage-grouse
- Water quality

Other
Portions of the Grassy Basin Allotment are in Nevada and are outside the Planning Area.

[19] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Tule Springs		Allotment Number: 06018			
Management Category:	I	Public Land acres:	136,895	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1989	Private acres:	12,789	Deer	108
Season of Use:	wi	State acres:	0	Antelope	24
Yr S & G Assessment:	2000	Other Federal Acres:	0	Elk	0
Active AUMS:	5,506			Wild Horses	480
Suspended AUMs:	0	Total Acres:	149,684		
Total Permitted AUMs:	5,506			Total	612

Pasture/Area	Acres	% Public Domain	Objective[20]
Tule Springs	116,893	90	A, B
Fields	14,483	99	A, B
Trout Creek Lane	176	100	C
Rim	13,786	97	A, B
Alvord Slough Exclosure	210	96	C
Kueny	3,429	97	A, B
Borax Lake ACEC Excl.	591	73	C
N. Borax Springs Excl.	116	9	C

Allotment Management Plan Objectives:
- Improve and maintain upland vegetation.
- Improve and maintain riparian habitat.
- Improve and enhance habitat for wildlife.
- Improve and enhance habitat for special status species.
- Maintain existing forage allocation for livestock, wild horses and wildlife.

Identified Resource Concerns
- Special Status Species: Borax Lake chub, Alvord chub, bighorn sheep
- Alvord-Tule Springs HMA
- Borax Lake ACEC
- Noxious Weeds
- Serrano Point Proposed RNA/ACEC
- Alvord Desert WSA

[20] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Serrano Point			Allotment Number: 06019		
Management Category:	I	Public Land acres:	14,008	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	1,086	Deer	107
Season of Use:	sp,su,fa	State acres:	0	Antelope	4
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	500			Wild Horses	0
Suspended AUMs:	0	Total Acres:	15,094		
Total Permitted AUMs:	500			Total	111

Pasture/Area	Acres	% Public Domain	Objective[21]
Serrano Point	6,122	88	A, B
Stonehouse	4,499	100	A, B
Indian Creek	4,473	93	A, B

Allotment Management Plan Objectives:

Identified Resource Concerns
- Steens Mountain Wilderness
- Riparian areas
- Special Status Species: bighorn sheep
- Steens Mountain CMPA

[21] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name:	Pueblo-Lone Mountain	Allotment Number:	06020

Management Category:	I	Public Land acres:	218,995	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1996	Private acres:	5,256	Deer	346
Season of Use:	sp,su,fa,wi	State acres:	0	Antelope	35
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	13,149			Wild Horses	0
Suspended AUMs:	0	Total Acres:	224,251		
Total Permitted AUMs:	13,149			Total	381

Pasture/Area	Acres	% Public Domain	Objective[22]
Pueblo Valley	599	100	A
MW Rincon Seeding	808	100	B
ME Rincon Seeding	734	100	B
Desert	92,384	100	B
SE Rincon Seeding	2,103	100	B
SW Rincon Seeding	1,276	100	B
Pueblo Ridge	86,304	95	A, B, D
Starr Winter	8,661	99	A, B
Oregon End Winter	29,006	100	A, B
Tum Tum Exclosure	1,804	97	C
East Pueblo Corral	572	94	B

Allotment Management Plan Objectives:
- Improve and maintain upland vegetation.
- Improve and maintain riparian vegetation.
- Improve and enhance habitat for wildlife species.
- Improve and enhance habitat for special status species.
- Improve and enhance aquatic habitat and water quality.
- Continue to improve riparian condition in Van Horn Creek for Lahontan cutthroat trout habitat.
- Improve the structure and reproductive potential of special vegetative communities.
- Maintain existing forage allocation for livestock and wildlife.
- Maintain and enhance primary wilderness values.
- Protect the relevant values of existing/proposed RNA/ACECs

Identified Resource Concerns
- Special Status Species: Lahontan cutthroat trout, bighorn sheep, Western burrowing owl, Greater sage-grouse
- Wilderness Study Areas: Basque Hills WSA, Hawk Mountain WSA, Pueblo Mountain WSA, Rincon WSA
- Water quality
- Noxious weeds
- Tum Tum RNA/ACEC, Pueblo Foothills RNA/ACEC, Long Draw RNA/ACEC
- Riparian areas

[22] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Pueblo Mountain		Allotment Number: 06021			
Management Category:	I	Public Land acres:	8,177	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1990	Private acres:	611	Deer	28
Season of Use:	sp,su,fa	State acres:	0	Antelope	1
Yr S & G Assessment:	1999	Other Federal Acres:	0	Elk	0
Active AUMS:	323			Wild Horses	0
Suspended AUMs:	0	Total Acres:	8,788		
Total Permitted AUMs:	323			Total	29

Pasture/Area	Acres	% Public Domain	Objective[23]
Denio Basin	2,951	89	A, B, D
Pueblo Mountain	2,647	100	A, B, D
Alberson Basin	1,132	100	A, B
Cowden	1,538	97	A, B
Private	520	52	E

Allotment Management Plan Objectives:
- Manage, maintain and improve public rangeland conditions to provide forage on a sustained yield basis for big game with an initial forage demand of 84 AUMs for mule deer.
- Manage, maintain and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with an initial stocking level of 2,069 AUMs.
- Improve or maintain 115 acres of mountain mahogany habitat types in good condition by allowing for successful reproduction and recruitment in the stand.
- Improve to maintain the following stream habitat conditions on Denio Creek at 60% or above: streambank cover of 60% or above; streambank stability of 60% or above; maximum summer water temperatures below 68 degrees F.
- Improve or maintain suitable sage-grouse strutting, nesting, brood rearing, and/or wintering habitat in good condition.
- Improve to maintain state water quality standards for Denio Creek.
- Improve or maintain 93 acres of riparian meadow habitat types to ensure species diversity and quality, and maximize reproduction and recruitment of woody riparian species.

Identified Resource Concerns
- Pueblo Mountain WSA
- Riparian area
- Water quality
- Special Status Species: Greater sage-grouse, Lahontan cutthroat trout, bighorn sheep

Other
- The entire allotment extends into Nevada and totals 26,311 acres of public land. The total permitted use in the allotment as a whole is 2,069 AUMs. Only the portion within Oregon is in the Planning Area.

[23] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Kings River		Allotment Number: 06022			
Management Category:	I	Public Land acres:	1,771	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	0	Deer	10
Season of Use:	su,fa	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	113			Wild Horses	0
Suspended AUMs:	0	Total Acres:	1,771		
Total Permitted AUMs:	113			Total	10

Pasture/Area	Acres	% Public Domain	Objective[24]
Kings River	1,771	100	A, B, D

Allotment Management Plan Objectives:

Identified Resource Concerns
- Disaster Peak WSA
- Riparian areas
- Water quality
- Special Status Species: Greater sage-grouse

Other
- The entire allotment contains 145,930 acres and 12,192 AUMs. There are 1,771 acres and 113 AUMs in Oregon, within the Planning Area.

[24] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Hammond			Allotment Number: 06023		
Management Category:	I	Public Land acres:	11,009	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	2,077	Deer	33
Season of Use:	sp,su,fa	State acres:	0	Antelope	6
Yr S & G Assessment:	None	Other Federal Acres:	635	Elk	0
Active AUMS:	473			Wild Horses	0
Suspended AUMs:	0	Total Acres:	13,721		
Total Permitted AUMs:	473			Total	39

Pasture/Area	Acres	% Public Domain	Objective[25]
N Dutch Oven Seeding	1,304	92	B
Krumbo Creek	2,087	71	A, D
Kern Reservoir	2,245	46	A
Webb Springs	1,550	100	B
Knox Spring	2,492	100	B
Larkspur Reservoir	1,245	100	B
Baca Lake	616	10	B
Knox Pond	249	20	B
Landing Strip	240	99	B
S Dutch Oven Seeding	601	95	B
Hole in the Ground	437	100	B
Artesian	655	100	B

Allotment Management Plan Objectives:

Identified Resource Concerns
- Bridge Creek WSA
- Special Status Species: Greater sage-grouse
- Critical mule deer winter range
- Noxious weeds
- Water quality
- Riparian areas

[25] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: South Fork			Allotment Number: 06024		
Management Category:	M	Public Land acres:	381	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1986	Private acres:	138	Deer	1
Season of Use:	sp	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	40			Wild Horses	0
Suspended AUMs:	0	Total Acres:	519		
Total Permitted AUMs:	40			Total	1

Pasture/Area	Acres	% Public Domain	Objective[26]
South Fork	519	73	A, B, D

Allotment Management Plan Objectives:
- Improve and maintain riparian habitat.
- Improve and maintain upland vegetation.
- Maintain existing forage allocation for livestock and wildlife.

Identified Resource Concerns
- Noxious Weeds
- Riparian area

[26] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Hardie Summer			Allotment Number: 06025		
Management Category:	M	Public Land acres:	2,405	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1991	Private acres	3,719	Deer	332
Season of Use:	su,fa	State acres:	0	Antelope	1
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	10
Active AUMS:	408			Wild Horses	0
Suspended AUMs:	0	Total Acres:	6,124		
Total Permitted AUMs:	408			Total	343

Pasture/Area	Acres	% Public Domain	Objective[27]
Cabin	3,949	50	A, B, D
North	2,175	19	A, B, D

Allotment Management Plan Objectives:

Identified Resource Concerns
- Riparian area
- Special Status Species: Greater sage-grouse
- Noxious weeds
- Water quality
- Juniper encroachment

[27] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Mann Lake		Allotment Number: 06026			
Management Category:	I	Public Land acres:	35,363	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	1,460	Deer	110
Season of Use:	sp,wi	State acres:	0	Antelope	6
Yr S & G Assessment:	2002	Other Federal Acres:	0	Elk	15
Active AUMS:	3,670			Wild Horses	0
Suspended AUMs:	0	Total Acres:	36,823		
Total Permitted AUMs:	3,670			Total	131

Pasture/Area	Acres	% Public Domain	Objective[28]
N Mann Lake Seeding	1,686	99	B
S Mann Lake Seeding	1,628	85	A, B
South Foothills	6,065	86	A, B, D
East Desert	12,443	100	B
North Foothills	2,001	88	A, B
West Desert	12,570	99	B
Mann Lake Rec Area	430	91	C

Allotment Management Plan Objectives:

Identified Resource Concerns
- Steens Mountain Wilderness
- Wilderness Study Areas: High Steens, West Peak, Table Mountain, Lower Stonehouse
- Special Status Species: Lahontan cutthroat trout, bighorn sheep
- Steens Mountain CMPA
- Noxious weeds
- Water quality
- Recreation

[28] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Carlson Creek			Allotment Number: 06027		
Management Category:	I	Public Land acres:	8,876	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	4,017	Deer	29
Season of Use:	sp,su,fa	State acres:	0	Antelope	2
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	684			Wild Horses	0
Suspended AUMs:	0	Total Acres:	12,893		
Total Permitted AUMs:	684			Total	31

Pasture/Area	Acres	% Public Domain	Objective[29]
Carlson Creek	5,916	84	A, B, D
Juniper Creek	6,977	56	A, B, D

Allotment Management Plan Objectives:

Identified Resource Concerns
- Steens Mountain Wilderness
- Riparian areas
- Special Status Species: Bighorn sheep, Greater sage-grouse
- Steens Mountain CMPA
- Noxious weeds

[29] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Fields		Allotment Number: 06028
Management Category: I AMP Implemented: None Season of Use: sp,su S & G Assessment: None Active AUMS: 210 Suspended AUMs: 0 Total Permitted AUMs: 210	Public Land acres: 4,837 Private acres: 192 State acres: 0 Other Federal Acres: 0 Total Acres: 5,029	Other Forage Allocations (AUMs) Deer 5 Antelope 0 Elk 0 Wild Horses 0 Total 5

Pasture/Area	Acres	% Public Domain	Objective[30]
Scoubes Creek	1,882	91	A, B
Pedro	1,185	98	A, B
Fields Seeding	1,807	100	A, B
Williams Creek	155	100	A, B, D

Allotment Management Plan Objectives:
- Improve and maintain upland vegetation.
- Improve and maintain riparian habitat on Bone Creek and Williams Creek.
-Maintain existing forage allocation for livestock and wildlife.

Identified Resource Concerns
- Noxious Weeds
- Riparian areas
- Water quality

[30] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Keg Springs			Allotment Number: 06029		
Management Category:	I	Public Land acres:	40,661	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1991	Private acres:	503	Deer	13
Season of Use:	sp,su,fa	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	1,791			Wild Horses	0
Suspended AUMs:	0	Total Acres:	41,164		
Total Permitted AUMs:	1,791			Total	13

Pasture/Area	Acres	% Public Domain	Objective[31]
Keg Springs	35,506	99	A, B
Walls Lake Seeding	5,658	100	A, B

Allotment Management Plan Objectives:
- Provide 1,791 AUMs of forage for livestock on public lands throughout the allotment as constrained by sustained yield and multiple use.
- Improve the ecological status of the uplands.
- Provide 5 AUMs of competitive forage for wildlife.

Identified Resource Concerns
- Noxious weeds
- Special Status Species: Greater sage-grouse

[31] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Riecken's Corner		Allotment Number: 06030			
Management Category:	M	Public Land acres:	8,841	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1991	Private acres:	999	Deer	3
Season of Use:	sp,su,fa	State acres:	0	Antelope	4
		Other Federal Acres:	0	Elk	0
Yr S & G Assessment:	None			Wild Horses	0
Active AUMS:	688	Total Acres:	9,840		
Suspended AUMs:	0			Total	7
Total Permitted AUMs:	688				

Pasture/Area	Acres	% Public Domain	Objective[32]
- Sand Hollow Seeding	1,687	100	A, B
- Gene Miller Seeding	2,289	75	A, B
- Reicken's Corner	5,864	93	A, B

Allotment Management Plan Objectives:
- Provide 688 AUMs of forage for livestock on public lands throughout the allotment as constrained by sustained yield and multiple use.
- Improve the ecological status of the uplands.
- Provide 7 AUMs of competitive forage for wildlife.

Identified Resource Concerns
- Noxious weeds
- Special Status Species: Greater sage-grouse

[32] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: LaVoy Tables			Allotment Number: 06031		
Management Category:	I	Public Land acres:	38,257	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1991	Private acres:	692	Deer	136
Season of Use:	sp,su,fa	State acres:	0	Antelope	7
Yr S & G Assessment:	2001	Other Federal Acres:	1,016	Elk	0
Active AUMS:	1,653			Wild Horses	0
Suspended AUMs:	0	Total Acres:	39,965		
Total Permitted AUMs:	1,653			Total	143

Pasture/Area	Acres	% Public Domain	Objective[33]
Savoy Lake	16,173	96	A, B
LaVoy Tables	12,384	100	A, B
P Hill	7,751	99	B
Hwy 205	3,657	71	C

Allotment Management Plan Objectives:
- Provide 2,373 AUMs for livestock, 36 AUMs for wild horses and 60 AUMs for wildlife as constrained by sustained yield and multiple use.
- Maintain and/or improve ecological status of the allotment.
- Maintain wilderness characteristics within the Blitzen River WSA.

Identified Resource Concerns
- Noxious weeds
- Special Status Species: Greater sage-grouse
- Blitzen River WSA
- Steens Mountain CMPA
- Pickett Rim ACEC

[33] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Krumbo Mountain			Allotment Number: 06032		
Management Category:	I	Public Land acres:	17,353	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1991	Private acres:	6	Deer	43
Season of Use:	su,fa	State acres:	0	Antelope	4
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	30
Active AUMS:	1,059			Wild Horses	0
Suspended AUMs:	0	Total Acres:	17,359		
Total Permitted AUMs:	1,059			Total	77

Pasture/Area	Acres	% Public Domain	Objective[34]
Krumbo Ridge	9,301	100	A, B
Krumbo Mountain	8,058	100	A, B

Allotment Management Plan Objectives:
- Provide 1,059 AUMs of forage for livestock on public lands throughout the allotment as constrained by sustained yield and multiple use.
- Maintain and/or improve ecological status of the allotment.
- Provide 77 AUMs of competitive forage for wildlife.
- Maintain wilderness characteristics within the Bridge Creek WSA.

Identified Resource Concerns
- Bridge Creek WSA
- Special Status Species: Greater sage-grouse
- Steens Mountain CMPA
- Noxious weeds
- Juniper encroachment

[34] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Chimney		Allotment Number: 06033			
Management Category:	I	Public Land acres:	14,769	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	10,125	Deer	149
Season of Use:	sp,su,fa	State acres:	0	Antelope	6
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	38
Active AUMS:	2,015			Wild Horses	0
Suspended AUMs:	0	Total Acres:	24,894		
Total Permitted AUMs:	2,015			Total	193

Pasture/Area	Acres	% Public Domain	Objective[35]
West Crested	1,539	84	B
North Crested	816	77	B
Chimney	5,455	65	B, D
Oliver Springs	2,227	74	B, D
Big Field	1,563	25	D, E
Mountain Top	9,885	61	B, D
Thoroughbred	321	16	B, E
Cow Camp	299	0	E
Horton Creek	317	69	B, D
Doe Camp	1,470	51	D
Private	1,002	8	E

Allotment Management Plan Objectives:
- Maintain and/or improve ecological status throughout the allotment.
- Maintain or enhance water quality.
- Preserve wilderness characteristics within the High Steens WSA.
- Maintain cover (sagebrush and juniper) for wintering mule deer.
- Maintain habitat for Castilleja pilosa v. steenensis near Kiger overlook and west to the head of McCoy Creek.
- Obtain an upward trend on 20.98 miles of streamside riparian vegetation.

Identified Resource Concerns
- Riparian habitat
- Water quality
- Special Status Species: Greater sage-grouse, redband trout, Malheur mottled sculpin, spotted frog
- Steens Mountain Wilderness
- Steens Mountain CMPA
- High Steens WSA
- Noxious Weeds
- Juniper encroachment

[35] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name:	Fields Basin	Allotment Number:	06035

Management Category:	I	Public Land acres:	30,968	Other Forage Allocations (AUMs)	
AMP Implemented:	None	Private acres	1,773	Deer	49
Season of Use:	sp,su,fa	State acres:	0	Antelope	7
S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	3,325			Wild Horses	0
Suspended AUMs:	0	Total Acres:	32,741		
Total Permitted AUMs:	3,325			Total	56

Pasture/Area	Acres	% Public Domain	Objective[36]
Long Hollow	1,983	100	A, B
Fields Basin	9,710	97	A, B
McDade	14,774	94	A, B, D
North Rincon Seeding	675	100	A, B
Summit	694	100	A, B
Private Field	452	5	A, B
O'Keefe	4,453	98	A, B, D

Allotment Management Plan Objectives:
- Improve and maintain upland vegetation.
- Improve and maintain riparian vegetation.
- Improve and enhance habitat for wildlife species.
- Improve and enhance habitat for special status species.
- Improve the structure and reproductive potential of special vegetative communities.
- Maintain existing forage allocation for livestock and wildlife.
- Maintain and enhance primary wilderness values.

Identified Resource Concerns
- Special Status Species: Bighorn sheep, Greater sage-grouse
- Wilderness Study Area: Rincon WSA
- Noxious weeds

[36] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Bridge Creek		Allotment Number: 06037			
Management Category:	I	Public Land acres:	3,603	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	56	Deer	8
Season of Use:	su,fa	State acres:	0	Antelope	32
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	459			Wild Horses	0
Suspended AUMs:	0	Total Acres:	3,659		
Total Permitted AUMs:	459			Total	40

Pasture/Area	Acres	% Public Domain	Objective[37]
Bridge Creek	3,061	100	B, D
Thompson	598	92	B, D

Allotment Management Plan Objectives:

Identified Resource Concerns
- Special Status Species: Greater sage-grouse
- Noxious weeds
- Fir Groves Proposed ACEC
- Juniper encroachment

[37] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Alvord Peak		Allotment Number: 06038			
Management Category:	I	Public Land acres:	24,354	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	709	Deer	28
Season of Use:	sp,fa	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	2,328			Wild Horses	0
Suspended AUMs:	0	Total Acres:	25,063		
Total Permitted AUMs:	2,328			Total	28

Pasture/Area	Acres	% Public Domain	Objective[38]
Bone Creek	7,708	99	A, B, D
Miners Field	10,033	95	A, B
Schouver Flat Seeding	1,305	100	B
Alvord Peak	6,008	98	A, B
Burke Spring Excl	9	100	C

Allotment Management Plan Objectives:

Identified Resource Concerns
- Steens Mountain CMPA
- Steens Mountain Wilderness
- Alvord Peak ACEC
- Riparian areas
- Special Status Species: Bighorn sheep, Greater sage-grouse
- Noxious weeds

[38] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Stonehouse		Allotment Number: 06040			
Management Category:	I	Public Land acres:	10,517	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	321	Deer	39
Season of Use:	su	State acres:	0	Antelope	3
Yr S & G Assessment:	1999	Other Federal Acres:	0	Elk	17
Active AUMS:	1,772			Wild Horses	0
Suspended AUMs:	0	Total Acres:	10,838		
Total Permitted AUMs:	1,772			Total	59

Pasture/Area	Acres	% Public Domain	Objective[39]
Stonehouse	10,838	97	A, B, D

Allotment Management Plan Objectives:

Identified Resource Concerns
- Wilderness Study Areas: Stonehouse WSA, Lower StonehouseWSA
- Riparian areas
- Water quality
- Special Status Species: Greater sage-grouse
- Noxious weeds
- Steens Mountain CMPA
- Recreation

[39] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: South Catlow		Allotment Number: 06041			
Management Category:	I	Public Land acres:	42,351	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	19,817	Deer	2
Season of Use:	wi	State acres:	0	Antelope	26
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	2,069			Wild Horses	0
Suspended AUMs:	0	Total Acres:	62,168		
Total Permitted AUMs:	2069			Total	28

Pasture/Area	Acres	% Public Domain	Objective[40]
South Catlow	62,168	68	A, B

Allotment Management Plan Objectives:

Identified Resource Concerns
- Wilderness Study Areas: Basque Hills WSA, Rincon WSA
- Noxious weeds

[40] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Basque Hills			Allotment Number: 06042
Management Category: I Yr AMP Implemented: 1996 Season of Use: sp Yr S & G Assessment: None Active AUMS: 900 Suspended AUMs: 0 Total Permitted AUMs: 900	Public Land acres: 39,449 Private acres: 0 State acres: 0 Other Federal Acres: 0 Total Acres: 39,449		Other Forage Allocations (AUMs) Deer 5 Antelope 2 Elk 0 Wild Horses 0 Total 7

Pasture/Area	Acres	% Public Domain	Objective[41]
Basque Hills	39,449	100	A, B

Allotment Management Plan Objectives:
- Improve and maintain upland vegetation.
- Improve and enhance habitat for wildlife species.
- Improve and enhance habitat for special status species.
- Maintain existing forage allocation for livestock and wildlife.
- Maintain and enhance primary wilderness values.

Identified Resource Concerns
- Special Status Species: Bighorn sheep, Greater sage-grouse
- Wilderness Study Area: Basque Hills WSA, Rincon WSA
- Noxious weeds

[41] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Pueblo Slough		Allotment Number: 06043	
Management Category: I	Public Land acres: 9,768	Other Forage Allocations (AUMs)	
Yr AMP Implemented: 1996	Private acres: 7	Deer	2
Season of Use: wi	State acres: 0	Antelope	2
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMS: 1,400		Wild Horses	0
Suspended AUMs: 0	Total Acres: 9,775		
Total Permitted AUMs: 1,400		Total	4

Pasture/Area	Acres	% Public Domain	Objective[42]
Pueblo Slough #1	111	100	C, D
Pueblo Slough #2	84	100	C, D
N. Colony Winter	1,563	100	A, B
Colony Seeding	1,306	100	A, B
N. Sandhills Seeding	896	100	A, B
Colony Winter	5,815	100	A, B

Allotment Management Plan Objectives:
- Improve and maintain upland vegetation.
- Improve and maintain riparian vegetation.
- Improve and enhance habitat for wildlife species.
- Improve and enhance habitat for special status species.
- Maintain existing forage allocation for livestock and wildlife.

Identified Resource Concerns
- Special Status Species: Alvord Chub
- Noxious Weeds

[42] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name:	Lower Antelope	Allotment Number:	06044

Management Category:	I	Public Land acres:	5,867	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1989	Private acres:	19	Deer	1
Season of Use:	wi	State acres:	0	Antelope	1
Yr S & G Assessment:	2000	Other Federal Acres:	0	Elk	0
Active AUMS:	500			Wild Horses	0
Suspended AUMs:	0	Total Acres:	5,886		
Total Permitted AUMs:	500			Total	2

Pasture/Area	Acres	% Public Domain	Objective[43]
Lower Antelope	5,886	100	A, B

Allotment Management Plan Objectives:
- Improve and maintain upland vegetation.
- Improve and enhance habitat for special status species.
- Maintain existing forage allocation for livestock and wildlife.

Identified Resource Concerns
- Special Status Species: Greater sage-grouse
- Noxious weeds

[43] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Hammond FFR			Allotment Number: 06100
Management Category: C	Public Land acres: 1,158		Other Forage Allocations (AUMs)
Yr AMP Implemented: None	Private acres: 6,145		Deer 0
Season of Use: None	State acres: 13		Antelope 0
Yr S & G Assessment: None	Other Federal Acres: 0		Elk 0
Active AUMS: 32			Wild Horses 0
Suspended AUMs: 0	Total Acres: 7,316		
Total Permitted AUMs: 32			Total 0

Pasture/Area	Acres	% Public Domain	Objective[44]
Dust Bowl	2,557	0	E
Krumbo Springs	1,499	16	E
Webb Springs	1,258	48	E
Mud Creek	2,002	16	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[44] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Waldkirch FFR			Allotment Number: 06101		
Management Category:	C	Public Land acres:	27	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	324	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	12			Wild Horses	0
Suspended AUMs:	0	Total Acres:	351		
Total Permitted AUMs:	12			Total	0

Pasture/Area	Acres	% Public Domain	Objective[45]
Red Point	351	8	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[45] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Oregon End FFR		Allotment Number: 06102			
Management Category:	C	Public Land acres:	1,656	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	841	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	138			Wild Horses	0
Suspended AUMs:	0	Total Acres:	2,497		
Total Permitted AUMs:	138			Total	0

Pasture/Area	Acres	% Public Domain	Objective[46]
Rincon Reservoir	1,040	99	E
Oregon End Ranch	1,094	51	E
Roux Place	363	19	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[46] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Wiley FFR		Allotment Number: 06103	
Management Category: C Yr AMP Implemented: None Season of Use: None Yr S & G Assessment: None Active AUMS: 6 Suspended AUMs: 0 Total Permitted AUMs: 6	Public Land acres: 29 Private acres: 1,145 State acres: 0 Other Federal Acres: 0 Total Acres: 1,174	Other Forage Allocations (AUMs) Deer 0 Antelope 0 Elk 0 Wild Horses 0 Total 0	

Pasture/Area	Acres	% Public Domain	Objective[47]
Wiley Base	1,174	2	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[47] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Defenbaugh FFR		Allotment Number: 06104			
Management Category:	C	Public Land acres:	1,276	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	2,655	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	60			Wild Horses	0
Suspended AUMs:	0	Total Acres:	3,931		
Total Permitted AUMs:	60			Total	0

Pasture/Area	Acres	% Public Domain	Objective[48]
Trout Creek	2,509	44	E
Whitehorse Road	1,422	12	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[48] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Wrench Ranch FFR			Allotment Number: 06105
Management Category: C	Public Land acres: 411		Other Forage Allocations (AUMs)
Yr AMP Implemented: None	Private acres: 4,514		Deer 0
Season of Use: None	State acres: 0		Antelope 0
Yr S & G Assessment: None	Other Federal Acres: 0		Elk 0
Active AUMS: 51			Wild Horses 0
Suspended AUMs: 0	Total Acres: 4,925		
Total Permitted AUMs: 51			Total 0

Pasture/Area	Acres	% Public Domain	Objective[49]
East Basin	1,882	7	E
Sherman Field	1,241	7	E
Ranch	1,636	8	E
Upper Holloway	166	26	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[49] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Orlando FFR		Allotment Number: 06106			
Management Category:	C	Public Land acres:	1,823	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	6,605	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	320			Wild Horses	0
Suspended AUMs:	0	Total Acres:	8,428		
Total Permitted AUMs:	320			Total	0

Pasture/Area	Acres	% Public Domain	Objective[50]
Smith Field	3,149	34	E
South Fork	356	56	E
Holloway Reservoir	661	4	E
Tum Tum	1,489	14	E
Ranch	1,712	4	E
Morris Base	874	22	E
Road	187	29	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[50] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Crump/Calderwood FFR			Allotment Number: 06107		
Management Category:	C	Public Land acres:	231	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	1,399	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	12			Wild Horses	0
Suspended AUMs:	0	Total Acres:	1,630		
Total Permitted AUMs:	12			Total	0

Pasture/Area	Acres	% Public Domain	Objective[51]
Crump Section	693	11	E
Trout Creek	810	16	E
Adrian Place	127	19	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[51] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Henricks FFR		Allotment Number: 06108			
Management Category:	C	Public Land acres:	131	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	870	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	30			Wild Horses	0
Suspended AUMs:	0	Total Acres:	1,001		
Total Permitted AUMs:	30			Total	0

Pasture/Area	Acres	% Public Domain	Objective[52]
Ranch	800	12	E
Holloway Place	201	18	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[52] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Casey FFR			Allotment Number: 06109		
Management Category:	C	Public Land acres:	376	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	243	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	21			Wild Horses	0
Suspended AUMs:	0	Total Acres:	619		
Total Permitted AUMs:	21			Total	0

Pasture/Area	Acres	% Public Domain	Objective[53]
Hamilton Place	619	61	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[53] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Still FFR		Allotment Number: 06110			
Management Category:	C	Public Land acres:	321	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	2,975	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	68			Wild Horses	0
Suspended AUMs:	0	Total Acres:	3,296		
Total Permitted AUMs:	68			Total	0

Pasture/Area	Acres	% Public Domain	Objective[54]
Catlow Place	1,361	14	E
Colony Ranch	1,744	5	E
Lower Roux Place	191	21	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[54] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Dunbar FFR			Allotment Number: 06111		
Management Category:	C	Public Land acres:	536	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	2,010	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	68			Wild Horses	0
Suspended AUMs:	0	Total Acres:	2,546		
Total Permitted AUMs:	68			Total	0

Pasture/Area	Acres	% Public Domain	Objective[55]
Dunbar	801	26	E
Home Field	1,745	19	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[55] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Long Hollow FFR		Allotment Number: 06112	
Management Category: C Yr AMP Implemented: None Season of Use: None Yr S & G Assessment: None Active AUMS: 103 Suspended AUMs: 0 Total Permitted AUMs: 103	Public Land acres: 836 Private acres: 828 State acres: 0 Other Federal Acres: 0 Total Acres: 1,664	Other Forage Allocations (AUMs) Deer 0 Antelope 0 Elk 0 Wild Horses 0 Total 0	

Pasture/Area	Acres	% Public Domain	Objective[56]
South Long Hollow	1,664	50	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[56] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Rock Creek FFR			Allotment Number: 06114		
Management Category:	C	Public Land acres:	1,260	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	7,595	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	148			Wild Horses	0
Suspended AUMs:	0	Total Acres:	8,855		
Total Permitted AUMs:	148			Total	0

Pasture/Area	Acres	% Public Domain	Objective[57]
North Catlow	6,575	7	E
Miller Homestead	1,396	24	E
Augustine Gilbert	447	41	E
Desert Field	437	64	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[57] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Dixon FFR		Allotment Number: 06115			
Management Category:	C	Public Land acres:	96	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	1,145	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	22			Wild Horses	0
Suspended AUMs:	0	Total Acres:	1,241		
Total Permitted AUMs:	22			Total	0

Pasture/Area	Acres	% Public Domain	Objective[58]
Outerkirk Ranch	1,241	8	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[58] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Northrop FFR			Allotment Number: 06116		
Management Category:	C	Public Land acres:	613	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	1,985	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	40			Wild Horses	0
Suspended AUMs:	0	Total Acres:	2,598		
Total Permitted AUMs:	40			Total	0

Pasture/Area	Acres	% Public Domain	Objective[59]
McDade Ranch	548	16	E
Calderwood	570	84	E
Pony Express	1,480	4	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[59] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Kaser FFR		Allotment Number: 06117			
Management Category:	C	Public Land acres:	40	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	1,578	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	5			Wild Horses	0
Suspended AUMs:	0	Total Acres:	1,618		
Total Permitted AUMs:	5			Total	0

Pasture/Area	Acres	% Public Domain	Objective[60]
Kaser Place	1,618	2	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[60] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Lupher FFR		Allotment Number: 06118			
Management Category:	C	Public Land acres:	79	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	131	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	21			Wild Horses	0
Suspended AUMs:	0	Total Acres:	210		
Total Permitted AUMs:	21			Total	0

Pasture/Area	Acres	% Public Domain	Objective[61]
Lupher Place	210	38	E

Allotment Management Plan Objectives:

Identified Resource Concerns
Riparian area

[61] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Pollock FFR		Allotment Number: 06119	
Management Category: C	Public Land acres: 994	Other Forage Allocations (AUMs)	
Yr AMP Implemented: None	Private acres: 5,009	Deer	0
Season of Use: None	State acres: 119	Antelope	0
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMS: 19		Wild Horses	0
Suspended AUMs: 0	Total Acres: 6,122		
Total Permitted AUMs: 19		Total	0

Pasture/Area	Acres	% Public Domain	Objective[62]
Juniper Ranch	2,756	24	E
Folly Farm	2,321	5	E
Tudor Lake	1,045	22	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[62] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Mann Lake FFR		Allotment Number: 06120			
Management Category:	C	Public Land acres:	1,629	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	26,456	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	22			Wild Horses	0
Suspended AUMs:	0	Total Acres:	28,085		
Total Permitted AUMs:	22			Total	0

Pasture/Area	Acres	% Public Domain	Objective[63]
Wilson	3,536	9	E
Big Pasture Creek	19,396	6	E
Pivot	5,153	2	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[63] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Neuschwander FFR			Allotment Number: 06121
Management Category: C Yr AMP Implemented: None Season of Use: None Yr S & G Assessment: None Active AUMS: 43 Suspended AUMs: 0 Total Permitted AUMs: 43	Public Land acres: 640 Private acres: 1,370 State acres: 0 Other Federal Acres: 0 Total Acres: 2,010		Other Forage Allocations (AUMs) Deer 0 Antelope 0 Elk 0 Wild Horses 0 Total 0
Pasture/Area Miller	Acres 2,010	% Public Domain 32	Objective[64] E

Allotment Management Plan Objectives:

Identified Resource Concerns

[64] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Starr FFR		Allotment Number: 06122			
Management Category:	C	Public Land acres:	194	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	584	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	9			Wild Horses	0
Suspended AUMs:	0	Total Acres:	778		
Total Permitted AUMs:	9			Total	0

Pasture/Area	Acres	% Public Domain	Objective[65]
Starr Place	778	25	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[65] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Culp FFR		Allotment Number: 06123			
Management Category:	C	Public Land acres:	183	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	3,591	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	0			Wild Horses	0
Suspended AUMs:	0	Total Acres:	3,774		
Total Permitted AUMs:	0			Total	0

Pasture/Area	Acres	% Public Domain	Objective[66]
Clover Swale	3,774	5	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[66] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Windmill FFR			Allotment Number: 06124
Management Category: C Yr AMP Implemented: None Season of Use: None Yr S & G Assessment: None Active AUMS: 15 Suspended AUMs: 0 Total Permitted AUMs: 15	Public Land acres: 222 Private acres: 619 State acres: 0 Other Federal Acres: 0 Total Acres: 841		Other Forage Allocations (AUMs) Deer 0 Antelope 0 Elk 0 Wild Horses 0 Total 0
Pasture/Area Windmill	Acres 841	% Public Domain 26	Objective[67] E

Allotment Management Plan Objectives:

Identified Resource Concerns

[67] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Roaring Springs FFR			Allotment Number: 06125
Management Category: C Yr AMP Implemented: None Season of Use: None Yr S & G Assessment: None Active AUMS: 374 Suspended AUMs: 0 Total Permitted AUMs: 374	Public Land acres: 6,400 Private acres: 195,674 State acres: 658 Other Federal Acres: 0 Total Acres: 202,732		Other Forage Allocations (AUMs) Deer 0 Antelope 0 Elk 0 Wild Horses 0 Total 0

Pasture/Area	Acres	% Public Domain	Objective[68]
Roaring Springs	202,732	3	E

Allotment Management Plan Objectives:

Identified Resource Concerns
- Riparian areas
- Water Quality
- Special Status Species: Bighorn sheep
- Steens Mountain Wilderness
- Steens Mountain CMPA

[68] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: CM Otley FFR			Allotment Number: 06126		
Management Category:	C	Public Land acres:	907	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	13,173	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	151			Wild Horses	0
Suspended AUMs:	0	Total Acres:	14,080		
Total Permitted AUMs:	151			Total	0

Pasture/Area	Acres	% Public Domain	Objective[69]
McCoy Creek	2,000	10	E
West Slope	10,145	6	E
Frazier Lake	1,935	4	E

Allotment Management Plan Objectives:

Identified Resource Concerns
- Riparian areas
- Water Quality

[69] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Kueny FFR		Allotment Number: 06127			
Management Category:	C	Public Land acres:	513	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	11,206	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	35			Wild Horses	0
Suspended AUMs:	0	Total Acres:	11,719		
Total Permitted AUMs:	35			Total	0

Pasture/Area	Acres	% Public Domain	Objective[70]
Ranch	10,329	3	E
Miranda Creek	1,390	14	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[70] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Konek FFR			Allotment Number: 06128		
Management Category:	C	Public Land acres:	80	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	285	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	10			Wild Horses	0
Suspended AUMs:	0	Total Acres:	365		
Total Permitted AUMs:	10			Total	0

Pasture/Area	Acres	% Public Domain	Objective[71]
Mormon Place	365	22	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[71] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Alvord FFR		Allotment Number: 06129			
Management Category:	C	Public Land acres:	299	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	17,978	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	0			Wild Horses	0
Suspended AUMs:	0	Total Acres:	18,277		
Total Permitted AUMs:	0			Total	0

Pasture/Area	Acres	% Public Domain	Objective[72]
Alvord Ranch Meadows	17,663	1	E
Hot Springs	614	8	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[72] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Scharff FFR			Allotment Number: 06130		
Management Category:	C	Public Land acres:	276	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	4,761	Deer	0
Season of Use:	None	State acres:	39	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	68			Wild Horses	0
Suspended AUMs:	0	Total Acres:	5,076		
Total Permitted AUMs:	68			Total	0

Pasture/Area	Acres	% Public Domain	Objective[73]
Scharff	5,076	5	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[73] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: South Pocket FFR			Allotment Number: 06131		
Management Category:	C	Public Land acres:	145	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	1	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMS:	1			Wild Horses	0
Suspended AUMs:	0	Total Acres:	146		
Total Permitted AUMs:	1			Total	0

Pasture/Area	Acres	% Public Domain	Objective[74]
South Pocket	146	100	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[74] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Otley Brothers FFR		Allotment Number: 06133	
Management Category: C Yr AMP Implemented: None Season of Use: None Yr S & G Assessment: None Active AUMS: 21 Suspended AUMs: 0 Total Permitted AUMs: 21	Public Land acres: 313 Private acres: 8,682 State acres: 0 Other Federal Acres: 0 Total Acres: 8,995	Other Forage Allocations (AUMs) Deer 0 Antelope 0 Elk 0 Wild Horses 0 Total 0	

Pasture/Area	Acres	% Public Domain	Objective[75]
Otley Brothers	8,995	3	E

Allotment Management Plan Objectives:

Identified Resource Concerns

[75] Current allotment management objectives
A) Improve the ecological condition of upland vegetation communities.
B) Maintain the ecological condition of upland vegetation communities.
C) Maintain the integrity of research plots and exclosures.
D) Maintain/improve the condition of riparian vegetation communities.
E) Pasture dominated by private land and managed custodial with no specified management objective.

Table I-2: Potential Range Improvement Projects

ALLOT #	ALLOTMENT NAME	TYPE OF IMPROVEMENT	UNITS
5309	Happy Valley	Juniper cutting	200 acres
5310	Riddle Mountain	Juniper cutting	600 acres
		Aspen fences	2 each
		Reservoir	1 each
		Prescribed burning	1,000 acres
5327	Jenkins B Flat FFR	None	
5329	Riddle/Coyote	Juniper cutting	300 acres
		Aspen fence	1 each
5331	Smyth-Kiger	Juniper cutting	1,000 acres
		Prescribed burning	1,300 acres
		Spring development	2 each
5604	Burnt Flat	Juniper cutting	400 acres
		Prescribed burning	4,000 acres
6001	North Catlow	Fence	16 miles
		Wells	4 each
		Reservoirs	3 each
		Pipeline	10 miles
6002	South Steens	Fence	5 miles
		Wells	1 each
		Spring developments	2 each
		Cattleguards	2 each
		Prescribed burning	6,000 acres
		Juniper cutting	3,000 acres
6005	Mud Creek	Reservoirs	3 each
		Prescribed burning	1,500 acres
		Fence	0.5 miles
6006	Frazier Field	Pipeline	1 mile
		Prescribed burning	1,200 acres
		Wells	2 each
6007	Ruby Springs	Pipeline	3 miles
		Reservoirs	2 each
		Prescribed burning	4,500 acres
		Juniper cutting	2,000 acres
6008	Krumbo	None	
6010	East Ridge	Spring developments	1 each
		Fence	2 miles
6011	Pollock	Fence	14 miles
		Reservoirs	2 each
		Wells	4 each
		Pipeline	8 miles
6012	Alvord	Reservoirs	3 each
		Pipeline	3 miles
		Fence	4 miles
		Prescribed burning	2,000 acres
		Brush control	2,000 acres
6014	Tum Tum	None	
6015	Trout Creek Mountain	Fence	5 miles
		Brush control	1,500 acres
6016	Sandhills	Spring development	2 each
		Fence	7 miles
6017	Grassy Basin	Pipeline	2 miles

ALLOT #	ALLOTMENT NAME	TYPE OF IMPROVEMENT	UNITS
		Spring development	1 each
6018	Tule Springs	Wells	1 each
6019	Serrano Point	Fence	4 miles
		Juniper cutting	500 acres
6020	Pueblo-Lone Mtn	Brush control	3,000 acres
6021	Pueblo Mountain	None	
6022	Kings River	None	
6023	Hammond	Fence	2 miles
		Wells	1 each
6024	South Fork	None	
6025	Hardie Summer	Fence	6 miles
		Juniper cutting	1,200 acres
6026	Mann Lake	Fence	5 miles
		Pipeline	2 miles
		Wells	2 each
6027	Carlson Creek	Prescribed burning	500 acres
		Juniper cutting	200 acres
6028	Fields	None	
6029	Keg Springs	Fence	16 miles
		Reservoirs	4 each
		Wells	2 each
		Pipeline	8 miles
6030	Reicken's Corner	Fence	2 miles
		Wells	2 each
		Pipeline	5 miles
6031	LaVoy Tables	Fence	6 miles
		Reservoirs	2 each
		Juniper cutting	1,000 acres
		Wells	2 each
6032	Krumbo Mountain	Fence	6 miles
		Reservoirs	4 each
		Juniper cutting	1,600 acres
6033	Chimney	Fence	6 miles
		Reservoirs	2 each
		Juniper cutting	1,000 acres
		Prescribed burning	2,000 acres
6035	Fields Basin	None	
6037	Bridge Creek	Fence	3 miles
		Reservoirs	2 each
		Juniper cutting	800 acres
		Spring Development	1 each
6038	Alvord Peak	Fence	2 miles
6040	Stonehouse	Reservoirs	2 each
		Fence	7 miles
		Cattleguards	2 each
		Spring developments	1 each
		Pipeline	3 miles
		Prescribed burning	1,500 acres
		Juniper cutting	1,000 acres
6041	South Catlow	Wells	1 each
		Pipeline	3 miles
6042	Basque Hills	Wells	1 each
6043	Pueblo Slough	None	
6044	Lower Antelope	None	

ALLOT #	ALLOTMENT NAME	TYPE OF IMPROVEMENT	UNITS
6100	Hammond FFR	None	
6101	Waldkirch FFR	None	
6102	Oregon End FFR	None	
6103	Wiley FFR	None	
6104	Defenbaugh FFR	None	
6106	Orlando FFR	None	
6107	Calderwood FFR	None	
6108	Henricks FFR	None	
6109	Casey FFR	None	
6110	Still FFR	None	
6111	Dunbar FFR	None	
6112	Long Hollow FFR	None	
6114	Rock Creek FFR	None	
6115	Dixon FFR	None	
6116	Northrop FFR	None	
6117	Kaser FFR	None	
6118	Lupher FFR	None	
6119	Pollock FFR	None	
6120	Mann Lake FFR	None	
6121	Neuschwander FFR	None	
6122	Starr FFR	None	
6123	Clover Swale FFR	None	
6124	Windmill FFR	None	
6125	Roaring Springs FFR	None	
6126	McCoy Creek FFR	None	
6127	Kuney FFR	None	
6128	Konek FFR	None	
6129	Alvord FFR	None	
6130	Scharff FFR	None	
6131	South Pocket FFR	None	
6133	Otley Brothers FFR	None	

Appendix J - Land Tenure Adjustment Criteria and Legal Requirements

The Land Tenure Maps for the various alternatives depict three zones that identify public land with potential for land tenure adjustments (e.g., acquisition or disposal), consistent with existing regulations and BLM policy. Section 102(a)(1) of FLPMA provides that ". . . the public lands be retained in federal ownership unless as a result of the land use planning procedure provided for in this Act, it is determined that disposal of a particular parcel will serve the national interest . . ." In addition, Section 113(g) of the Steens Mountain Cooperative Management and Protection Act of 2000 provides additional limitations on disposals of land within the CMPA boundary by withdrawing "from all forms of entry, appropriation, or disposal under the public land laws, except in the case of land exchanges if the Secretary determines that the exchange furthers the purposes and objectives specified in Section 102". General management guidelines for each zone are described below. Specific direction for each Zone is contained within the description of each alternative.

Zone 1: Retention/Acquisition (Includes Zone 1, 1A, and 1B)

Zone 1 land has been generally identified for retention in public ownership. These are also areas where emphasis will be placed on acquisition of land containing high resource values through such methods as exchange, purchase, donation, or public agency jurisdictional transfers. Zone 1 land may contain significant visual, wildlife, watershed, vegetative, cultural, and other resource values and are generally well blocked. Exchange, and, in some cases, sales of Zone 1 lands may be considered in some alternatives for community expansion, public purposes and to resolve long term inadvertent unauthorized use.

Zone 2: Exchange Zone (Includes Zones 2 and 2A)

Zone 2 land has been identified generally for retention but may be exchanged for lands in other zones (depending upon the alternative) for nonfederal land with high resource values. Zone 2 public land generally include well-blocked or fragmented BLM administered lands outside of Zone 1. Generally, Zone 2 lands possess relatively lower resource values than are present in Zone 1. These are areas where, dependent upon the alternative, exchanges, purchases, donations, or public agency jurisdictional transfers may be used to acquire non-public land containing high resource values and to create consolidated public land areas. Sales of Zone 2 lands may be considered in some alternatives for community expansion, public purposes and to resolve long term inadvertent unauthorized use.

Zone 3: Disposal

Zone 3 land generally has low or unknown resource values and meet the disposal criteria of Section 203 of FLPMA. This land is potentially suitable for disposal by such methods as public agency jurisdictional transfers, or state indemnity selection (state in lieu election), or "Recreation and Public Purpose Act" lease or patent, exchange or sale unless significant recreation, wildlife, watershed, special status species, cultural resources or other high resource values are identified as a result of site-specific analysis. This zone may include land needed for community expansion, small parcels located adjacent to private inholdings within and/or adjacent to large blocks of public land being retained by BLM, parcels on which unauthorized use exists, and land included within survey hiatus. Zone 3 land may be exchanged for land with greater resource values in Zones 1 and 2.

FLPMA and other federal laws, Executive Orders and policies suggest criteria for use in categorizing public land for retention or disposal, and for identifying acquisition priorities. This list is not considered all inclusive, but represents the major factors to be evaluated. They include the following:

- wild horse HMAs
- threatened or endangered or sensitive plant and animals species habitat;
- areas containing scientific value, e.g., RNAs;
- riparian areas; wetlands; designated floodplains;
- fish habitat;
- nesting/breeding habitat for game animals;
- key big game seasonal habitat;
- developed recreation sites and recreation access;
- VRM;
- energy and mineral potential;
- significant cultural resources and sites eligible for inclusion on the National Register of Historic Places;
- wilderness and areas being studied for Wilderness;
- accessibility of the land for public uses;
- amount of public investments in facilities or improvements and the potential for recovering those investments;
- difficulty or cost of administration (manageability);
- suitability of the land for management by another federal agency;
- significance of the decision in stabilizing business, social and economic conditions, and/or lifestyles;
- whether private sites exist for the proposed use;
- encumbrances, including but not limited to withdrawals, or existing leases or permits;
- consistency with cooperative agreements and plans or policies of other agencies;
- suitability (need for change in landownership or use) for purposes including but not limited to community expansion or economic development, such as industrial, residential or agricultural (other than grazing development); and
- existing landownership patterns.

The criteria identified above will be among those considered in inventory, review and analyses prepared for specific land tenure adjustment proposals following plan implementation. Minor adjustments involving sales or exchanges or both may be permitted based on site-specific application of this adjustment criteria.

FLPMA provides that a tract of public land may be disposed of by exchange provided that the public interest will be well served by making that exchange. To be considered to be in the public interest, exchanges must:

- facilitate access to public land and resources, or
- maintain or enhance important public values and uses,
- maintain or enhance local social and economic conditions; and
- facilitate implementation of other goals and objectives of the RMP.

FLPMA also prescribes that the values and objectives which the federal lands may serve if retained

in federal ownership are not more than the values of the nonfederal lands and the public objectives they could serve if acquired. Further, the SMCMPA provides that exchanges of land within the CMPA must further the purposes and objectives of Sec. 102 of the Act.

Direct purchases of nonfederal lands may be used when the same public interest criteria apply as described under Land Exchanges above.

Public lands or tracts to be sold must meet the following disposal criteria stated in the FLPMA:

- such tract because of its location or other characteristics is difficult and uneconomic to manage as part of the public lands, and is not suitable for management by another federal department or agency; or
- such tract was acquired for a specific purpose and the tract is no longer required for that or any other federal purpose; or
- disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in federal ownership."

Generally, exchanges are the preferred method of disposal but sales will be utilized when:

- it is required by national policy; or
- it is required to achieve disposal objectives on a timely basis, and where disposal through exchange would cause unacceptable delays; or
- disposal through exchange is not feasible.

The preferred method of selling public land will be by competitive bidding at public auction to qualifying purchasers. However, modified competitive bidding procedures may be used when there is not legal public access to a tract, when necessary to avoid jeopardizing an existing use on adjacent land, or to avoid dislocation of existing public land users.

Public land may be sold by direct sale at fair market value when:

- such land is needed by state or local governments; or
- direct sale is needed to protect equities arising from authorized use; or
- direct sale is needed to protect equities resulting from inadvertent, unauthorized use; or
- there is only one adjacent landowner and no public access.

Current BLM Washington Office interpretation of the Land and Water Conservation Act prohibits the disposal of land acquired with Land and Water Conservation Funds by sale or exchange.

General priorities exist for implementing land disposal actions. These actions include, in priority order, the following:

A. BLM and other federal jurisdictional transfers;
B. transfers to state and local agencies (e.g., "Recreation and Public Purpose Act" patents, in-lieu selections, airport patents);
C. state exchanges;

D. private exchanges;
E. sales;
F. Indian allotments; and
G. desert land entries

Site-specific environmental review and documentation in conformance with NEPA, including completion of categorical exclusions and plan conformance determinations where appropriate, will be accomplished for each proposed land program action. Interdisciplinary impact analysis will be tiered within the framework of this and other applicable environmental documents.

Appendix K - Areas of Critical Environmental Concern (ACECs) Descriptions

Alvord Desert ACEC (Existing and Potential Addition)

Description and values: The existing and potential Alvord Desert ACEC is located in the Alvord Valley, just east of the Alvord Desert playa, about 30 miles north of Fields, Oregon. The area is unfenced and covers 17,933 acres at the edge of a popular recreation use area in the Alvord Desert Playa. Many kinds of All-Terrain Vehicles (ATVs) are used on the dry lakebed, with some drifting onto the adjacent ACEC.

The relevant and important values associated with this ACEC are centered around an ecosystem containing a diversity of desert landforms and plant communities. Those values include sand dunes; bare playa; playa margins; and big sagebrush greasewood, spiny hopsage, and shadscale plant communities. An additional relevant and important value includes the high scenic quality of the area.

The area is located almost entirely within portions of the Alvord Desert (2-74) and East Alvord (2-73A) WSAs. WSAs are currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation. The area is also within the Alvord/Tule Springs HMA.

Some of the human-made developments existing in the ACEC include a bladed road and the remains of four wells, including troughs and windmills. The area is located within one grazing allotment and is withdrawn from mineral entry.

Alvord Peak ACEC (Existing)

Description and values: The Alvord Peak ACEC is located on the southern end of Steens Mountain about three miles north of Fields, Oregon. One parcel of private land totaling 80 acres is situated in the middle of the 15,015-acre ACEC.

The relevant and important values associated with this ACEC are the resident bighorn sheep and their habitat. The area was designated to protect and enhance bighorn sheep habitat and to protect the sheep from competition with wild horses for forage and water. Wild horses have since been removed from the ACEC, eliminating the threat. The dominant vegetation is big sagebrush/bunchgrass with large stands of bitterbrush.

The area is entirely within the Steens Mountain Wilderness and is managed under the direction provided by the Wilderness Act.

Some of the human-made developments include seven stock ponds, four spring developments with exclosures, two wildlife guzzlers, about 0.75 mile of water pipeline, about one mile of fence, and six miles of access and old mining roads. The area is located within the Alvord Peak grazing allotment. The area is withdrawn from mineral entry.

Borax Lake ACEC (Existing and Potential Addition)

Description and values: The Borax Lake ACEC is located in the Pueblo Valley, about six miles northeast of Fields, Oregon. Borax Lake itself is situated on private land owned by The Nature Conservancy in the middle of the ACEC.

The area was designated to protect the habitat of the federally endangered Borax Lake chub. The fish and its habitat are the relevant and important values for this area. Some parts of the ACEC support populations of the chub during the spring and summer, but most of the chub habitat is located on the private land in the center of the ACEC. The area also protects the diversity of plant and animal life inhabiting the area around Borax Lake.

The area is highly alkaline and supports vegetation that is highly salt tolerant such as greasewood, borax weed, saltgrass, and a variety of sedges and rushes in the wetter areas. Hot and cold springs can be found in the ACEC north of Borax Lake. A large reservoir, covering about 15 acres in the western part of the ACEC, is fed by overflow from Borax Lake. The reservoir contains some chubs during the summer and is an important nesting area for waterfowl.

The area is located within one grazing allotment. The ACEC is fenced, except for 120 acres on the east. About one mile of bladed road exists within the ACEC. The area receives substantial sightseer visitor use in the spring, summer, and fall, and waterfowl hunter use in the winter. The area is withdrawn from mineral entry.

East Kiger Plateau ACEC/RNA (Existing)

Description and values: The existing 1,216-acre East Kiger Plateau ACEC/RNA, located on the ridge that forms the east side of Kiger Gorge on Steens Mountain, consists of a ridgetop gently sloping to the north and steep slopes on both sides of the ridge.

Relevant and important values include a plant community type and a Special Status plant species. The area represents an excellent condition, high elevation fescue grassland, which is an important natural area cell need listed by the ONHP. This area has been determined to be one of the best examples of a high elevation fescue grassland in Oregon. One Special Status plant species known to occur on the plateau is Steens Mountain paintbrush.

A portion of the area is within the Steens Mountain ACEC. The ACEC/RNA is also located within the High Steens WSA (2-85F) and the Steens Mountain Wilderness.

There are no roads or other human-made developments within this natural area. The area is located within two grazing allotments, although no livestock graze the site due to topographic barriers. A small portion of the area is within the no livestock grazing area on Steens Mountain. The ACEC/RNA is withdrawn from mineral entry.

Little Blitzen ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing Little Blitzen ACEC/RNA covers 2,530 acres on the top of Steens Mountain at the headwaters of the Little Blitzen River. The elevation ranges from 7,000 feet in Little Blitzen Gorge to 9,400 feet near the top of Steens Mountain.

Relevant and important values include plant community types and several Special Status plant species. The ACEC/RNA was designated to protect several terrestrial and aquatic ecosystems (cells) recognized by the ONHP as being the best examples of those cells in Oregon's Basin and Range Physiographic Province. The cells that were recognized within this natural area include a mid- to high-elevation vernal pond, a stream system originating in the subalpine, aspen grove, alpine communities on Steens Mountain including snow deflation and moderate snow cover communities, late-lying snowbeds, high-elevation fescue grassland, and rare plant communities. The rare plants occurring in this natural area include Steens Mountain paintbrush, moonwort, pinnate grapefern, lance-leaved grapefern, wedge-leaf saxifrage, Hayden's cymopterus, and moss gentian.

This entire ACEC/RNA is situated within the Steens Mountain Wilderness and is managed under direction provided by the Wilderness Act. A portion of the Oregon High Desert National Recreation Trail runs through the natural area.

The ACEC/RNA is located within the no livestock grazing area on Steens Mountain. The human-made developments within this ACEC/RNA include three miles of the Steens Mountain Loop Road and a memorial plaque. The area is withdrawn from mineral entry.

Little Wildhorse Lake ACEC/RNA (Existing)

Description and values: The existing 241-acre Little Wildhorse Lake ACEC/RNA is located on the highest elevations of Steens Mountain at the headwaters of Little Wildhorse Creek. The elevation ranges from 8,500 to 9,300 feet.

The relevant and important value for the ACEC/RNA is an aquatic ecosystem. The area fills a cell need for a pristine, mid- to high-elevation lake in the Basin and Range Physiographic Province as identified by the ONHP. The area also contains rims and upper-elevation plant communities in good to excellent condition.

This entire ACEC/RNA is located within the Steens Mountain Wilderness and is managed under the provisions of the Wilderness Act. It is also located within the Steens Mountain ACEC designated for scenic values.

This ACEC/RNA is located within the no livestock grazing area on Steens Mountain and is withdrawn from mineral entry.

Long Draw ACEC/RNA (Existing)

Description and values: The existing 441-acre ACEC/RNA is located in southwest Harney County about four miles from the Nevada border. The site is about two miles south of Lone Mountain and about three miles east of Hawk Mountain. The elevation at the site is 5,000 feet.

The relevant and important value for this area is a plant community type. The ACEC/RNA was designated to protect a unique terrestrial ecosystem (ONHP cell) containing Indian ricegrass and needle-and-thread in association with Wyoming big sagebrush. The drainages within the natural area contain the key elements or values of the ACEC/RNA, and the ridgetops are a Wyoming big sagebrush/bottlebrush squirreltail plant community.

The entire ACEC/RNA is located within portions of the Hawk Mountain (1-146A) and Rincon (2-82) WSAs. WSAs are currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congerss makes a decision on wilderness designation.

The one human-made development within this area is 0.5 mile of road. The ACEC/RNA is located within the Pueblo-Lone Mountain grazing allotment.

A portion of the existing ACEC/RNA has a high potential for the occurrence of epithermal-related gold/silver/mercury deposits. Little or no interest has been shown for any mineral resources in the area.

Mickey Basin ACEC/RNA (Existing)

Description and values: The existing 560-acre ACEC/RNA is located in the north end of the Alvord Valley about 35 miles north of Fields and about four miles north of the Alvord Desert. Approximately 191 acres of the 560 acres are fenced to exclude livestock and wild horses.

The relevant and important value includes a vegetation community type. The ACEC/RNA was designated to protect an ecosystem consisting of a winterfat plant community growing in a nearly pure stand on ash soils. This vegetation type is listed in the ONHP as a cell that is uncommon in the Basin and Range Physiographic Province and is in need of protection and recognition as a natural area.

The entire ACEC/RNA is located within the East Alvord (2-73A) and Winter Range (2-73H) WSAs. WSAs are currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The human-made developments existing within this area include about one mile of fence and 0.75 mile of road. The ACEC/RNA is located within the Alvord grazing allotment. The area is also within the Alvord-Tule Springs HMA and is withdrawn from mineral entry.

Pickett Rim ACEC (Existing)

Description and values: The existing Pickett Rim 3,941-acre ACEC is situated around the large rim system about two miles west of Frenchglen, Oregon. The area is steep and rocky, with talus slopes, vertical rims, and benches.

Relevant and important values include birds of prey and their habitat. The area is designated to protect important nesting areas and habitat for many kinds of raptors such as hawks, eagles, and vultures.

The human-made developments existing in the ACEC are limited to about one mile of road. The ACEC is located within the LaVoy Tables grazing allotment.

This area has little or no potential for the occurrence of mineral resources.

Pueblo Foothills ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing 2,503-acre Pueblo Foothills ACEC/RNA is located on the lowest reach of Cottonwood Creek, about seven miles south of Fields, Oregon. The elevation ranges from 4,400 to 5,700 feet.

Relevant and important values include a plant community type and Special Status plant species. The ACEC/RNA was designated to protect an ecosystem recognized by the ONHP as being the best example of a Mormon tea/narrowleaf cottonwood community complex in the Basin and Range Physiographic Province, if not in the State of Oregon. Several Special Status plant species that also occur in this unique ecosystem include narrowleaf cottonwood, large-flowered chaenactis, , naked-stemmed phacelia, ochre-flowered buckwheat and Malheur cryptantha.

This existing ACEC/RNA is situated entirely within the Pueble Mountain WSA (2-81). WSAs are currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The only human-made development is a small piece of the Arizona Creek Road. Two other roads that were within the area were blocked and rehabilitated due to lack of official use. This ACEC/RNA is located within the Pueblo-Lone Mountain grazing allotment.

The existing ACEC/RNA has a high potential for the occurrence of epithermal-related gold/silver/mercury deposits. A portion of the ACEC/RNA has a high potential for porphyry related deposits of gold, copper, or molybdenum. The area has a moderate potential for the occurrence of low sulfide gold deposits. The area has been heavily claimed in the past for locatables, but only a few claims exist in the area at the present time.

Rooster Comb ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing 716-acre ACEC/RNA is located at the mouth of the Little Blitzen Gorge on Steens Mountain. The area encompasses both sides of the canyon and about 1.5 miles of the Little Blitzen River.

Relevant and important values include several vegetation community types. The ACEC/RNA was designated to protect a terrestrial and an aquatic ecosystem, both of which were determined to be the best examples of those ecosystems in the Basin and Range Physiographic Province. The ONHP cells represented in this natural area are a mountain mahogany/bluebunch wheatgrass community and a black cottonwood riparian community.

The entire ACEC/RNA is situated within the Steens Mountain Wilderness and is managed under the provisions of the Wilderness Act. A portion of the Oregon High Desert National Recreation Trail runs through the natural area.

Human-made developments within this ACEC/RNA include about 0.5 mile of road and about 11 miles of hiking trail. The area is located within the no livestock grazing area on Steens Mountain. The area is also withdrawn from mineral entry.

South Fork Willow Creek ACEC/RNA (Existing and Potential Deletion)

Description and values: The 231-acre existing South Fork Willow Creek ACEC/RNA is the upper part of a glacial cirque located on the east rim of Steens Mountain at the headwaters of the South Fork of Willow Creek. The natural area contains a wide variety of microhabitats including rock outcrops, ledges, and a series of three boggy terraces with pools, streams, and open shrubby areas. The East Rim Viewpoint lies just on the south edge of the natural area.

Relevant and important values for which the ACEC/RNA is designated include vegetation community types and Special Status plants. ONHP vegetation cells represented in the natural area include alpine communities on Steens Mountain and a stream system originating in a glacial cirque. The Special Status plants that occur within this natural area include Steens Mountain paintbrush, moonwort, pinnate grapefern, lance-leaved grapefern, Cusick's giant hyssop, moss gentian, and slender gentian.

The entire ACEC/RNA is located within the Steens Mountain Wilderness and is managed in accordance with the Wilderness Act.

The ACEC/RNA is located within the no livestock grazing area on Steens Mountain. Human-made developments within this ACEC/RNA include less than 0.25 mile of the Steens Mountain Loop Road and the East Rim Viewpoint.

The area is withdrawn from mineral entry.

Steens Mountain ACEC (Existing)

Description and values: The existing and Steens Mountain ACEC currently covers 56,501 acres and is located on the highest part of Steens Mountain about 80 miles south of Burns, Oregon. Included within the ACEC are the major topographic features that make the area a scenic attraction, such as the Little Blitzen Gorge, Big Indian Gorge, Kiger Gorge, Wildhorse Canyon, and the East Face. Other attractions include Wildhorse Lake, Little Wildhorse Lake, subalpine ecosystems, and pristine, high-gradient streams.

Relevant and important values include the high scenic values on Steens Mountain, including the craggy base of the Steens Escarpment, vista of the East Rim, and the glacial cirques and valleys. The area ranges from an elevation of 4,400 feet near the Alvord Desert to 9,730 feet at the top of the East Rim Viewpoint.

Several other special designations are included within the boundary of the ACEC including the Steens Mountain Wilderness and the High Steens WSA (2-85F).

Some of the human-made developments in the ACEC include about 20 miles of road, some of which is the Steens Mountain Loop Road, and about four miles of fence. The area is located within several grazing allotments and the no livestock grazing area on Steens Mountain..

Tum Tum Lake ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing 2,064-acre Tum Tum Lake ACEC/RNA is located in Pueblo Valley about ten miles south of Fields, Oregon. The area includes Tum Tum Lake and the area north and east of the lake. The elevation is 4,100 feet.

The relevant and important values for which the ACEC/RNA was designated include vegetation community types, Special Status plant species, and a Special Status fish. The ONHP vegetation cells present at this site are low elevation alkaline lake and salt desert shrub plant communities. The three Special Status plants occurring on this site are iodinebush, salt heliotrope, and verrucose seapurslane, which are very salt tolerant species. The lake is also a valuable waterfowl rearing area as well as habitat for the Alvord chub, a Special Status fish species.

The area is located within the Pueblo-Lone Mountain grazing allotment, has two major utility corridors running through the norther part of it, and contains about two miles of road and one mile of fence.

The existing ACEC/RNA has a high potential for epithermal-related gold/silver/mercury deposits. A saleable minerals site is present in the northwest part of the area. The area has had mining claims in the past, but no claims are present now.

Big Alvord Creek ACEC/RNA (Potential)

Description and values: The potential Big Alvord Creek ACEC/RNA is located on the east face of Steens Mountain, about 30 miles south of Fields, Oregon. The area comprises most of the drainage of Big Alvord Creek, which flows into the Alvord Desert near the Alvord Ranch. The terrain is steep and rugged with elevations ranging from 5,400 to 9,200 feet.

Relevant and important values include several plant community types. The ONHP vegetation cells present on the site include a first- to third-order stream with a high gradient reach in a sagebrush zone, including intermittent streams with alder and dogwood; a big sagebrush/bluebunch wheatgrass plant community; and a black cottonwood riparian community.

The area is entirely within the Steens Mountain ACEC and the Steens Mountain Wilderness.

The area is also within the no livestock grazing area on Steens Mountain. There are no roads within the potential ACEC/RNA, and the area is withdrawn from mineral entry.

Catlow Redband Trout ACEC (Potential)

Description and values: The potential Catlow Redband Trout ACEC is located in the southern Steens Mountain foothills on the Home and Threemile Creek watersheds. This area is about 20 miles south of Frenchglen, Oregon.

Relevant and important values include Special Status fish species and habitat. Home and Threemile Creeks are habitat for the Catlow Valley redband trout and the Catlow tui chub. This area would be designated to protect the fish and habitat.

The area is within the Steens Mountain Wilderness and is managed in accordance with the Wilderness Act.

The area is located within the South Steens grazing allotment, and is withdrawn from mineral entry.

East Fork Trout Creek ACEC/RNA (Potential)

Description and values: The potential East Fork Trout Creek ACEC/RNA is located in the Trout Creek Mountains, about 25 miles southeast of Fields, Oregon. The area includes part of the headwaters of the East Fork of Big Trout Creek and contains several unique ecosystems. The elevation of the area is from 7,400 to 8,000 feet.

The relevant and important values include several plant community types. The ONHP vegetation cells that would be represented in this area include a riparian community dominated by quaking aspen and Scouler willow, a high-elevation wet meadow dominated by sedges, and a first- to third-order stream system originating in the subalpine zone.

The potential ACEC/RNA is located entirely within the Mahogany Ridge WSA (2-77), and is currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The area is also located within the Trout Creek Mountain grazing allotment. Approximately 0.5 mile of road is located in the northeast quarter of the area.

The proposed ACEC/RNA has high potential for the occurrence of epithermal-related gold/mercury deposits. No mining claims or interest in mining has been observed in the area.

Fir Groves ACEC (Potential)

Description and values: The potential Fir Groves ACEC is located two miles north of the North Loop Road on Steens Mountain on Little Fir and Fence Creeks. The area is about 12 miles east of Frenchglen, Oregon.

The relevant and important value is a unique plant community type. The ONHP vegetation cell that is represented on the site is a grand fir forest on Steens Mountain. The potential ACEC consists of two separate parcels, one parcel containing an old growth stand of trees and one containing a mix of old and young trees. This area is one of the last places on Steens Mountain containing grand fir.

One of the potential ACEC parcels is within the Bridge Creek grazing allotment and the other is within a fenced federal grazing allotment composed mostly of private land.

The proposed ACEC is withdrawn from mineral entry.

Mickey Hot Springs ACEC (Potential)

Description and values: The potential Mickey Hot Springs ACEC is located in the Alvord Valley about five miles north of the Alvord Desert and about 35 miles north of Fields, Oregon.

Relevant and important values include hot springs and associated hazards. The site supports a hot springs complex containing about 50 active and inactive vents, including a mud pot, hot pools, and cool pools. The area is geologically unique and an attraction for sightseers. It is also potentially hazardous because the water is near boiling. The entire area is currently fenced to keep livestock, wild horses, and vehicles out of the hazard area.

The potential ACEC is located entirely within the East Alvord WSA (2-73A), which is currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The area is surrounded by the Alvord-Tule Springs HMA. The area is part of the Alvord grazing allotment, and is withdrawn from mineral entry.

Serrano Point ACEC/RNA (Potential)

Description and values: The potential Serrano Point ACEC/RNA is located in southern Harney County, about two miles east of Andrews. The elevation of the area is 4,100 feet.

Relevant and important values include several vegetation community types. The ONHP vegetation cells that are present on this site include a playa with greasewood and basin wildrye, big sagebrush/greasewood communities, and greasewood/shadscale/bunchgrass playa margin communities. The wildrye communities are some of the best sites for that species in the Basin and Range Physiographic Province. Wildrye grows with greasewood, sagebrush, and by itself in the area in plant communities that are naturally lacking in species diversity.

The potential ACEC/RNA is located within the Tule Springs grazing allotment. A portion of the Oregon High Desert National Recreation Trail runs through the area.

The proposed ACEC/RNA is in an area withdrawn from mineral entry.

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Appendix L - Common and Scientific Names for Plants and Animals

Common Name	Scientific Name
PLANT SPECIES	
Forbs	
Alvord milkvetch	*Astragalus alvordensis*
American bistort	*Polygonum bistortoides*
aster	*Aster spp.*
balloon-pod milkvetch	*Astragalus whitneyi*
balsamroot	*Balsamorhiza spp.*
bedstraw	*Galium spp.*
Biddle's lupine	*Lupinus biddlei*
Bigelow's four-o'clock	*Mirabilis bigelovii v. retrorsa*
bindweed	*Convolvulus arvensis*
biscuitroot	*Lomatium spp.*
bitterroot	*Lewisia rediviva*
black henbane	*Hyoscyamus niger*
buckwheat	*Eriogonum spp.*
bull thistle	*Cirsium vulgare*
burr buttercup	*Ranunculus testiculatus*
buttercup	*Ranunculus spp.*
butterweed	*Senecio spp.*
camas	*Camassia quamash*
Canada thistle	*Cirsium arvense*
cattail	*Typha latifolia*
cinquefoil	*Potentilla spp.*
clasping peppergrass	*Lepidium perfoliatum*
Cusick's draba	*Draba sphaeroides v. cusickii*
Cusick's hyssop	*Agastache cusickii*
cut-leaf daisy	*Erigeron compositus*
dalmation toadflax	*Linaria dalmatica*
Davidson's penstemon	*Penstemon davidsonii v. praeteritus*
Davis' peppergrass	*Lepidium davisii*
desert chaenactis	*Chaenactis xantiana*
diffuse knapweed	*Centaurea diffusa*
discoid goldenweed	*Ericameria discoidea v. discoidea*
dwarf evening primrose	*Camissonia pygmaea*
elephant's head	*Pedicularis spp.*
ephemeral monkey flower	*Mimulus evanescens*
filaree	*Erodium cicutarium*
flowering quillwort	*Lilaea scilloides*
fourwing milkvetch	*Astragalus tetrapterus*
geranium	*Geranium viscosissimum*
gray moonwort	*Botrychium minganense*
hairy wild cabbage	*Caulanthus pilosus*
halogeton	*Halogeton glomeratus*

Common Name	**Scientific Name**
Hayden's cymopterus	*Cymopterus nivalis*
hedgehog cactus	*Pediocactus simpsonii v. robustior*
Indian carrot	*Perideridia spp.*
iodine bush	*Allenrolfea occidentalis*
Janish's penstemon	*Penstemon janishiae*
Kruckeberg's holly fern	*Polystichum kruckebergii*
lance-leaved grapefern	*Botrychium lanceolatum*
large-flowered chaenactis	*Chaenactis macrantha*
leafy spurge	*Euphorbia esula*
lomatium	*Lomatium spp.*
lupine	*Lupinus spp.*
lyrate malacothrix	*Malacothrix sonchoides*
Malheur cryptantha	*Cryptantha propria*
meadow rue	*Thalictrum spp.*
Mediterranean sage	*Salvia aethiopis*
milkvetch	*Astragalus spp.*
monkeyflower	*Mimulus spp.*
montane pepperwort	*Lepidium montanum v. nevadense*
moonwort	*Botrychium lunaria*
moss gentain	*Gentiana prostrata*
musk thistle	*Carduus nutans*
naked-stemmed phacelia	*Phacelia gymnoclada*
ochre-headed buckwheat	*Eriogonum ochrocephalum s. calcareum*
onion	*Allium spp.*
pale paintbrush	*Castilleja pallescens v. inverta*
peavine	*Lathyrus spp.*
perennial pepperweed	*Lepidium latifolium*
phacelia	*Phacelia spp.*
phlox	*Phlox spp.*
pinnate grapefern	*Botrychium pinnatum*
prairie sandwort	*Arenaria aculeata*
prickly poppy	*Argemone munita s. rotundata*
puncturevine	*Tribulus terrestris*
purple loosestrife	*Lythrum salicaria*
purple cymopterus	*Cymopterus purpurascens*
pussytoes	*Antennaria spp.*
Rafinesque's pondweed	*Potamogeton diversifolius*
Raven's lomatium	*Lomatium ravenii*
Rocky Mtn. helianthella	*Helianthella uniflora v. uniflora*
rush skeletonweed	*Chondrilla juncea*
Russian knapweed	*Acroptilon repens*
salt heliotrope	*Heliotropium curassavicum*
scotch broom	*Cytisus scoparius*
scotch thistle	*Onopordum acanthium*
short-lobed penstemon	*Penstemon seorsus*

Common Name	Scientific Name
Siberian water-milfoil	*Myriophyllum sibiricum*
Sierran springbeauty	*Claytonia nevadensis*
sky pilot	*Polemonium viscosum*
slender gentian	*Gentianella tenella*
slender wild cabbage	*Caulanthus major v. nevadensis*
speedwell	*Veronica spp.*
spotted knapweed	*Centaurea maculosa*
squarrose knapweed	*Centaurea virgata*
St. John's wort	*Hypericum perforatum*
Steens Mountain paintbrush	*Castilleja pilosa v. steenensis*
sulfur-flowered buckwheat	*Eriogonum umbellatum*
sumac	*Rhus spp.*
sweet cicely	*Osmorhiza occidentalis*
tansy ragwort	*Senecio jacobaea*
thick-stemmed wild cabbage	*Caulanthus crassicaulis*
Torrey's malacothrix	*Malacothrix torreyi*
tumble mustard	*Sisymbrium altissimum*
tumble weed	*Salsola tragus*
two-stemmed onion	*Allium bisceptrum*
umbellate springbeauty	*Claytonia umbellata*
verrucose seapurslane	*Sesuvium verrucosum*
weak-stemmed stonecrop	*Sedum debile*
wedge-leaf saxifrage	*Saxifraga adscendens v. oregonensis*
white-flowered penstemon	*Penstemon pratensis*
whitetop	*Cardaria draba*
yarrow	*Achillea millefolium*
yellow toadflax	*Linaria vulgaris*
yellow starthistle	*Centaurea solstitialis*
Grasses and grasslikes	
alpine fescue	*Festuca brachyphylla*
awned sedge	*Carex atherodes*
Back's sedge	*Carex backii*
basin wildrye	*Leymus cinereus*
Bellard's kobresia	*Kobresia bellardii*
bluebunch wheatgrass	*Pseudoroegneria spicata*
bottlebrush squirreltail	*Elymus elymoides*
capitate sedge	*Carex capitata*
cheatgrass	*Bromus tectorum*
crested wheatgrass	*Agropyron cristatum*
dark alpine sedge	*Carex subnigricans*
desert needlegrass	*Achnatherum speciosum*
foetid sedge	*Carex foetida v. vernacular*
hairstemmed rush	*Juncus capillaris*
Hayden's sedge	*Carex haydeniana*
Idaho fescue	*Festuca idahoensis*
Indian ricegrass	*Achnatherum hymenoides*

Common Name	**Scientific Name**
June grass	*Koeleria macrantha*
least rush	*Juncus hemiendytus v. abjectus*
Lemmon's needlegrass	*Achnatherum lemmonii*
medusahead rye	*Taeniatherum caput-medusae*
mosslike dwarf rush	*Juncus bryoides*
mountain brome	*Bromus carinatus*
needle and thread needlegrass	*Hesperostipa comata*
Nevada bluegrass	*Poa nevadensis*
new sedge	*Carex nova*
nodding melic	*Melica stricta*
redtop	*Agrostis spp.*
rush	*Juncus spp.*
saltgrass	*Distichlis spicata*
Sandberg's bluegrass	*Poa secunda*
sedge	*Carex spp.*
sheep fescue	*Festuca ovina*
teacher's sedge	*Carex praeceptorum*
Thurber's needlegrass	*Achnatherum thurberiana*
Tiehm's rush	*Juncus tiehmii*
tufted hairgrass	*Deschampsia cespitosa*
western needlegrass	*Achnatherum occidentalis*
Shrubs and Trees	
barberry	*Mahonia reticulata*
basin big sagebrush	*Artemisia tridentata s. tridentata*
big sagebrush	*Artemisia tridentata*
bitter cherry	*Prunus emarginata*
bitterbrush	*Purshia tridentata*
black greasewood	*Sarcobatus vermiculatus*
black sagebrush	*Artemisia nova*
black cottonwood	*Populus trichocarpa*
buckbrush	*Ceanothus spp.*
bud sage	*Artemisia spinescens*
chokecherry	*Prunus virginiana*
currant	*Ribes spp.*
dogwood	*Cornus stolonifera*
Douglas fir	*Pseudotsuga menziesii*
elderberry	*Sambucus mexicana*
fourwing saltbush	*Atriplex canescens*
grand fir	*Abies grandis*
gray rabbitbrush	*Ericameria nauseosus*
green rabbitbrush	*Ericameria viscidiflorus*
hornbeam	*Carpinus grandis*
horsebrush	*Tetradymia spp.*
indigo bush	*Amorpha condoni*
low sagebrush	*Artemisia arbuscula*

Common Name	Scientific Name
madrone	*Arbutus spp.*
maple	*Acer spp.*
mountain ash	*Sorbus harneyensis*
mountain alder	*Alnus incana*
mountain mahogany	*Cercocarpus ledifolius*
mountain big sagebrush	*Artemisia tridentata s. vaseyana*
narrowleaf cottonwood	*Populus angustifolia*
ocean spray	*Holodiscus dumosus*
Oregon grape	*Berberis repens*
pine	*Pinus spp.*
quaking aspen	*Populus tremuloides*
rose	*Rosa woodsii*
salt cedar	*Tamarix ramosissima*
serviceberry	*Amelanchier utahensis*
shadscale	*Atriplex confertifolia*
silver sagebrush	*Artemisia cana*
snowberry	*Symphoricarpos rotundifolius*
spiny hopsage	*Grayia spinosa*
spruce	*Picea spp.*
true fir	*Abies spp.*
wax currant	*Ribes cereum*
western juniper	*Juniperus occidentalis*
willow	*Salix spp.*
winterfat	*Ceratoides lanata*
Wyoming big sagebrush	*Artemisia tridentata s. wyomingensis*
ANIMAL SPECIES	
Amphibians	
Columbia spotted frog	*Rana luteiventris*
western toad	*Bufo boreas*
Birds	
American kestrel	*Falco sparverius*
American white pelican	*Pelecanus erythrorhynchos*
bank swallow	*Riparia riparia*
black rosy finch	*Leucosticte atrata*
black tern	*Chlidonias niger*
black-throated sparrow	*Amphispiza bilineata*
bobolink	*Dolichonyx oryzivorus*
broad-tailed hummingbird	*Selasphorus platycercus*
Cooper's hawk	*Accipiter cooperii*
ferruginous hawk	*Buteo regalis*
flammulated owl	*Otus flammeolus*
Forster's tern	*Sterna forsteri*
Franklin's gull	*Larus pipixcan*
golden eagle	*Aquila chrysaetos*
great egret	*Casmerodius albus*
Greater sage-grouse	*Centrocercus urophasianus*

Common Name	Scientific Name
greater sandhill crane	*Grus canadensis ssp.*
horned grebe	*Podiceps auritus*
least bittern	*Ixobrychus exilis*
long-eared owl	*Asio otus*
loggerhead shrike	*Lanius ludovicianus*
mountain quail	*Oreortyx pictus*
northern bald eagle	*Haliaeetus leucocephalus*
northern goshawk	*Accipiter gentilis*
northern harrier	*Circus cyaneus*
olive-sided flycatcher	*Contopus cooperi*
peregrine falcon	*Falco peregrinus ssp.*
pinyon jay	*Gymnorhinus cyancephalus*
prairie falcon	*Falco mexicanus*
red-tailed hawk	*Buteo jamaicensis*
rough-legged hawk	*Buteo lagopus*
sage sparrow	*Amphispiza belli*
sharp-shinned hawk	*Accipiter striatus*
snowy egret	*Egretta thula*
Swainson's hawk	*Buteo swainsoni*
western burrowing owl	*Athene cunicularia*
western snowy plover (inland)	*Charadrius alexandrinus*
white-faced ibis	*Plegadis chihi*
willow flycatcher	*Empidonax traillii adastus*
yellow-billed cuckoo	*Coccyzus americanus*
Fish	
Alvord chub	*Gila alvordensis*
Borax Lake chub	*Gila boraxobius*
bridgelip sucker	*Catostomus columbianus*
brook trout	*Salvelinus fontinalis*
Catlow Valley tui chub	*Gila bicolor ssp.*
crappie	*Pomoxis sp.*
Great Basin redband trout	*Oncorhynchus mykiss ssp.*
guppy	*Poecilia reticulata*
Lahontan cutthroat trout	*Oncorhynchus clark henshawi*
long-nosed dace	*Rhinichthys cataractae*
largescale sucker	*Catostomus macrocheilus*
Malheur mottled sculpin	*Cottus bairdi ssp.*
mountain whitefish	*Prosopium williamsoni*
rainbow trout (generic)	*Onchorhynchus mykiss*
redside shiner	*Richardsonium columbianus*
speckled dace	*Rhinichthys osculus*
Mammals	
California bighorn sheep	*Ovis canadensis ssp.*
California wolverine	*Gulo gulo*
Canada lynx	*Lynx canadensis*

Common Name	Scientific Name
fringed myotis	*Myotis thysanodes*
gray wolf	*Canis lupus*
kit fox	*Vulpes velox*
long-eared myotis	*Myotis evotis*
long-legged myotis	*Myotis volans*
mountain lion (cougar)	*Puma concolor*
mule deer	*Odocoileus hemionus hemionus*
pallid bat	*Antrozous pallidus*
Preble's shrew	*Sorex preblei*
pronghorn antelope	*Antilocapra americana*
pygmy rabbit	*Brachylagus idahoensis*
Rocky Mountain elk	*Cervus elaphus*
silver-haired bat	*Lasionycteris noctivagans*
spotted bat	*Euderma maculatum*
Townsend's big-eared bat	*Corynorhinus townsendii*
western small-footed myotis	*Myotis ciliolabrum*
white-tailed antelope ground squirrel	*Ammospermophilus leucurus*
white-tailed jackrabbit	*Lepus townsendii*
Yuma myotis	*Myotis yumanensis*
Reptiles	
desert horned lizard	*Phrynosoma platyrhinos*
long-nosed leopard lizard	*Gambelia wislizenii*
Mojave black-collared lizard	*Crotophytus bicinctores*
northern sagebrush lizard	*Sceloporus graciosus*
Animal Fossil Remains	
beaver	*Dipoides, Castor*
camel, small and large	*Pliauchenia, Procamelus*
cat, saber-tooth	*Machairodus*
horse	*Hipparion, Pliohippus*
mammoth	
mastodon	*Mammut*
peccary	*Prosthennops*
rhinoceros	*Teleoceras*
rodent, horned	*Mylagaulus*
sloth, giant turtle	Megalonychidae (Family)

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Appendix M - Transportation

This appendix serves to support the CMPA Transportation Plan by identifying transportation and road system BMPs and providing a glossary of terms typically used with transportation management systems. This information is derived primarily from the Draft Washington and Eastern Oregon Districts Transportation Management Plan (DTMP) and incorporates the DTMP by reference. While the DTMP remains subordinate in direction to the RMP/EIS, it remains a valuable reference in providing guidance to the CMPA Transportation Plan.

BEST MANAGEMENT PRACTICES

1) Design roads to minimize total disturbance, to conform with topography, and to minimize disruption of natural drainage patterns.

2) Base road design criteria and standards on road management objectives such as traffic requirements of the proposed activity and the overall transportation plan, economic analysis, safety requirements, resource objectives, and minimizing damage to the environment.

3) Locate roads on stable terrain such as ridge tops, natural benches, and flatter transitional slopes near ridges and valley bottoms and moderate sideslopes and away from slumps, slide prone areas, concave slopes, clay beds, and where rock layers dip parallel to the slope. Locate roads on well-drained soil types; avoid wet areas.

4) Construct cut and fill slopes to be approximately 3(h):1(v) or flatter where feasible. Locate roads to minimize heights of cutbanks. Avoid high, steeply sloping cutbanks in highly fractured bedrock.

5) Avoid head walls, midslope locations on steep, unstable slopes, fragile soils, seeps, old landslides, sideslopes in excess of 70 percent, and areas where the geologic bedding planes or weathering surfaces are inclined with the slope. Implement extra mitigation measures when these areas can not be avoided.

6) Construct roads for surface drainage by using outslopes, crowns, grade changes, drain dips, waterbars and/or insloping to ditches as appropriate.

7) Sloping the road base to the outside edge for surface drainage is normally recommended for local spurs or minor collector roads where low volume traffic and lower traffic speeds are anticipated. This is also recommended in situations where long intervals between maintenance will occur and where minimum excavation is wanted. Out-sloping is not recommended on steep slopes. Sloping the road base to the inside edge is an acceptable practice on roads with steep sideslopes and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.

8) Crown and ditching is recommended for arterial and collector roads where traffic volume, speed, intensity and user comfort are considerations. Recommended gradients range from 0 to 15 percent where crown and ditching may be applied, as long as adequate drainage away from the road surface and ditch lines is maintained.

9) Minimize excavation, when constructing roads, through the use of balanced earthwork, narrowing road widths, and end hauling where sideslopes are between 50 and 70 percent.

10) If possible, construct roads when soils are dry and not frozen. When soils or road surfaces become saturated to a depth of 3 inches, BLM-authorized activities should be limited or ceased unless otherwise approved by the authorized officer.

11) Consider improving inadequately surfaced roads, that are to be left open to public traffic during wet weather with gravel or pavement to minimize sediment production and maximize safety.

12) Retain vegetation on cut slopes unless it poses a safety hazard or restricts maintenance activities. Roadside brushing of vegetation should be done in a way that prevents disturbance to root systems and visual intrusions (i.e., avoid using excavators for brushing).

13) Retain adequate vegetation between roads and streams to filter runoff caused by roads.

14) Avoid riparian/wetland areas where feasible; locate in these areas only if the roads do not interfere with the attainment of PFC and RMOs.

15) Minimize the number of unimproved stream crossings. When a culvert or bridge is not feasible, locate drive-through (low water crossings) on stable rock portions of the drainage channel. Harden crossings with the addition of rock and gravel if necessary. Use angular rock if available.

16) Locate roads and limit activities of mechanized equipment within stream channels to minimize their influence on riparian areas. When stream crossing is necessary, design the approach and crossing perpendicular to the channel where practical. Locate the crossing where the channel is well-defined, unobstructed, and straight.

17) Avoid placing fill material in floodplain unless the material is large enough to remain in place during flood events.

18) Use drainage dips instead of culverts on roads where gradients would not present a safety issue. Locate drainage dips in such a way so water would not accumulate or where outside berms prevent drainage from the roadway. Locate and design drainage dips immediately upgrade of stream crossings and provide buffer areas and catchment basins to prevent sediment from entering the stream.

19) Construct catchment basins, brush windrows, and culverts in a way to minimize sediment transport from road surfaces to stream channels. Install culverts in natural drainage channels in a way to conform with the natural streambed gradients with outlets that discharge onto rocky or hardened protected areas.

20) Design and locate water crossing structures in natural drainage channels to accommodate adequate fish passage, provide for minimum impacts to water quality and capable of handling a 100-year event for runoff and floodwaters.

21) Use culverts that pass, at a minimum, a 50-year storm event and/or have a minimum diameter of 24 inches for permanent stream crossings and a minimum diameter of 18 inches for road crossdrains.

22) Replace undersized culverts and repair or replace damaged culverts and down spouts. Provide energy dissipators at culvert outlets or drainage dips.

23) Locate culverts or drainage dips in such a manner as to avoid discharge onto unstable terrain such as head walls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or road surfaces. Culverts should be placed on solid ground to avoid road failures.

24) Proper sized aggregate and riprap should be used during culvert construction. Place riprap at culvert entrance to streamline water flow and reduce erosion.

25) Establish adapted vegetation on all cuts and fill immediately following road construction and maintenance.

26) Remove berms from the down slope side of roads, consistent with safety considerations.

27) Leave abandoned roads in a condition that provides adequate drainage without further maintenance. Close abandoned roads to traffic. Physically obstruct the road with gates, large berms, trenches, logs, stumps, or rock boulders as necessary to accomplish permanent closure.

28) Abandon and rehabilitate roads no longer needed. Leave these roads in a condition that provides adequate drainage. Remove culverts.

29) When plowing snow for winter use of roads, provide breaks in snow berms to allow for road drainage. Avoid plowing snow into streams. Plow snow only on existing roads.

30) Maintenance should be performed to conserve existing surface material, retain the original crowned or out-sloped self-draining cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Avoid wasting loose ditch or surface material over the shoulder where it can cause stream sedimentation or weaken slump-prone areas. Avoid undercutting back slopes.

31) Do not disturb the toe of cut slopes while pulling ditches or grading roads. Avoid sidecasting road material into streams.

32) Grade roads only as necessary. Maintain drain dips, waterbars, road crown, in-sloping and out-sloping, as appropriate, during road maintenance.

33) Maintain roads in SMAs [Special Management Areas] according to SMA guidance. Generally, retain roads within existing disturbed areas and sidecast material away from the SMA.

34) When landslides occur, save all soil and material usable for reclamation or stockpile for future reclamation needs. Avoid side casting of slide material where it can damage, overload, and saturate embankments, or flow into down-slope drainage courses. Reestablish vegetation as needed in areas where vegetation has been destroyed due to side casting.

35) Strip and stockpile topsoil ahead of construction of new roads, if feasible. Reapply soil to cut and fill slopes prior to revegetation.

GLOSSARY OF TERMS

Access Agreement - (a) Generally construed to mean a Reciprocal Rights-of-Way agreement. It is an exchange of grants between the United States and a Permittee that provides for each party using the other's roads or constructing roads over the other's lands; (b) the rights granted to the United States through the purchase of a Rights-of-Way easement.

Back Country Byway - A road segment designated as part of the National Scenic Byway System. (These roads may or may not be BLM controlled roads).

Best Management Practices (BMP) - Methods, measures, or practices designed to prevent or reduce water pollution. Not limited to structural and nonstructural controls, and procedures for operations and maintenance. Usually, BMPs are applied as a system of practices rather than a single practice.

Casual Use - Activities ordinarily resulting in negligible disturbance of Federal lands and resources.

Construction - In general, building something new. See also "Maintenance" and Reconstruction."

Cultural Resource -Any definite location of past human activity identifiable through field survey, historical documentation, or oral evidence. This includes archaeological and architectural sites or structures and places of traditional cultural or religious importance to specific groups whether or not represented by physical remains.

Decommission - An indeterminate term commonly used in the context of "*closing* roads, *obliterating* roads, and/or the *rehabilitation* of roads." See the ROAD CLOSURE section.

Developed Recreation - Recreation that requires facilities, resulting in concentrated use of an area. An example of a developed recreation site is a campground. Facilities might include roads, parking lots, picnic tables, restrooms, drinking water, and buildings.

District - A Bureau of Land Management (BLM) administrative unit responsible for the management of geographical land units within the Resource Areas under their purview. In ascending order of responsibility for on-the-ground management, the typical administrative structure of the BLM is Washington Office, State Office, **District Office**, and Resource Area Office.

Dispersed Recreation -A general term referring to recreation use outside developed recreation sites. This includes activities such as scenic driving, hiking, bicycling, backpacking, hunting, fishing, snowmobiling, horseback riding, cross-country skiing, and recreation in primitive environments.

Drainage Structure - Culvert, arch pipe, pipe arch, bridge (over a water way), or similar.

Easement - The rights granted to the United States through the purchase of a Rights-of-Way.

> **Easement (Exclusive) –** A right acquired by the United States to use land of another for a particular purpose, such as a physical access corridor, which **may** allow the United States to set rules of use and authorize third-party use, i.e., public use.

Easement (Nonexclusive) – A right acquired by the United States to use land of another for a particular purpose , such right not granted exclusively to the United States and not excluding others from enjoying the same privilege. Use is allowed to the United States, its agents, and those authorized to do business on U.S. Government lands. The underlying land owner retains control of the land use, subject to the terms of the rights granted to the United States.

Ecosystem - An interacting natural system including living organisms and the nonliving environment. Ecosystems may vary in size. For example, the community of microorganisms in water; the lake that contains the water; the watershed where the lake is situated; and the mountain range where the watershed is located.

Ecosystem Management - A strategy or plan to manage ecosystems to provide for all associated organisms, as opposed to a strategy or plan for managing individual species.

Environmental Assessment (EA) - A systematic analysis of site-specific activities used to determine whether such activities have a significant effect on the quality of the human environment and whether a formal Environmental Impact Statement (EIS) is required. Also used to aid an agency's compliance with the National Environmental Policy Act when no Environmental Impact Statement is necessary.

Feasible -An alternative that, when considered in a comprehensive context, is functionally suitable, physically viable, sociologically and economically reasonable, and biologically sound.

Forage - All browse and non-woody plants harvested for feed or available to livestock or wildlife for grazing.

Geographic Information System (GIS) - An organized collection of computer hardware, software, and geographic data designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information. Certain complex spatial operations are possible with GIS that would be very time-consuming or impractical otherwise.

Harm - An appreciable or significant adverse impact to the environment.

Interdisciplinary Team (IDT) - A group of individuals with varying areas of specialty assembled to solve a problem or perform a task. The team is assembled out of recognition that no one scientific discipline is sufficiently broad enough to adequately analyze the problem and propose action.

Long Term - In context of these guidelines, ten years and beyond.

Maintenance - In general, taking care of what already exists. See also “Construction” and “Reconstruction.”

Manual on Uniform Traffic Control Devices (MUTCD) - Standards for signing of streets and highways as approved by the Federal Highway Administration as the National Standard in accordance with Title 23, U.S. Code. These standards usually apply to roads subject to the Highway Safety Act, Maintenance levels 3-5.

Monitoring - The process of collecting information to evaluate if objective and anticipated or assumed results of a management plan are being realized or if implementation is proceeding as planned.

Off-Highway Vehicle (OHV) - As defined by CFR 8340.0-5; Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding (1) any non-amphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer; (4) vehicles in official use; and (5) any combat or combat support vehicle when used in times of national defense emergencies. OHV use is subject to operating regulations and vehicle standards set forth in 43 CFR 8341 and 8342. In compliance with Executive Orders 11644 and 11989, the term "Off Highway Vehicle" will be used in place of "Off Road Vehicle". The definition for both terms is the same.

Off Road Vehicle (ORV) – See “Off Highway Vehicle”.

Partnership - In the context of these guidelines, partnerships are those alliances between individuals, groups and/or the District that enable road and trail maintenance or monitoring activities beyond those required for resource management access. Partnerships: 1) Foster good stewardship within the land management plan; 2) Are not exclusive but serve publics at large; and 3) Benefit all parties involved.

Passive Closure: A transportation facility closure technique where on going processes continue unabated to render the facility unusable and revert the facility to a more natural state.

Permittee - (a) The cooperating party to a reciprocal agreement (some early agreements refer to such a party as "Applicant"); (b) A third party using a road controlled by the United States and constructed over lands belonging to the Permittee in a reciprocal agreement; and (c) A party authorized to use roads controlled by the United States under the terms of a Unilateral Rights-of-Way, mining, or grazing permit, etc.

Project - Actions such as route use restrictions and ownership adjudication; and facility closure, new construction, reconstruction, maintenance, betterment, reconfiguration, or site rehabilitation.

Public Involvement - A process designed to broaden the information base upon which agency decisions are made by (1) informing the public about District activities, plans, and decisions, and (2) encouraging public understanding about and participation in the planning processes leading to final decision-making.

Riparian Conservation Areas (RCA) - Those portions of watersheds where riparian dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines. RCAs include traditional riparian corridors, wetlands, and intermittent headwater streams, and other areas where proper ecological functioning is crucial to maintenance of the stream's water, sediment, woody debris and nutrient delivery systems.

Reconstruction -In general, a construction activity involving an existing route such as removing a corrugated metal culvert and installing a concrete arch. See also "Construction" and "Maintenance."

Recreation Opportunity Spectrum (ROS) - Land delineations that identify a variety of recreation experience opportunities. They are categorized into six classes: Primitive, Semiprimitive Non-motorized, Semiprimitive Motorized, Roaded Natural, Rural, and Urban.

Resource Management Plan (RMP) - A land use plan prepared by BLM Districts or Resource Areas under current regulations in accordance with the Federal Land Policy and Management Act.

Riparian Area - A geographic area containing an aquatic ecosystem and adjacent upland areas that directly affect it. This includes flood plains, woodlands, and all areas within a specified distance from the normal line of high water of a stream channel or from the shoreline of a standing body of water.

Road - Constructed or evolved transportation route that is maintained for regular use (except during periods of closure), that is greater than 54 inches in width, and that can be reasonably and prudently driven in a four-wheeled motorized vehicle licensed for use on public highways.

Road Density - A ratio of the cumulative horizontal length (miles) of all roads within a planning boundary, to the horizontal projection of the land area (measured in square miles using State Plane coordinates) within the planning area boundary deemed most appropriate for the road density goal being considered, such as the land within the boundaries of a critical/sensitive habitat area, watershed, or the actual land area within a map section.

Roadbed - The graded portion of the road within the top and side slopes, prepared as a foundation for the surface structure and shoulders.

Route - A linear ground transportation feature such as primitive two-track, way, road, or trail.

Special Recreation Management Area (SRMA) - An area where a commitment has been made to provide specific recreation activity and experience opportunities. These areas usually require a high level of recreation investment and/or management. They include recreation sites, but recreation sites alone do not constitute SRMAs.

Stabilization - A process to reduce risk of erosion and landslides by constructing drainage structures such as dips and water bars. This also includes seeding, planting other vegetation, or mulching on slopes. Unstable fill embankments that exceed the required road/trail width may be partially or fully removed.

Trail - Constructed or evolved transportation route no more than 54 inches in width that can be reasonably and prudently used by pedestrians, bicycles, All Terrain Vehicles (ATVs), or pack animals for recreational or commercial purposes.

Trail Density - A ratio of the cumulative horizontal length (miles) of all trails within a planning boundary, to the horizontal projection of the land area (measured in square miles using State Plane coordinates) within the planning area boundary deemed most appropriate for the trail density goal being considered, such as the land within the boundaries of a critical/sensitive habitat area, watershed, or the actual land area within a map section.

Transportation Management Objectives - Written route-specific prescriptions developed by an interdisciplinary team that detail the parameters for construction, use, maintenance, and/or site rehabilitation.

Watershed - The drainage basin contributing water, organic matter, dissolved nutrients, and sediments to a stream or lake.

Watershed Analysis (WA) - Procedure used to characterize human, aquatic, riparian, and terrestrial features, conditions, processes, and interactions within a watershed. Watershed analysis is not a decision making process. The results of watershed analysis establish the context for subsequent decision making.

Way – A route maintained solely by the passage of vehicles which has not been improved and/or maintained by mechanical means to ensure relatively regular and continuous use. Ways may be repaired consistent with the exceptions identified in the Interim Management Policy for Lands Under Wilderness Review (see H-8550-1).

Appendix N - Wild and Scenic Rivers Suitability Evaluations

WILD AND SCENIC RIVER SUITABILITY EVALUATION
THREEMILE CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

Fisheries and cultural resource (prehistoric) are the two outstandingly remarkable values identified on public land within the river corridor, which could contribute to the designation of a Wild and Scenic River.

Threemile Creek is one of only three streams that provide habitat for the Catlow Valley redband trout, one of two native fish species of the Catlow Valley. A fourth stream within the area, has recently lost its redband trout population. However, the redband trout population may be greatly influenced by the private operation of the Threemile Creek Reservoir and diversion below the corridor. This can have an effect on how the fish move through the system. The stream historically, but no longer contains the other native fish species, the Catlow tui chub.

This segment of Threemile Creek contains significant prehistoric sties. One site is considered to be in very good condition, which is the reason for the outstandingly remarkable value, and is described in more detail in the following section. There are several other sites found within the segment, but are only found to be considered significant.

With a Wild and Scenic River designation, it is possible that any management activity that can effect the outstandingly remarkable values, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, increasing recreational activities within the corridor.

Because of the broken ownership, the stream segment would be difficult to manage due to the private land within the headwaters of the river corridor.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 4.3 miles (63.2 percent) of the 6.8-mile stream length. Of the 2180.1 acres within the river corridor, 1558.9 acres are public land, and 621.2 acres are private property. The segment lies on the west side of Steens Mountain and flows westerly from its headwater until it enters private land in the Catlow Valley.

Threemile Creek begins on a plateau before cutting down through a canyon that exhibits Steens Basalt lava flows in its walls. The present amount of flow in the creek is undersized for the size of the canyon that it flows through, indicating that the canyon was downcut by the creek mostly during the wetter Late Pleistocene, common for this geographic region. There is a linear plateau northeast of Threemile Creek consisting of sediments capped by the Devine Canyon Ash-Flow Tuff. The plateau has a linear form that is parallel to the linear form of Threemile Creek, suggesting that the tuff was deposited in an ancient drainage that had the same trend as the current drainage. It is common to see similar linear plateaus paralleling present-day drainages on the west slope of Steens Mountain.

The stream is one of only three that provide habitat for the endemic Catlow Valley redband trout, a Bureau and Oregon Sensitive species. Higher quality fish habitat occurs in the portion of the canyon where good condition riparian vegetation provides a good cover of woody riparian species and large springs provide cooler water. No exotic fish species are in the system. The upper portion of the stream is above the canyon and has a lower gradient with sedge-rush dominated sites and very little woody riparian cover. During mid- or late summer, there is no water in the upper 1.3 miles of the drainage. Habitat for the Catlow Valley redband trout is poor or nonexistent in the upper area. The population of redband trout may be currently influenced by several years of drought, loss of good habitat in the upper reaches, and the private irrigation operation of Threemile Reservoir and diversion of water from the lower end of the stream, immediately below the corridor. Because of the low population seen during an Oregon Department of Fish and Wildlife survey in 1995, the Oregon Department of Fish and Wildlife closed the stream to angling. Catlow tui chub, another endemic Bureau Sensitive and Oregon Sensitive species, has been found in the lower reaches of the stream and on the reservoir in the past, but they are no longer in the system. They have never been located in public reaches of the stream.

California bighorn sheep use the canyon reaches yearlong. Mule deer winter at the lower elevations, and chukar are abundant. Valley quail are also found within the canyon. A sage grouse lek (strutting ground used in courtship) is in the upper part of the area, and nesting and brood use also occurs. The Federally endangered American peregrine falcon and Federally threatened northern bald eagle are documented migrants using this segment of the stream. Sensitive species that use the segment are western sage grouse, ferruginous hawk, California bighorn sheep, Townsend's big-eared bat, and Preble's shrew. Other Special Status species found or that possibly might use the stream segment are Swainson's hawk, merlin, yellow-billed cuckoo, gray catbird, mountain bluebird, western bluebird, bobolink, and northern sagebrush lizard.

The botanical values on this drainage are common to the region.

Prehistoric sites have been located in the drainage. A relatively intact rock shelter is located within the assessment area. Rock shelters are the source of much of the most spectacular, complete information about prehistoric American Indians. Because rock shelters are very often dry, they possess the proper environmental conditions for the preservation of prehistoric basketry, textiles, and other perishable artifacts. These items are extremely rare and provide much of the missing information not found at a majority of other prehistoric sites in the region.

This site remains unevaluated. It has the <u>potential</u> to be regionally important in the interpretation of prehistory because of its potential to contain perishable, datable items. There are two other prehistoric sites within the assessment area. Both are surface lithic scatters probably containing data of local importance only. These sites do not possess outstandingly remarkable values, but contribute substantially to the river setting because they are a part of the prehistoric settlement pattern found in Threemile Creek. All of the sites need to be evaluated for significance through subsurface testing and mapping of surface elements. Until this information is gathered, the data potential of these sites is not fully known.

The public and private portions of the corridor are managed for livestock grazing as part of the 332,400-acre South Steens Allotment Management Plan. It is also part of the active Herd Management Area of the South Steens Wild Horse Herd Area. Recreational use activities include hiking, hunting, sightseeing, photography, and wildlife observation, but currently not angling. The

corridor lies within the Home Creek Wilderness Study Area, and is being managed to protect those values.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a scenic river, management would be similar to the present situation for most activities, but could be curtailed if there are impacts to the outstandingly remarkable values.

Recreation use would continue at the current level, until such a time that it is determined that impacts were occurring from overuse of the corridor. Livestock grazing is currently managed as described in the South Steens Allotment Management Plan, but could be eliminated due to designation.

Designation as a scenic river would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other streambank modifications along the river. There are currently no known applications for such stream modifications.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, there is no sponsor for their proposal.

Cost of Administration

The basic objective of Federal designation is to protect and enhanced the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ $3,700	=	$ 66,600
Management and Support	4 people for 1 WM @ $4,000	=	$ 16,000
Miscellaneous		=	$ 5,000
Subtotal		=	$ 87,600

Annual Management:

(signing, data collection, monitoring)	=	$ 10,000

Acquisition:

Purchase or exchange of private land at $225./acre	=	$139,720
Administrative cost of split-estate acquisition	=	NA
Total	=	$237,320

No State or local agency has come forward and stated they would be willing to share in the cost of administering this stream should it become part of the system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel. Threemile Creek is within the Home Creek Wilderness Study Area and is being managed to protect wilderness values until Congress makes a determination on wilderness designation.

The Catlow redband trout will continued to be managed and protected under existing Bureau of Land Management policy. At the present time, Threemile Creek is closed to fishing. The entire watershed is part of the nominated Catlow Redband Trout Area of Critical Environmental Concern and a portion is part of the nominated North Catlow Rim Area of Critical Environmental Concern. Under any of these, if approved, the area would have further protective management prescriptions, as yet to be decided.

All sensitive species will be managed in such a manner as to conserve the species to prevent listing.

The prehistoric rock shelter site would be protected by the Bureau of Land Management in compliance with the National Historic Preservation Act of 1966, as amended.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek**.**

Suitability Determination

The Bureau of Land Management has determined that the eligible 4.3 miles of Threemile Creek that is located on public land is "not suitable" for inclusion in the National Wild and Scenic River system. The amount of private land located in the headwaters of the system would make management difficult.

It is felt that the two listed outstandingly remarkable values are currently being protected under existing management, as previous described, and will offer the same protection as found under the Wild and Scenic Rivers Act.

WILD AND SCENIC RIVER SUITABILITY EVALUATION
WILLOW CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The outstandingly remarkable values identified within this river corridor are the botanical values associated with the existing South Fork Willow Creek Research Natural Area/Area of Critical Environmental Concern.

Approximately 200 acres out of a total of 230 acres of the Research Natural Area are within the river corridor. The area represents a wide variety of microhabitats including rock outcrops, ledges, a

series of three bog terraces with pools, streams, and open shrubs. Plant communities includes those associated with stream systems originating in a glacial cirque.

With a Wild and Scenic River designation, it is possible that any management activities that could effect the outstandingly remarkable values, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, increasing recreation activities within the corridor.

Manageability will be a problem due to the private lands, adjacent to the county road, for public access.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 6.2 miles of Willow Creek, while approximately .76-mile of Willow Creek is private property. Approximately 1,951 acres of public land are within the river corridor, while 243 acres are private land.

The head of Willow Creek and the head of Little Blitzen River meet at a narrow divide that has thick soil and no ice erosional features. Within the exposure of Steens Basalt and Steens Mountain Volcanics, there are some erosion-resistant feeder dikes that look like wall protrusions that extend northward for miles. These are inferred to be feeder dikes for the Steens Basalt flows.

Cirques developed in about 10 drainages on the east side of the Steens during the Pleistocene epoch. Each of these drainages generally contains two cirques, one about 2,500 feet above the Alvord Valley floor and the other about 1,500 feet above the lower one. It is interpreted that the more severe Fish Lake phase of glaciation formed cirques at a lower elevation than those that formed during the later and less severe Blitzen phase of glaciation.

In the northern fork of Willow Creek, the base of the upper cirque was at about 8,000 feet elevation and in the southern fork was at about 8,600 feet. The base of the lower cirque was at about 6,600 feet elevation for both forks. Below 6,600 feet, the creeks have a V-shaped cross section, indicative of normal stream erosion.

Lateral and ground moraines extend as low as 6,200 feet elevation in Willow Creek. Above these glacial deposits, the drainage exposes lava flows and pyroclastic rocks of the Steens Mountain volcanic to 5,500 feet elevation. Between 5,500 feet and 5,400 feet are exposures of tuffaceous sediments of the Alvord Creek Formation. Below this, the creek is in alluvial fan deposits to the valley floor. On the south side of the creek, below 5,400 feet, there is a large landslide that was probably active during the Pleistocene.

Steens Mountain, which includes the Willow Creek drainage, falls within the Bureau of Land Management Visual Resource Management Class II. The objective of this class is to maintain the existing character of the landscape. It is also part of the High Steens Wilderness Study Area. This Wilderness Study Area is being recommended to Congress as part of the national wilderness system.

Recreational use within the river corridor is primitive in nature such as hiking, backpacking, hunting, and sightseeing.

Livestock grazing does occur and is within the Alvord Allotment. Due to topography, grazing occurs only in the lower elevation of the system.

Willow Creek is one of nine streams in the Alvord basin that has provided habitat for a transplanted population of Lahontan cutthroat trout, a Federally listed threatened species. Populations in the Alvord basin are addressed in the Recovery Plan for the species as being important as a source for possible reintroduction of the species into streams in the Coyote, Willow, and Whitehorse basins from which the original transplants came.

The area is closed to recreational angling for the protection of the Lahontan cutthroat trout.

Willow Creek has a high wildlife habitat diversity and most of the riparian habitat is in good or excellent condition. Willow Creek is a steep, rough, rocky drainage that drops 4,400 feet in elevation over approximately 2.5 horizontal miles.

California bighorn sheep may be viewed within the canyon yearlong. Raptor nesting occurs in abundant numbers in the cliffs and rims along Willow Creek. The area provides both summer and winter habitat for mule deer. As winter snow increases, deer may be forced to lower elevations. Deer use is often heavy during winter months.

Chukars are abundant in the area and valley quail are found along the riparian areas and at lower elevation within the uplands. Pika are found in the upper elevation within the talus slopes.

As mentioned, the botanical values were identified as an outstandingly remarkable value because of the designated Research Natural Area for a high elevation cirque plant communities known as the South Fork of Willow Creek.

The remaining botanical resources within the Willow Creek system are interesting, but not unique to the area.

No archaeological inventory has been completed for the area, nor are historic or prehistoric values of any significance known to occur within this area.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a Wild or Scenic River, management would be similar to the present situation, for most activities, but could be curtailed if there are impacts to the outstandingly remarkable values.

Existing uses, such as recreation, would continue in the corridor at current levels, until such a time that increased uses or activities could harm the outstandingly remarkable value. The corridor would still be managed under Visual Resource Management Class ll. The Wilderness Study Area would continue to be managed to protect their wilderness values, until Congress makes a determination on designation as wilderness.

Designation as a wild or scenic river area would continue with the existing management for botanical values, under the Research Natural Area/Area of Critical Environmental Concern

management plan. Fish and wildlife habitat would be maintained, but not necessarily enhanced through long-term protection under the Wild and Scenic Rivers Act.

Designation would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other major streambank modifications along the river. Currently, there are no known applications for such stream modifications.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal river designation is to maintain the rivers existing condition, and to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.Developing a management plan will require the following estimated cost:

Plan Development:			
Resource Specialists	6 people for 3 WMs @ $3,700	=	$ 66,600
Management and Support	4 people for 1 WM @ $4,000	=	$ 16,000
Miscellaneous		=	$ 5,000
Subtotal		=	$ 87,600
Annual Management:			
(signing, data collection, monitoring)		=	$ 10,000
Acquisition:			
Purchase or exchange of private land at $300./acre		=	$ 72,900
Administrative cost of split-estate acquisition		=	NA
Total		=	$170,500

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel.

All sensitive species, within the river corridor, will be managed or action mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species.

The South Fork of Willow Creek Research Natural Area/Area of Critical Environmental Concern will continue to be managed under the existing Research Natural Area plan to preserve the character of streams originating in glacial cirques. Scenic values will be managed under the guidelines for Visual Resource Management Class II and Wilderness Study Areas will be managed to protect their wilderness values until Congress makes a decision on wilderness designation.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 6.2 miles of public land within the Willow Creek drainage is "not suitable" for inclusion in the National Wild and Scenic River system. There are 243 acres of private land which breaks up the ownership pattern. There is also no legal public access to this drainage from the county road. Visitors to the area would have to find other ways to access the corridor for recreational opportunities.

It is felt that the outstandingly remarkable value listed for the system is only a small part of the headwaters of Willow Creek, and is already protected under an existing management plan for the Research Natural Area. The Research Natural Area is inaccessible due to topography, adding further to its protection from physical disturbance.

WILD AND SCENIC RIVER SUITABILITY EVALUATION
VAN HORN CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The outstandingly remarkable value identified on public land, within the river corridor, is recreation. This outstandingly remarkable value could contribute to the designation of a Wild and Scenic River.

Approximately 1-mile of the Oregon High Desert National Recreation Trail parallels the upper portion of Van Horn Creek, and offers outstanding recreation opportunities for hiking and backpacking within the area.

With a Wild and Scenic River designation, it is possible that any management activities that could affect the outstandingly remarkable value, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, increasing recreation activities within the corridor.

Management of the river corridor would be practical due to public ownership.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 9.9 miles of Van Horn Creek. Approximately 3,153 acres of public land are within the river corridor. The segment runs through one section of split-estate land (State owns the mineral rights).

Like Colony Creek and Cherry Creek, Van Horn Creek cuts through alluvial fan deposits from the valley floor to approximately 4,500 feet elevation. From 4,500 feet to beyond the ridgeline, the creek cuts through Mesozoic schistose metavolcanic rocks. These rocks are generally rich in muscovite and have a whitish sheen. They form erosion resistant outcrops that protrude into Van Horn Creek.

At approximately 4,900 feet, the edge of a pluton crosses the creek. This pluton is composed of fine-grained quartz diorite, and is one of seven plutons in the Pueblos. In the quartz diorite, the most easily recognized mineral is plagioclase. The mafic minerals in the quartz diorite have been metamorphosed from hornblende to biotite, magnetite, and epidote.

The upper reaches of the creek, above 6,700 feet elevation in Van Horn basin, are in the lower part of a several thousand foot thick package of lava flows known as Steens Basalt. The tertiary Steens Basalt tilts gently westward and lies in erosional unconformity on the older metamorphic rocks.

Pueblo Mountains, which includes the Van Horn Creek drainage, fall within the Bureau of Land Management Visual Resource Management Class II. The objective of this class is to maintain the existing character of the landscape. Van Horn Creek is within the Pueblo Mountain Wilderness Study Area, with portions of this Wilderness Study Area being recommended to Congress as wilderness.

Recreation has been identified as an outstandingly remarkable value. Recreational use within the river corridor is a primitive type such as hiking, backpacking, hunting, and sightseeing. Approximately 1-mile of Van Horn Creek, located in Van Horn basin, is within close proximity of the Oregon High Desert National Recreational Trail.

The majority of Van Horn Creek is inaccessible for hiking due to the dense vegetation, boulders, and steep cliffs found in the drainage.

Van Horn Creek is one of nine streams in the Alvord basin that has provided habitat for a transplanted population of Lahontan cutthroat trout, a Federally listed threatened species. Populations in the Alvord basin are addressed in the Recovery Plan for the species as being important as a source for possible reintroduction of the species into streams in the Coyote, Willow, and Whitehorse basins from which the original transplants came.

Brown trout, which are not native to this system, are also present within this stream, along with the Lahonton cutthroat trout.

Van Horn Creek also provides habitat for Alvord chub, a Bureau of Land Management sensitive species. These fish have been seen in the lower reaches, but probably do not extend much upstream because of the steeper gradient in the lower canyon reaches.

Livestock grazing does occur and is within the Pueblo Lone Mountain Allotment.

The area is closed to recreational angling for the protection of the Lahontan cutthroat trout.

Van Horn Creek has a good wildlife habitat diversity, but is much lower in elevation than many other streams.

The creek provides habitat for California bighorn sheep from spring through the fall, but move out of the area during winter. Mule deer summer at upper elevations and winter at lower areas. Antelope make light use of the area.

Sage grouse use upper elevation springs during the summer. Chukars are abundant in the rough lower canyon of Van Horn Creek. Valley quail are also present along the lower reaches.

Narrowleaf cottonwood, which only grows in a few areas in the region, occurs in the drainage. This botanical value is considered significant, but not exceptional.

No archaeological inventory has been completed for the area, nor are historic or prehistoric values of any significance known to occur within this area.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a scenic river, management would be similar to the present situation, for most activities, but could be curtailed if there are impacts to the outstandingly remarkable value.

Existing uses, such as recreation, would continue in the corridor at current levels, until such a time that increased uses or activities could harm the outstandingly remarkable value, or free-flowing character of the stream. The corridor would still be managed under Visual Resource Management Class II. Wilderness Study Areas would continue to be managed to protect their wilderness values, until Congress makes a determination on designation as wilderness.

A scenic designation would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other major streambank modifications along the river.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ $3,700	=	$ 66,600
Management and Support	4 people for 1 WM @ $4,000	=	$ 16,000
Miscellaneous		=	$ 5,000
Subtotal		=	$ 87,600

Annual Management:

(signing, data collection, monitoring)	=	$ 10,000

Acquisition:

Purchase or exchange of private land	=	NA
Administrative cost of split-estate acquisition	=	$ 5,280*
Total	=	$102,880

* **The administrative cost of split-estate acquisition includes preparation of a mineral report by Bureau of Land Management staff. At this time, cost for the actual mineral estate cannot be determined because each parcel's mineral value is unknown without the detailed mineral report**.

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel.

All sensitive species, within the river corridor, will be managed or action mitigated in such manner as to conserve the species so as not to contribute to the need to list the species.
Recreation values will continue to be managed under the existing guidelines and policy for recreation management. Scenic values will continue to be managed under existing guidelines for Visual Resource Management Class II, and Wilderness Study Areas will continue to be managed to protect their wilderness values until Congress makes a decision on wilderness designation.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 9.9-mile segment of the Van Horn Creek is "not suitable" for inclusion in the National Wild and Scenic River system. It is felt that the

recreation outstandingly remarkable value is currently being managed under the existing guidelines and policy for recreation management. The 1-mile portion of the Oregon High Desert National Recreation Trail, which is in close proximity of Van Horn Creek, has been established since 1992. The original Oregon High Desert Trail was established in 1980.

The combined management activities as discussed will offer the same protection as found under the National Wild and Scenic Rivers Act.

WILD AND SCENIC RIVER SUITABILITY EVALUATION
COTTONWOOD CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The outstandingly remarkable value identified within this river corridor is the botanical value associated with the narrowleaf cottonwood/Mormon tea community, and could contribute to the designation of a Wild and Scenic River.

Several State and Bureau sensitive species are also found within the corridor.

With a Wild and Scenic River designation, it is possible that any management activities that could effect the outstandingly remarkable value, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, increasing recreation activities within the corridor.

Manageability of the river corridor would be practical due to total public ownership.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers all of the 12.1 miles of Cottonwood Creek. Approximately 3,712 acres of public land are within the river corridor.

The area contains geologic characteristics similar to other creeks in this geographic region. Steens basalt and tertiary sediment deposited in the ancestral Pueblo Valley have been exposed by the action of the stream.

Recreational use within the river corridor is of a primitive type such as hiking, backpacking, solitude, and hunting.

The diverse vegetation and geomorphic features influence the diversity of wildlife species.
Deer and antelope summer at the upper elevations, and winter at lower elevations along the river corridor. Bighorn sheep summer in the headwaters of Cottonwood Creek and winter outside the area. Sage grouse use the drainage all year with the meadows being important habitat in the spring and summer. Chukars are abundant throughout the steep parts of the drainage and valley quail are found at mid- and lower elevations.

No fish are present within the Cottonwood Creek drainage.

The lower reach of the stream is a Research Natural Area/Area of Critical Environmental Concern for the special narrowleaf cottonwood/Mormon tea complex plant community. Several State sensitive plant species of concern are present in the lower reaches of this drainage. The upper reaches contain alder and aspen groves.

All of the drainage is within the Pueblo Mountain Wilderness Study Area, with a portion of this area being recommended to Congress for wilderness designation.

Livestock grazing occurs within the Pueblo-Lone Mountain Allotment from April to June each year.

No archaeological inventory has been completed for the area, nor are significant historic or prehistoric values known to occur.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a Wild and Scenic River, management for most activities would be similar to the present situation, but could be curtailed if there are impacts to the outstandingly remarkable value.

Recreation use would continue at current levels until such a time that it was determined that impacts were occurring from overuse of the river corridor. The corridor will still be managed under Visual Resource Management Class II. The Wilderness Study Area would continue to be managed to protect their wilderness values, until Congress makes a determination on designation as wilderness.

Scenic designation would preclude major diversions, hydroelectric power facilities, water supply for flood control dams, or other major streambank modifications along the stream. Currently, there are no known applications for such stream modifications.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The basic objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ $3,700	=	$ 66,600
Management and Support	4 people for 1 WM @ $4,000	=	$ 16,000
Miscellaneous		=	$ 5,000
Subtotal		=	$ 87,600

Annual Management:		
(signing, data collection, monitoring)	=	$ 10,000
Acquisition:		
Purchase or exchange of private land	=	NA
Administrative cost of split-estate acquisition	=	$ 5,280*
Total	=	$102,880

* **The administrative cost of split-estate acquisitions includes preparation of a mineral report by Bureau of Land Management staff. At this time, cost for the actual mineral estate cannot be determined because each parcel's mineral value is unknown without the detailed mineral report.**

No State or local agency has come forward and stated they would be willing to share in the cost of administering this stream should it become part of the system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel.

All sensitive species within the river corridor will be managed or action mitigated in such a manner, as to conserve the species so as not to contribute to the need to list the species.

The Pueblo Foothills Research Natural Area/Area of Critical Environmental Concern contains most of the narrowleaf cottonwood and Mormon tea, as well as several State and Bureau sensitive plant species. This particular value is currently being managed and protected under the Pueblo Foothill Research Natural Area/Area of Critical Environmental Concern management plan.

Scenic values will continue to managed under existing Visual Resource Management guidelines for Class II, and Wilderness Study Areas will continue to be managed to protect their wilderness values until Congress makes a decision on wilderness designation.

Historic and Existing Rights

The area in and around the Cottonwood Creek drainage is high in mineralization and claims have been filed and worked in the past. Presently, there are no valid mining claims or any other existing rights within the study portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 12.1 miles of Cottonwood Creek is "not suitable" for inclusion in the National Wild and Scenic River system.

It is felt that the outstandingly remarkable value for botanical resources is currently being managed under the existing Pueblo Mountain Research Natural Area/Area of Critical Environmental Concern

management plan. The Research Natural Area has been established since 1982, with the first management plan being developed in 1984, and updated in 1994.

The continued Bureau of Land Management riparian management and sensitive species policies, will also add protection to the Cottonwood Creek area.

WILD AND SCENIC RIVER SUITABILITY EVALUATION
BIG TROUT CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The outstandingly remarkable value identified within this river corridor is scenic quality, and could contribute to the designation of a Wild and Scenic River.

Big Trout Creek, which includes the East Fork, has a diverse landscape with rock outcrops and a thick blanket of quaking aspen throughout the canyon. The scenic quality is currently being managed under the Visual Resource Management Class II. The objective of this class is to retain the existing character of the landscape.

With a Wild and Scenic River designation, it is possible that any management activities that could affect the outstandingly remarkable value, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, increasing recreation activities within the corridor.

Manageability of the river corridor would be a problem, due the amount of private land within the river corridor.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 9.6 miles of Big Trout Creek, and 2.9 miles of the East Fork of Trout Creek, while there are 4.2 miles of private land in Big Trout Creek, and 3.6 miles within the East Fork of Trout Creek. This totals 20.3 miles of stream within the river corridor. The segment also runs through three different sections of split-estate land (State owns the minerals).

Approximately 4,998 acres of public land are within the river corridor, and 1,493 acres of private land, for a total of 6,491 acres.

Big Trout Creek and the East Fork of Trout Creek cut through gently-dipping Steens Basalt flows that are overlain by andesitic lava flows and rhyolitic ash-flow tuffs. The linear pattern of the creeks indicate that the location of Big Trout Creek and the East Fork of Trout Creek are fault-controlled, and geologic mapping in "The V" topographic quadrangle shows faults along portions of the creeks. The plateaus between the creeks are nearly flat because the ash-flow tuffs and lava flows capping the plateaus were deposited with a flat top and are thick and resistant to erosion. The ash-flow tuffs erupted from the McDermitt Caldera complex to the southeast, the Pueblo Caldera to the west, and the Whitehorse Caldera to the north.

As described earlier, Trout Creek Mountains fall within the Bureau of Land Management's Visual Resource Management Class II. A good portion of Big Trout Creek is within the Mahogany Ridge

Wilderness Study Area. None of this Wilderness Study Area is being recommended to Congress for wilderness designation.

Recreational use within the corridor includes primitive types such as hiking, backpacking, hunting, fishing, and sightseeing.

Big Trout Creek provides habitat for hybrid rainbow-cutthroat trout and Alvord chub. The Alvord chub is a Bureau sensitive species.

Livestock grazing does occur and is within the Trout Creek Allotment Management Plan. As a result of recent changes in grazing management, the riparian area is rapidly improving.

Big Trout Creek has good diversity of wildlife habitats. The lower elevations provide deer winter range and the upper elevations provide deer summer range. Sage grouse use meadows and springs near the headwaters as summer habitat and winter at lower elevations.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a Wild and Scenic River, management for most activities would be similar to the present situation, but could be curtailed if there are impacts to the outstandingly remarkable value.

Existing uses, such as recreation, would continue in the corridor at current levels, until such a time that increased uses or activities could harm the outstandingly remarkable value, or free-flowing character of the stream.

Designation as a scenic river area would allow continued management under the current Visual Resource Management Class II. Wilderness Study Areas would continue to be managed to protect their wilderness values, until Congress makes a determination on designation as wilderness.

Scenic designation would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other major streambank modifications along the river. Currently, there are no known applications for such stream modifications.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ $3,700	=	$ 66,600
Management and Support	4 people for 1 WM @ $4,000	=	$ 16,000
Miscellaneous		=	$ 5,000
Subtotal		=	$ 87,600
Annual Management:			
(signing, data collection, monitoring)		=	$ 10,000
Acquisition:			
Purchase or exchange of private land at $350./acre		=	$522,830
Administrative cost of split-estate acquisition		=	$ 5,280*
Total		=	$625,710

* **The administrative cost of split-estate acquisition includes preparation of a mineral report by Bureau of Land Management staff. At this time, cost for the actual mineral estate cannot be determined because each parcel's mineral value is unknown without the detailed mineral report.**

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel.

Scenic values will continue to be managed under the existing Visual Resource Management guidelines for Class II, and Wilderness Study Areas will continue to be managed to protect their wilderness values until Congress makes a decision on wilderness designation.

Even though the area is not recommended by the Bureau of Land Management for designation as wilderness, this does not mean that Congress will not decide to designate this area as part of the national wilderness system.

All sensitive species within the river corridor will be managed or action mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 11.9-mile segment of the Big Trout Creek, on public land, which includes the East Fork tributary, is "not suitable" for inclusion in the National Wild and Scenic River system.

The area has a large amount of private land, primarily in the form of 40-acre parcels, scattered within the bottom of the river corridor. Manageability would be very difficult due to the broken ownership.

WILD AND SCENIC RIVER SUITABILITY EVALUATION
BIG ALVORD CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The outstandingly remarkable value identified for this stream is the diversity and excellent condition of riparian and wildlife habitat found in Big Alvord Creek, especially the upper elevation.

The outstandingly remarkable values discussed make Big Alvord Creek a potential addition to the National Wild and Scenic River system. The excellent condition riparian and upland vegetation is similar to other drainage on the East Steens, but the diversity here is greater.

This drainage is one of nine streams in the Alvord Basin which provided habitat for a transplanted population of Lahontan cutthroat trout, a Federally listed fish species. Populations of this fish in the Alvord Basin are addressed in the Recovery Plan for the species as being important as a source for possible reintroduction of the species into streams in the Coyote-Willow-Whitehorse basin from which the original transplants came. The fish in Big Alvord Creek, however, are not native to the stream, so the effects of the introduction of the species on what was the native aquatic fauna are not known. It is not known if the fish are still present in the stream and an intensive examination has not been done. Even if the fish are present, the stream may not provide sufficient habitat for a long-term reliable source for future reintroduction.

With a Wild and Scenic River designation, it is possible that the management of activities that can affect the outstandingly remarkable values, may have fewer options. Livestock grazing for cattle may be eliminated if this system was designated. Designation may also draw more people to the area, causing increased use of the area for recreation.

The lower portion of this drainage, west of the county road, is private property. There is no public access from the county road to the Bureau of Land Management lands. Manageability problems will occur, if the segment is added to the system. Recreationists will have to find other ways around the private property to gain access to Big Alvord Creek.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 6.3 miles of Big Alvord Creek. The lower reach of the stream is on private land owned by Alvord Ranch.

Land in the Big Alvord Creek drainage is used for wildlife habitat, recreation, and livestock grazing. This drainage has a high wildlife habitat diversity and the riparian habitat is in excellent condition. It is a steep, rough, and rocky drainage that drops about 5,000 feet within three horizontal miles. Wildlife using the area include California bighorn sheep, deer, chukar, quail, pikas, and many other birds and mammals. Bighorn sheep may be viewed within the canyon all year. Raptors nest in the cliffs and rims, and deer occupy the area during both summer and winter. Deer use is often heavy in the winter as snow forces them to move to lower elevations. Chukars are abundant on the steep, lower slopes and valley quail are found along the riparian areas and in the lower uplands. Pikas are found in the upper elevation talus slopes.

The vegetation in the drainage is diverse and in excellent condition. Plant communities include upper cirque communities, alpine areas, rocky rims and slopes, black cottonwood, alder, dogwood and willow riparian areas, bluebunch wheatgrass slopes, Idaho fescue slopes, mountain mahogany, and aspen patches.

The public land within the drainage is part of the High Steens Wilderness Study Area, the Steens Mountain Area of Critical Environmental Concern for scenic values, and the potential Big Alvord Creek Research Natural Area for special plant communities.

The Big Alvord drainage is within the Alvord grazing allotment, but only the lowest reaches can be grazed by livestock due to steep topography.

The geology of this area is similar to other creeks in this region. The drainage contains glacial cirques, moraines, remnants of lava flows, and a large alluvial fan.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If the Big Alvord Creek drainage is designated as a Wild or Scenic River, the management for most activities would be similiar to the present situation, but could be curtailed if there are impacts to the outstandingly remarkable values. Livestock grazing could be eliminated due to the designation of the stream into the Wild and Scenic River system. Recreational use would continue at the current level, until such a time that it was determined that impacts were occurring from overuse of the river corridor.

Many parts of Steens Mountain could end up having one special designation stacked on top of another. The Big Alvord Creek drainage is proposed to become an Area of Critical Environmental Concern for the excellent condition vegetation resources. It is also part of an existing Area of Critical Environmental Concern for scenic qualities and is also recommended to be designated as wilderness.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The basic objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ $3,700	=	$66,600
Management and Support	4 people for 1 WM @ $4,000	=	$16,000
Miscellaneous		=	$ 5,000
Subtotal		=	$87,600

Annual Management:

(signing, data collection, monitoring)	=	$10,000

Acquisition:

Purchase or exchange of private land	=	NA
Administrative cost of split-estate acquisition	=	NA
Total	=	$97,600

No State or local agency has come forward and stated that they would be willing to share in the cost of administering this river segment, should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel. The Big Alvord Creek drainage is currently within the High Steens Wilderness Study Area and is also being managed to protect these values until Congress makes a determination on wilderness designation.

The overall condition of the watershed and the riparian area is being managed in compliance with the Endangered Species Act Section 7 Biological Opinion for the Lahontan cutthroat trout, the Bureaus policies for riparian areas and the Terms and Conditions of the grazing permit consistent with the Biological Opinion.

Other sensitive species will be managed or actions mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species.

The outstandingly remarkable values within this drainage can be protected without the Wild and Scenic designation because of existing management, and also because the majority of the stream is inaccessible to most types of disturbances.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 6.3 miles of Big Alvord Creek is "not suitable" for inclusion in the National Wild and Scenic River system. The presence of the Federally listed trout, the Wilderness Study Area status, the location and topography of the drainage along the east face of the Steens, the continued Bureau of Land Management riparian management policies will provide the same level of protection for the two outstandingly remarkable values, as would protection under the Wild and Scenic Rivers Act.

Public access from the county road is not available to the public, and offers no legal access for visitor use.

WILD AND SCENIC RIVER SUITABILITY EVALUATION
HOME CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

Fisheries, scenic quality, and recreation are the outstandingly remarkable values identified for Home Creek. Home Creek is one of only three streams that provide habitat for the Catlow Valley redband trout, one of two native fish species of the Catlow Valley. Recently, a fourth stream has apparently lost its redband trout population. The limited and possibly diminishing distribution of the Catlow Valley redband trout would make Home Creek a potential for designation, because it offers the most habitat for this species. The stream historically, but no longer, contains the other native fish species, the Catlow tui chub.

Management for the protection of the stream habitat, however, is complicated by the landownership pattern. The Bureau of Land Management manages less than half of the corridor and less than half of the stream length. Most of the upper watershed is privately owned. Any adverse impacts to the condition of the watershed in this upper area can affect the downstream portion. Management to prevent such threats and to improve the overall condition of the stream is dependent upon cooperative and adaptive management with the private landowner, through the South Steens Allotment Management Plan.

With a Wild and Scenic River designation, it is possible that management of activities that can affect the outstandingly remarkable values may have fewer options. For example, livestock grazing for cattle may be eliminated due to designation.

If the stream continues to be open for angling, designation may draw more anglers to the area, increase angling pressure, and possibly impact the Catlow redband trout population.

Management as a Wild and Scenic River would be difficult due to the large size of the pastures in which it is situated, the amount of private land in the watershed, and the free-roaming nature of the wild horse herd in the area.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 5.7 stream miles (2,096 acres), which is 38.5 percent of the 14.8 stream length (4,615 acres). The remaining 9.1 miles of stream are on private land. All three tributaries of Home Creek in the headwaters are located on private property. The upper two-thirds of the creek is located on private property, while the lower one-third is public

land. The lower one-third portion of the creek flows through a deep basalt canyon, terminating in Catlow Valley.

Home Creek begins on a plateau, before cutting down through a canyon that exhibits Steens Basalt lava flows within its walls. There is a linear plateau lying parallel to and northeast of Home Creek, consisting of sediments capped by the Devine Canyon Ash-Flow Tuff. The location and orientation of the plateau suggests that the tuff was deposited in an ancient drainage that had the same trend as the current drainage. It is common to see similar linear plateaus paralleling present-day drainages on the west slope of Steens Mountain. The present amount of stream flow in the creek is undersized for the size of the canyon that it flows through, indicating that the canyon was downcut by the creek mostly during the wetter Late Pleistocene, common for this geographic region. At the mouth of Home Creek Canyon, there is a curved deposit of alluvium that may either be a delta that formed during the time of pluvial Catlow Lake or it may be recent faulting of a shoreline wave-cut terrace formed by pluvial Catlow Lake. Neither feature is unique to this geographic region.

The lower portion of Home Creek flows through a rough, rocky canyon with 300 to 1,300-foot canyon walls and has a high habitat diversity in excellent riparian condition. California bighorn sheep use the lower canyon yearlong, and mule deer use it in winter. Steep canyon walls provide good nesting sites for raptors. The lower canyon is excellent habitat for chukar and valley quail. The lower reach of the stream is in a naturally vegetated state due to the inaccessibility of the area to livestock and wild horses. Above Home Creek Canyon, the habitat on public land has a low diversity, the condition is poor, and woody riparian species are absent or sparse. This is partly due to livestock and wild horse grazing, but is expected to improve under a recently implemented Allotment Management Plan. Mule deer summer at the upper elevations, and some antelope summer use also occurs. Sage grouse use the mid- and upper portions spring through fall. The Federally endangered American peregrine falcon and the Federally threatened northern bald eagle are documented migrants for the area. Bureau sensitive species that are found or possibly found are ferruginous hawk, western sage grouse, California bighorn sheep, Townsend's big-eared bat, and Preble's shrew. Other Special Status species that are found or possibly occur are Swainson's hawk, merlin, yellow-billed cuckoo, bank swallow, mountain bluebird, western bluebird, loggerhead shrike, bobolink, and northern sagebrush lizard.

Home Creek has provided habitat for the Catlow redband trout and Catlow tui chub, both Bureau sensitive species and endemic to the Catlow Valley. Home Creek is one of only four streams in the valley that historically provided habitat for these species, only three of which still provide habitat for the Catlow redband trout. No exotic fish species are in the system. Part of the stream reaches on public land provide good quality redband trout habitat, associated with excellent riparian conditions. The upper reaches, which are privately owned, do not provide good quality fish habitat and can affect the lower reaches; however, they are managed as part of a public grazing allotment and have the potential for improvement.

Surveys in 1974, 1994, and 1995 indicate that the Catlow tui chub is not in Home Creek. However, it is possible that the tui chub was never abundant in the system because of the steep gradient in its lower reaches.

The botanical resources indigenous to Home Creek are not remarkable or unique to the area.

Prehistoric cultural sites are known to occur within this drainage None have rare, unusual characteristics or exceptional human interest value No historic sites have been recorded for this drainage.

From a scenic and recreation perspective, Home Creek, compared to the other creeks in the immediate area, offers diversity Home Creek Canyon cuts into the plateau with a depth of 300 to 1,300 feet for over 2.5 miles With sheer rock walls, the canyon rises 1,300 feet in about 0.25-mile The remaining 13.5 miles of Home Creek and associated tributaries are in a fairly shallow canyon just over 100 feet in depth The variety of landforms and color, scenic views of the canyon, and its impressive size contribute to the high quality of the scenery Compared to other streams in the broader area, such as the larger Donner und Blitzen National Wild and Scenic River, Home Creek is not considered as spectacular.

Recreation opportunities are accessible, but challenging Primitive recreation, such as hiking, hunting, and fishing are available to those willing to dare the steep, rocky terrain The length of the canyon and its ruggedness and steepness would be a challenge to the hiker and of interest to a backpacker Hunting occurs in the area as a whole, and to some degree in Home Creek, although this is limited due to the extremely rugged terrain Fishing for inland redband trout occurs.

The public and private portions of the corridor are managed for livestock grazing as part of the 332,400-acre South Steens Allotment, which has an Allotment Management Plan. It is also part of the active Herd Management Area of the South Steens Wild Horse Herd Area. The corridor lies within the Home Creek Wilderness Study Area, but only the Federal portion falls within the area the Bureau of Land Management recommended as suitable for wilderness designation.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If Home Creek is designated as a Wild and Scenic River, the management for most activities would be similiar to the present situation, but could be curtailed if there are impacts to the outstandingly remarkable values. The Catlow redband trout would be managed and protected under the Bureau of Land Management's policy to manage sensitive species in such a manner as to conserve the species.

Livestock grazing, which includes cattle and wild horses, could be eliminated due to designation.

Until such time as Congress determines wilderness designation, the area would continue to be managed to protect those values. Recreation use would continue at its current level, until such a time that it was determined that impacts were occurring from overuse of the river corridor.

Designation as a scenic river, would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other streambank modifications along the river. There are currently no known applications for such stream modifications. No management activities that could adversely affect the fish habitat or free-flowing character of the river would be allowed on public land.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The basic objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ $3,700	=	$ 66,600
Management and Support	4 people for 1 WM @ $4,000	=	$ 16,000
Miscellaneous		=	$ 5,000
Subtotal			$ 87,600

Annual Management:

(signing, data collection monitoring)	=	$ 10,000

Acquisition:

Purchase or exchange of private land, estimated at $225./acre	=	$556,707
Administrative cost of split-estate	=	NA
Total	=	$654,307

No State or local agency has come forward and stated that they would be willing to share in the cost of administering this river segment, should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel. The Home Creek drainage is currently within the Home Creek Wilderness Study Area and is being managed to protect wilderness values until Congress makes a determination on wilderness designation.

The Catlow redband trout are currently being managed as a sensitive species. All sensitive species will be managed or actions mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species.

The South Steens Allotment Management Plan currently outlines the management of livestock, including cattle and wild horses. The Allotment Management Plan describes the present conditions for riparian, aquatic habitat, and upland, and outlines how this area will be monitored on a yearly basis.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 5.7 miles of Home Creek that is on public land is "not suitable" for inclusion in the National Wild and Scenic River system. The presence of the Catlow redband trout, is currently being managed as a sensitive species. The amount of private land within the system would make it difficult to manage.

The continued Bureau of Land Management policies, as described previously, will provide the same level of protection for the three listed outstandingly remarkable values for this stream, as would protection under the Wild and Scenic Rivers Act.

WILD AND SCENIC RIVER SUITABILITY EVALUATION
MCCOY CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The diversity of wildlife habitat is the outstandingly remarkable value identified on public land, within the river corridor, and could contribute to the designation of a Wild and Scenic River. McCoy Creek is a free-flowing stream that has a high diversity of wildlife habitat including subalpine, meadows, springs, beaver dams, black cottonwoods, aspen, willows, cliffs, and talus slopes.

With a Wild and Scenic designation, it is possible that the management of activities that can affect the outstandingly remarkable value may have fewer options. For example, livestock grazing for cattle may be eliminated if this system is designated.

The stream segment would be difficult to manage due to the broken ownership, and the amount of private land that is found throughout the system.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 18.2 miles of McCoy Creek, while approximately 12.6 miles are private property. Approximately 5,238.1 acres of public land are within the river corridor, while 3,161.4 acres are private land. Landownership is broken throughout the system, with the majority of Bureau of Land Management land being in the headwaters of the system. This segment runs through approximately one section of split-estate land (State owns the minerals).

The geologic values of McCoy Creek are similar to other streams on Steens Mountain. McCoy Creek, like Kiger and Cucamonga Creeks, is north-flowing and is probably located along faults with at least minor displacement. The cap of ice that extended down to about 6,000 feet elevation during the Fish Lake advance of the Pleistocene glaciation on the Steens, moved downslope at right angles (westward) over the north-flowing McCoy Creek.

Later, during the Blitzen glacial advance, ice moved from the southern highlands and flowed northward along McCoy Creek for about 3 miles to about 6,760 feet elevation. Here the creek's

cross-section shows an abrupt transition from U-shaped (glacially carved) to V-shaped (stream erosion). Lateral and ground moraines were locally deposited by the glacier. Steens Basalt lava flows are exposed in the canyon walls.

Steens Mountain, which includes the McCoy Creek drainage, falls within the Bureau of Land Management Visual Resource Management Class II. The objective of this class is to maintain the existing character of the landscape.

There are many opportunities for primitive types of recreation such as hunting, hiking, horseback riding, and fishing, but none of these are considered exceptional or unusual. The view from above the canyon is scenic, but similar to other views in this area.

McCoy Creek is within the Chimney grazing allotment and is currently divided into three pastures.

Inland redband trout, a sensitive species, is found throughout McCoy Creek and its tributaries. Nineteen sensitive species including the Malheur mottled sculpin, Steens Mountain carabid beetle, and Preble's shrew may be found in the area.

Bald eagle, a threatened species, winter in the lower reaches of McCoy Creek, while the American peregrine falcon, an endangered species, are migrants that use the area during spring and fall.

The Special Status plant, Castilleja pilosa v. Steenensis, is present at upper elevations on the ridge.

The variety of plant communities and geomorphic features provides summer habitat for an excellent diversity of wildlife species including mule deer and Rocky Mountain elk; cavity-nesting species in the black cottonwoods, western junipers, and aspens; black rosy finch (a rare species on public land); and sage grouse (a sensitive species) summering in the subalpine. Raptors nest in cliffs along the canyon.

The remaining botanical resources, within the McCoy Creek system, are interesting, but not unique to the area.

No archaeological inventory has been completed for the area, nor are significant historic values known to occur. One prehistoric site is located in the area and offers possibility for study or interpretation.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

Designation as a scenic river area would allow continuation of existing management for most activities, but could be curtailed if they impact the outstandingly remarkable value. As mentioned, livestock grazing could be eliminated due to designation. Recreation use would continue at the current level, until such a time that it was determined that impacts were occurring from overuse of the river corridor.

Scenic designation would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other major streambank modifications along the river. Currently, there are no known applications for such stream modifications.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal river designation is to maintain the river's existing condition, and to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ $3,700	=	$ 66,000
Management and Support	4 people for 1 WM @ $4,000	=	$ 16,000
Miscellaneous		=	$ 5,000
Subtotal		=	$ 87,600

Annual Management:

(signing, data collection, monitoring)	=	$ 10,000

Acquisition:

Purchase or exchange or private land, estimated at $300./acre	=	$ 949,320
Administrative cost of split-estate acquisition	=	$ 5,280*
Total	=	$1,052,200

* **The administrative cost of split-estate acquisitions includes preparation of a mineral report by Bureau of Land Management staff. At this time, cost for the actual mineral estate cannot be determined because each parcel's mineral value is unknown without the detailed mineral report**.

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment, should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitizen National Wild and Scenic River, with experienced personnel. If McCoy Creek was added to the National Wild and Scenic River system, the Bureau of Land Management would continue to manage the land and resources in the river corridor.

Portions of McCoy Creek are within the High Steens Wilderness Study Area and are being managed to protect wilderness values until Congress makes a determination on wilderness designation.

All sensitive species will be managed or actions mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species. Whether or not the stream receives designation, the inland redband trout and the Malheur mottled sculpin would be managed and protected through application of Bureau of Land Management policy. Recreation use will continue at the current level until such a time that the use will impact the outstandingly remarkable value, within the McCoy Creek system.

Historic and Existing Use

There are no known historic or existing rights within the studied portions of the creek. The Bureau of Land Management would negotiate with the State of Oregon to seek fee title acquisition or exchange of the split-estate land.

Suitability Determination

The 18.2-mile segment of McCoy Creek, which is located on public land, is "not suitable" for inclusion in the National Wild and Scenic River system. The broken landownership (12.6 miles being private) would make it very difficult to manage. It is felt that the outstandingly remarkable values listed for McCoy Creek, are currently being protected under existing management.

The inland redband trout and the Malheur mottled sculpin will continue to be managed as sensitive species. All of the combined management activities for McCoy Creek, as previously described, will offer the same protection as found under the Wild and Scenic Rivers Act.

WILD AND SCENIC RIVER SUITABILITY EVALUATION
MUD CREEK

Characteristics Which do or Do Not Make the Area a Worthy Addition to the System

The botanical values have been identified as the outstandingly remarkable value within the river corridor. An isolated patch of white fir, approximately 15 acres, is located along Little Fir Creek, which is a tributary of Mud Creek.

An error in the inventory shows that the tributaries of Mud Creek, within the headwaters, should not have been inventoried due to the amount of private land. These tributaries include Fence, Big, and Little Fir Creeks. The inventory was to start below the confluences of these tributaries, to the Malheur National Wildlife Refuge boundary, a total of 7.2 miles. The isolated patch of white fir is located outside the inventoried stretch, in Little Fir Creek.

With a Wild and Scenic River designation, it is possible that the management activities that can affect the outstandingly remarkable values may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, which could have an impact on the area.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 7.2 miles of the lower reaches of Mud Creek. Approximately 2,133 acres of public land are within the river corridor. There is no private land within the lower reach. All the private land is located in the tributaries as described above.

The Steens Mountain fault-block tilts westward, forming a gentle western flank that extends upward from the Blitzen and Catlow Valleys for a distance of approximately 20 miles to the mountain crest. Mud Creek is incised into this western flank, exposing flows of Steens Basalt that are individually 10-30 feet thick and may be separated by soil horizons that developed by weathering during lulls in volcanic activity. The total thickness of the Steens Basalt flows is around 4,000 feet, but the creek walls expose no more than 400 feet maximum in any one stretch of this drainage. Parallel to the drainage are low mesas capped by ash-flowed tuff. During glaciation on Steens Mountain, less than 1-million years ago, an ice field called the Fish Lake Advance extended from the mountain crest westward almost 10 miles. The edge of the maximum extent of this ice field was at approximately 6,000 feet elevation, which is near the confluence of Fir and Fence Creeks. Land above this elevation may be hummocky and contain glacial erratics and kettle holes.

Steens Mountain, which includes the Mud Creek drainage, falls within the Bureau of Land Management Visual Resource Management Class II. The objective of this class is to maintain the existing character of the landscape.

Recreational use within the river corridor is primitive in nature such as hiking, backpacking, hunting, fishing, and sightseeing. Portions of Mud Creek are also part of the Bridge Creek Wilderness Study Area.

Livestock grazing does occur and is within the Mud Creek Allotment. The lower 50 yards of Mud Creek are used as a watering gap for livestock, while the rest of the drainage is within an exclosure.

Mud Creek contains inland redband trout and Malheur mottled sculpin, both Bureau of Land Management sensitive species. The stream also contains the other native fish species of the Malheur Lake basin.

Raptors nest along the steep canyon walls of Mud Creek Canyon. The upper portions of the area provide summer habitat for mule deer and Rocky Mountain elk. Mule deer make heavy use of the area during normal winters, but most of their use is outside the canyon. Wintering elk also make some use of the area.

Spotted frogs, a Federal candidate for Threatened and Endangered species, have been found in Mud Creek.

Chukars and valley quail are found in the area. Bald eagles, a Threatened species, make occasional use during the winter.

The botanical values were identified as outstandingly remarkable, because of the isolated groves of white fir found at the confluence of Little Fir Creek, is outside the inventoried section for Mud Creek.

The remaining botanical resources on public land, within the Mud Creek system, are not remarkable or unique to the area.

No archaeological inventory has been completed, nor are historic or prehistoric values of any significance known to occur within this area.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a scenic river, management for most activities would be similar to the present situation, but could be curtailed if there are impacts to the system.

Recreation use would continue at the current level, until such a time that it was determined impacts were occurring from overuse of the river corridor. Livestock grazing is currently managed under the Mud Creek Allotment Management Plan, but could be eliminated due to designation. Wilderness Study Areas, fish and wildlife habitat would be maintained or possibly enhanced through long-term protection under the Wild and Scenic Rivers Act.

Scenic designation would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other major streambank modifications along the river. Currently, there are no known applications for such stream modifications.

Groups, Individuals or Other Agencies' Interest in designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended river. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ $3,700	=	$66,600
Management and Support	4 people for 1 WM @ $4,000	=	$16,000
Miscellaneous		=	$ 5,000
Subtotal		=	$87,600

Annual Management:

(signing, data collection, monitoring)	=	$10,000

Acquisition:

Purchase or exchange of private land	=	NA
Administrative cost of split-estate acquisition	=	NA
Total	=	$97,600

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel. Mud Creek is within the Bridge Creek Wilderness Study Area, and is being managed to protect wilderness values until Congress makes a determination on wilderness designation.

All sensitive species will be managed or actions mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species. Whether or not the stream receives Wild and Scenic designation**,** the inland redband trout and Malheur mottled sculpin would be managed and protected through application of Bureau of Land Management policies.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the 7.2-mile segment of Mud Creek is "not suitable" for inclusion in the National Wild and Scenic River system. An error was made in the inventory. The botanical outstandingly remarkable value, which describes the isolated patch of white fir, is located outside the segment of Mud Creek that has been inventoried.

The 7.2 mile stretch of Mud Creek has significant botanical values, which are common to the area. There are no outstandingly remarkable values for Mud Creek.

WILD AND SCENIC RIVER SUITABILITY EVALUATION
PIKE CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

Wildlife habitat diversity is the outstandingly remarkable value identified within the river corridor, and could contribute to the designation of a Wild and Scenic River. The excellent condition of riparian and upland vegetation is similar to other drainages located on the east side of Steens Mountain.

This drainage is one of nine streams in the Alvord Basin which provided habitat for a transplanted population of Lahontan cutthroat trout, a Federally listed fish species. Populations of this fish in the Alvord Basin are addressed in the Recovery Plan for the species as being important as a source for possible reintroduction of the species into streams in the Coyote-Willow-Whitehorse basin from which the original transplants came. The fish in Pike Creek are not native to the stream, so the effects of the introduction of the species on what is the native aquatic fauna are not known.

With a Wild and Scenic River designation, it is possible that the management activities that could impact the outstandingly remarkable values, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, causing increased recreation.

The lower portion of this segment, west of the county road, is private property. There is no legal public access to the Bureau of Land Management land from the county road. At the present time, this is one place that the Alvord Ranch is allowing the public to access a favorite camping site located on Bureau of Land Management land next to Pike Creek, however, this privilege could be denied at any time.

Landownership Status and Current Management and Uses

The Bureau of Land Management administers approximately 4.17 miles of Pike Creek. This land is all west of the county road and does not include the private property.

Land in the Pike Creek drainage is used for livestock grazing, recreation, and as wildlife habitat.

Pike Creek contains geologic values similar to other creeks in this region. Above about 6,400 feet elevation the drainage exposes lava flows and feeder dikes of the Steens Basalt with glacial cirques in the headwaters. Between 6,400 and 6,000 feet elevation are andesitic lava flows and pyroclastic rocks of the Steens Mountain Volcanics. Between 6,000 and 4,800 feet elevation are exposures of rhyolitic to dacitic lava flows and domes and minor tuffaceous sediments of the Pike Creek Formation. Between 4,800 feet and 4,400 feet, the creek is in exposures of tuffaceous sediments of the Alvord Creek Formation. Below this, the creek is in landslide deposits and alluvial fan deposits to the valley floor.

The area is within the High Steens Wilderness Study Area and is being managed to protect wilderness values until Congress makes a determination. It is also within a Visual Resource Management Class II. The objective of this class is to maintain the existing character of the landscape.

Portions of Pike Creek are also within the Steens Summit Scenic Area of Critical Environmental Concern which includes 50,500 acres of the upper elevations of Steens.

Pike Creek is a free-flowing stream that has a high diversity of wildlife habitat including subalpine, meadows, springs, narrowleaf cottonwoods, willows, cliffs, and talus. This variety of plant communities and geomorphic features provides habitat for an excellent diversity of wildlife species. California bighorn sheep use the area yearlong. Heavy use by wintering mule deer occurs at lower elevations. Cavity nesting species use cottonwoods and western junipers. Raptors, including golden eagles and prairie falcon, nest in abundant cliffs. Chukar are common. Pika may be found at upper elevation talus slopes. Sixteen sensitive wildlife species may be found using the area including three Federally listed species. Bald eagle (Federal threatened) and American peregrine falcon (Federal endangered) are migrants that use the area, but sightings are uncommon.

Sensitive species include loggerhead shrike, yellow-billed cuckoo, ferruginous hawk, and others.

The stream contains Lahontan cutthroat trout as described earlier. This lower reach of Pike Creek was burned by wildfire in 1992, reducing the density and height of woody riparian species. Habitat of Lahontan cutthroat trout is of high quality, but is limited due to the small stream size and steep gradient.

There are no sensitive plant species identified in the area, but narrowleaf cottonwoods are rare in southeast Oregon.
One prehistoric archaeological site is located within the corridor, but it is not considered to be rare, and quite common to the area.

Most of Pike Creek has had considerable exploration for uranium and mercury with no recorded production. There are at least two prospect tunnels and about 1,000 feet of bulldozer cuts in addition to a road that extends about a mile up the canyon. The old road is mostly more than 50 feet above the creek and is not accessible beyond the canyon mouth. It probably once extended the entire length of the canyon but has since been obliterated by landslides and rockfalls.

Recreation use includes car camping, rockhounding, and hunting. Day hiking and backpacking are available, but limited opportunities are available compared to other places in the area. Angling is currently not permitted by the State in order to protect the Lahontan cutthroat trout.

Pike Creek is part of the Alvord Allotment which is grazed by cattle in the spring. The lower five percent is grazed while the upper portion is not used due to steep, rocky slopes.

Reasonably Foreseeable Uses of Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a Wild and Scenic River, the management would be similiar to the present situation, unless there are impacts to the outstandingly remarkable values. Livestock grazing could be eliminated due to designation. Recreational use would continue at the current level, until such a time that it was determined that impacts were occurring from overuse of the river corridor.

Until such time as Congress determines wilderness designation, the area would continue to be managed to protect those values.

Designation as a scenic river would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other streambank modifications. No management activities that could adversely affect the fish habitat or free-flowing character of the river would be allowed on public land.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River**.** They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ $3,700	=	$66,600
Management and Support	4 people for 1 WM @ $4,000	=	$16,000
Miscellaneous		=	$ 5,000
Subtotal		=	$87,600

Annual Management:

(signing, data collection, monitoring)	=	$10,000

Acquisition:

Purchase or exchange of private land	=	NA
Administrative cost of split-estate acquisition	=	NA
Total	=	$97,600

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel.

Whether or not the system becomes designated, the overall watershed and the riparian area would be managed in compliance with the Biological Opinion to protect the habitat of the Lahontan cutthroat trout under Section 7 of the Endangered Species Act.

Other sensitive species will also be managed or actions mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species.

Historic and Exciting Rights

There are no known historic or existing rights within the studied portions of the creek. Historic mining has occurred in the past, as described earlier, but no valid mining claims are known to exist.

Suitability Determination

The Bureau of Land Management has determined that the eligible 4.2-mile segment of Pike Creek is "not suitable" for inclusion in the National Wild and Scenic River system.

The scars left from the exploration of minerals detract from the character of the stream. They include the old road, prospect tunnels, and disturbances from bulldozer work.

The issue with public access is uncertain. As mentioned, no legal access exists from the county road. Visitors to the area will have to find other ways to enjoy the recreational values of Pike Creek.

The presence of the Federally listed trout, the Wilderness Study Area status, the similarity of the adjacent streams along the east face of the Steens, the continued Bureau of Land Management riparian management policies will provide the same level of protection for the outstandingly remarkable value, as would designation under the Wild and Scenic Rivers Act.

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Appendix O - Effects of Intensity and Season of Grazing

Introduction

Livestock impacts to vegetation resources, both negative and positive, occur due to defoliation and browsing, as well as the physical impacts associated with the presence of livestock. Although livestock grazing in desert steppe communities is seldom necessary to meet vegetation management objectives, negative impacts can be maintained within acceptable limits with implementation of appropriate management actions. Many successful livestock grazing strategies have been developed to achieve specific ecological or management objectives. The effectiveness of meeting objectives when implementing a given strategy depends on a number of factors including the associated resource values present, ecological characteristics present, physical characteristics present, and livestock management practices (Cook 1971; Heady 1975; Lacock and Conrad 1981; Holochek et al. 1989). General trends may hold true in the relative effectiveness of different grazing strategies to meet specific management objectives, but site-specific strategies are required to integrate the interactions of unique features present within a pasture. Though the ecological consequences of implementing a given grazing strategy occur at the pasture level or smaller, livestock operations dependent on public land forage resources require grazing schedules which support animals on public and private land throughout the year.

The consequences of short-term impacts of livestock use, both in upland and riparian communities, are related to the season in which livestock graze a vegetation community as well as the intensity and duration of use in a given year. Long-term consequences result from the sequence of annual use a vegetation resource receives, the severity of use, the competitive response of individual vegetation species to selective grazing or browsing by herbivores, and the resultant changes to community composition. Season and intensity of livestock grazing use in riparian communities, as well as in upland communities, has been found by a number of authors to affect riparian function and the attainment of other riparian-related objectives (Elmore 1991; Elmore and Kauffman 1993; Chapman 1987; Belsky et al. 1997; Kinch 1989; Myers 1987; and Platts 1989). Periodic opportunities for recovery of health and vigor and for recruitment of new individuals into upland and riparian communities are also required to maintain or improve vegetation conditions for the amenity values of current and potential vegetation resources as well as commodity production.

Intensity of Use

Short-term impacts to vegetation resources are the result of the combined utilization levels, the season of use, and the duration of use. For the purposes of analysis, light utilization is defined as up to 40 percent, moderate utilization is defined as from 41 to 60 percent, and heavy utilization is defined as 61 percent and greater. Generally, the vigor of key herbaceous species can be sustained with light and moderate utilization, while heavy utilization reduces photosynthetic tissue below levels needed to maintain root reserves, diminishing the vigor of key species. However, the timing of grazing use relative to plant phenology and the occurrence of repeat grazing are usually considered more important factors affecting the health and vigor of key species as well as changes to vegetation community composition. Light and moderate utilization during periods when plants are withdrawing reserves from roots for growth, during regrowth, or during seed formation will impact herbaceous species greater than the same level of utilization during periods when the plant is not actively growing. Additionally, the composition of a vegetation community, as it relates to the relative palatability of species present, will affect measured utilization. Long-term impacts of moderate to heavy utilization will also be dependent on the individual species' ability to maintain health and vigor and remain competitive with livestock use. Though stocking rates are established to limit utilization to light or moderate levels, factors affecting livestock distribution will cause some areas where animals tend to concentrate to be utilized heavy while other areas remain unused or only slightly used.

The intensity of livestock use will also affect other resource values, as well as the ability to meet management objectives as a result of standing vegetation material and ground cover remaining after use. As utilization levels are increased, canopy cover of grazed and browsed plants declines. Additionally, deposition of protective plant litter to the soil surface and incorporation of litter into the soil is decreased. As a result, increased utilization can reduce cover of bare ground by vegetation material and litter, increase puddling of

clay soils by raindrop impact, reduce rates of infiltration of precipitation, and reduce permeability and moisture storage of soils. Excessive utilization levels can contribute to increased overland flow of precipitation and snowmelt, soil erosion, siltation of streams, and a decline in surface water quality affecting beneficial uses.

Season of Use

Livestock impacts to public land resources are dependent on the season of use as it relates to timing of grazing during the growth cycle of plants, spacial and seasonal conflicts with annual life cycles of wildlife species, physical condition of resources, and other factors. All dates referenced are approximations dependent on elevation and climatic conditions and need to be interpolated on a site-specific basis. Analyzed seasons overlap due to variation in the growing conditions between years and a lack of clear seasonal divisions in anticipated impacts to existing or potential resource values. Thus, impacts resulting from livestock use early or late during any season may also be accurately defined by described impacts during the proximate season based on those variables.

Winter (November 1 to March 15)

Upland herbaceous plants are mostly dormant during the winter season of use with the exception of some photosynthesis by new growth after fall and winter precipitation and during warming weather trends, primarily on south exposed slopes. Forage quality of cured standing herbaceous vegetation is moderate to low, improving when mixed with new growth or browse from palatable shrubs. Light to moderate utilization of standing cured herbaceous vegetation is not detrimental to health and vigor of plants. Light to moderate defoliation of new growth usually is not detrimental to maintenance of health and vigor of herbaceous species since soil moisture will be available for spring and early summer growth, regrowth, and completion of the annual cycle prior to soil moisture depletion. Grazing of fall sprouting annual species may reduce competition with desirable perennial herbaceous species during the following growing season. Light to moderate utilization levels will retain adequate standing material and litter for soil protection from wind erosion, rainfall impact, and late winter and spring runoff. Heavy utilization levels will expose the soil surface to these negative impacts, especially on sites with marginal potential to produce a reasonable vegetation cover and in years with limited growth of protective vegetation cover. The potential for repeated grazing of localized areas, resulting in heavy utilization, is present with severe weather conditions and snow accumulation reducing livestock distribution. Negative impacts intensify on palatable shrub species when snow accumulation makes herbaceous species unavailable. Livestock management actions to maintain animal distribution are oftentimes limited by weather and accessibility.

Winter use is usually the least detrimental to soils and to dormant riparian herbaceous and woody vegetation. Herbaceous riparian species are mostly dormant in this season with some active photosynthesis occurring during warming trends when plants are free of snow and ice cover. During these fair weather periods, dormant woody riparian species may be used to some degree; therefore, may be subject to live twig growth being removed. Riparian communities tend not to be used by livestock during moderate weather conditions where cold air drainage settles into low-lying areas throughout the majority of the winter. Dramatic recovery rates have occurred in riparian areas when cold drainage patterns and/or the availability of alternate livestock water keep livestock away from streams. Where winter temperatures are moderate and cold air does not settle into low-lying areas, dormant woody riparian species can be negatively affected by browsing or trampling when livestock movement is restricted. The potential for livestock to concentrate in riparian communities to avoid severe weather conditions and attempt to drift to base property feeding grounds requires a high level of livestock management activity to avoid negative impacts to riparian vegetation resources at a time when access to public land is limited. Winter use provides rest during the growing period every year, promotes plant vigor, seed and root production, and seedling establishment. It may be the period of greatest use of browse species by both livestock and wildlife depending on temperatures, snow depth and duration, availability of other feed, animal concentration, forage/browse preference, and the extent of the woody plant community. A full understanding of expected livestock use patterns is necessary using this strategy or land use objectives

may not be achieved. Utilization levels of herbaceous riparian species should be limited to maintain adequate material on streambanks and floodplains for protection during late winter and spring runoff. Heavy grazing during the winter can eliminate the streambank vegetation mat needed to prevent soil erosion from winter and spring floods or ice events. Throughout the winter, frozen soil and streambanks are more resilient to mechanical damage thereby minimizing streambank shear, thus resulting in little bank damage.

Areas suitable for winter grazing by livestock are, at times, also prime winter range for native large herbivores. Spacial conflicts for habitat and conflicts for limited forage are more common than at other times of the year. With snow cover of herbaceous species, livestock browse of shrub species may remove a valuable winter source of feed for wild herbivores. Viability of mountain shrub species as well as aspen recruitment may be jeopardized with winter use of these vegetation communities by livestock.

Spring (March 1 to April 30)

Early growth of herbaceous species, primarily cool season species, occurs with rising soil temperatures. Minimal impacts to plant vigor and health occur with light to moderate utilization of early growth when adequate soil moisture is available for regrowth and completion of the annual growth cycle. Moderate utilization, in years with minimal soil moisture available for regrowth after use, could deplete plant vigor and health, especially during periods of critical growth. Heavy to severe defoliation can expose the soil surface to future erosive forces of wind and water. Additionally, heavy utilization can remove structural diversity valued for wildlife habitat. Use of palatable annual species early in this period may reduce competition with desirable native perennial species when grazing is removed and adequate soil moisture remains to complete growth cycles.

Early growth of herbaceous vegetation contains high water content and thus, when combined with leached old growth, has only moderate forage quality, improving after mid-March in most years. The hazard of compaction of wet soils with hoof action of livestock may be present, resulting in a reduction of infiltration and soil moisture holding capacity in fine-textured soils. Opportunities for good livestock distribution are present with more locations of available water and cool air temperature.

Riparian vegetation communities are less vulnerable to negative impacts from livestock use during this season for a number of reasons. Improving forage quality in upland communities will draw livestock from riparian communities as will available alternate water sources located outside streamside riparian communities. Spring use normally results in better livestock distribution between riparian and upland areas due to flooding of riparian areas and presence of highly palatable forage on the uplands. Also, cooler seasonal temperatures allow livestock to forage longer between visits to water sources. Opportunities for regrowth of herbaceous species are present through the remainder of the growing season. Most woody riparian species do not initiate growth until late spring, resulting in lower palatability than at other seasons of the year. If periods of use allow for adequate regrowth and do not correspond to the seasons of woody riparian species reproduction, grazing during this period can be very beneficial to riparian areas, especially in establishing woody plants. Conversely, this can be detrimental to upland grasses if grazing strategy results in utilization during the critical part (shoot elongation) of their growing season. Heavy defoliation and physical impacts by livestock can expose banks and floodplains to the hydraulic energy of high spring streamflow and peak runoff. Heavy use on finer textured soils in riparian areas with steep gradients may cause soil compaction, accelerated streambank losses or increased erosion rates. Hoof action can result in trampling of seed and litter into wet soil, although on some saturated soils, plants are more easily uprooted by grazing animals than would be possible later in the year. Care must be taken to prevent streambank hoof shearing and to leave adequate carryover vegetation for bank protection and silt filtering during spring runoff.

Wild native herbivores typically reach their lowest physical condition during this period, especially in years with heavy snowfall and limited forage availability. As a result, the potential for competition between livestock and wildlife species early during spring use is great on winter ranges. Activities associated with

livestock management during this period can also increase stress to wildlife species, especially within areas of raptor nesting habitat.

Upland Growing Season (April 1 to July 15)

Upland plants are actively growing, removing carbohydrates from roots and crowns for early growth, regrowth, and seed formation. Herbaceous plants are susceptible to defoliation impacts as a result of the depletion of carbohydrates in roots and crowns, especially with moderate to heavy utilization, repeated grazing, and/or frequent growing season use. Grass species are especially susceptible to impacts from defoliation during seed formation and seed stalk elongation, due to the increased withdrawal of carbohydrate reserves from roots and crowns. Opportunities for regrowth and completion of the annual growth cycle after defoliation are limited, especially in years of below average precipitation. Introduced perennial bunchgrass species are better adapted to maintaining vigor with defoliation than native herbaceous species, having evolved with the grazing pressure of more large herbivores. Soil compaction from the physical presence of livestock remains a concern with moist soils, especially in areas with shallow and fine-textured soils. Upland shrub species reach maximum growth withdrawing shallow soil moisture early and deeper water reserves as the season progresses. Opportunities for good livestock distribution during the early portion of this season are present with more locations of available water, high palatability of high quality forage, and cool air temperature. Repeated use during the growing season can be expected to reduce vigor and health of desirable perennial herbaceous species and lead to trends away from desired conditions.

Riparian vegetation communities initiate active growth during this season, especially during the later portion. Impacts to riparian resources are minimal with light to moderate utilization levels on herbaceous and woody species and minimal physical impacts. Livestock begin to concentrate in riparian vegetation communities as the season progresses for higher quality forage, browse, water, and shade with higher ambient temperatures. Opportunities for regrowth of herbaceous vegetation following use remain throughout the summer with available moisture in riparian soils. Desirable woody riparian species become vulnerable to impacts from moderate to heavy use mid-way through this season when active growth is initiated. Heavy levels of utilization or high levels of physical impacts can expose banks and floodplains to impacts from high streamflows during late spring and summer flooding.

Summer (July 1 to October 31)

A deferred season of use provides for livestock grazing after most of the upland species have reached seedripe stage and replenished carbohydrate reserves. Most upland plants, including native and introduced bunchgrass species, have completed their annual growth cycles and have entered senescence. As a result, upland communities have declining forage quality and lower palatability to wildlife and domestic herbivores. Livestock will tend to turn to palatable browse species, especially when herbaceous utilization levels become heavy late during this period, to maintain a given level of nutrition when mixed with lower quality herbaceous feeds. With the onset of senescence, native upland vegetation communities are less susceptible to negative impacts of light to moderate defoliation. Introduced perennial bunchgrass species are better adapted to maintaining vigor with defoliation than native herbaceous species, having evolved with more large herbivores. Heavy to severe defoliation can expose the soil surface to future erosive forces of wind and water. Livestock distribution away from water sources is limited by high ambient temperatures increasing the need for frequent watering and causing cattle to graze primarily during the evenings and throughout the night, while becoming less active during daylight hours. Localized impacts from defoliation and the physical presence of livestock intensify, especially near water sources and other areas of concentrated activity. Additionally, nutrient concentration will occur in areas of concentrated livestock activity.

Riparian vegetation species, both woody and herbaceous are actively growing with a sustained source of water available for continued photosynthesis. The potential for regrowth of herbaceous species remains through most of the summer, while soil moisture and temperatures are maintained. Regrowth of woody riparian species is limited after moderate to heavy use, especially late in the period. Forage value and

palatability are high from standing riparian herbaceous and woody growth. The potential for poor livestock distribution, away from riparian communities, exists as the availability of stock water in upland communities declines, forage value in upland communities declines, and with higher ambient temperatures. Livestock tend to concentrate in riparian vegetation communities for water, high quality green forage, and shade when intensive livestock management is lacking. Use during this period typically provides no rest during the growing period for plant vigor, reproduction, or litter accumulation and generally results in heavy utilization of woody riparian vegetation, trampling damage, soil compaction, and accelerated streambank erosion. Since rest is never provided, riparian plants do not replace food reserves in roots; seed may or may not be produced. Concentration of livestock in riparian areas results in heavy use of woody and herbaceous riparian species. Impacts to riparian values are typically greater during summer and early fall use than at other seasons of the year.

Competition between wildlife species and livestock is usually minimal when summer utilization levels are maintained at light to moderate levels. Those wildlife species that are mobile tend to inhabit portions of the range less used by livestock, while those less mobile species tend not to be significantly impacted so long as utilization levels and related management activities do not disrupt habitat and security.

Fall (September 15 to December 15)

Herbaceous upland plants remain senescent with minimal new growth and some regrowth during warming conditions when soil moisture has been replenished by fall precipitation. Upland herbaceous health and vigor is not impaired with light to moderate utilization of cured standing materials. Heavy to severe use may expose soils to erosion from wind and water for an extended period through the initiation of spring growth. Cooler ambient temperatures, with some fall regrowth of upland herbaceous species, may provide for better livestock distribution than during summer. Forage quality of upland herbaceous species remains low, though improving with the initiation of new fall growth. Livestock will retain a percentage of palatable browse species in their diets, when available, to maintain a given level of nutrition by combining it with lower quality herbaceous feeds.

Riparian herbaceous and woody species enter dormancy with cool temperatures and freezing conditions. Opportunities for limited livestock grazing of pastures containing riparian values are present so long as utilization levels on herbaceous and woody species do not impair riparian function with peak streamflows. Moderate to heavy use of riparian herbaceous species, with little opportunity for regrowth to facilitate sediment retention, may expose banks and floodplains to hydraulic forces of high streamflow during winter and spring runoff. The potential for improved livestock distribution, away from riparian communities, is greater than during summer use, though less than during spring use. During years with extended summer heat and drought, livestock water may be limited to riparian communities. Use during this season can be detrimental to riparian vegetation if heavy utilization of woody species occurs because temperatures are warm, fall green-up has not occurred, or utilization is not closely monitored. Fall grazing usually allows for less soil compaction in riparian areas; although streambank damage may be considerable from hoof action shearing if excessive fall precipitation occurs. Livestock impacts to riparian vegetation are directly related to the intensity of livestock management practices implemented by operators.

Livestock's use of big game winter range can limit the availability of both herbaceous and browse species for wildlife during subsequent winter periods as identified in the section on winter use. Competition between livestock and wildlife species increases with greater levels of utilization and the resultant increase of browse species in livestock diets.

Seasonlong

Seasonlong grazing of a pasture generally begins during the growing season and extends to the end of the period of authorized use, typically into the fall period. Many of the impacts associated with use during the growing season occur with seasonlong use. Additional impacts occur from localized livestock concentration

late in the season as sources of water diminish, as forage quality in upland communities declines, and as ambient temperatures rise. The effects of seasonlong grazing on species composition are largely dependent on the degree of utilization on the key species. Although the proposed stocking rates are designed to achieve moderate levels of utilization on most areas, factors such as terrain, location of fences and water, and vegetation types available, prevent uniform patterns of grazing. Heavy grazing will inevitably occur in some areas while light utilization will occur in others. A trend away from desired conditions is expected in areas receiving moderate to heavy utilization on an annual basis, especially when that use occurs during critical growing periods.

Livestock tend to concentrate in riparian communities from summer on, when these areas are available. Decreases in woody and herbaceous riparian species are expected to occur in streamside riparian vegetation communities accessible to livestock under seasonlong use. Livestock prefer green herbaceous and new growth of woody species within riparian communities as upland communities dry and lose forage quality in late summer. This strategy typically provides no rest during the growing period for plant vigor, reproduction, or litter accumulation. It generally results in heavy utilization of woody riparian vegetation, trampling damage, soil compaction, and accelerated streambank erosion.

No pastures in the planning area are scheduled for seasonlong (March 1 through February 28) grazing by domestic livestock, but wild horse use does occur seasonlong in HMAs.

Exclusion (No Scheduled Livestock or Wild Horse Use)

Defoliation of herbaceous and shrub species is limited to that which occurs from insect and native herbivore use. Except in instances when native herbivore numbers are high, upland utilization levels during the growing season and dormant seasons are light. In any year, small areas of concentrated native herbivore use may have moderate to high utilization levels. Residual standing herbaceous material and litter accumulation is greater than with scheduled use by livestock or wild horses in any season. Soil protection from rain impact is high, limiting erosion and improving soil structure and infiltration. The initiation of herbaceous growth with warming spring soil temperatures may be slightly delayed due to greater interception of solar radiation by standing and down litter.

The complete elimination of livestock and wild horses from riparian vegetation communities in many cases provides for a more rapid rate of recovery of both herbaceous and woody components than will scheduled use in any season. Residual herbaceous material and a diverse age structure of woody species will protect streambanks during peak flows of all seasons. In the absence of consideration of the ecological linkages between upland, riparian, and aquatic communities, potential rates of recovery of riparian communities may be limited when upland management plans are not designed to restore and protect the entire landscape.

Grazing Schedules

Livestock grazing schedules are implemented to provide opportunity for unacceptable resource conditions to improve, to maintain resource values which are consistent with the DRC and other management objectives, or to avoid unacceptable impacts to resource values or conflicts between uses of public land resources. Though some established grazing schedules provide for annual use of a pasture during one specified season, more often the mix of management objectives associated with a given pasture can better be met by varying the season of use over a repeating cycle of two or more years. Multi-year grazing schedules are primarily developed with varied seasons of use through an established rotation to allow desirable vegetation species the opportunity to regain vigor and health for future growth, productivity, and sustainability of resource values. Similarly, opportunities for recovery from grazing impacts to other resources, specific to a season of use, may be provided by varying the season in which livestock graze a pasture. Long-term and cumulative impacts of implementing a grazing scheme will define trend toward future vegetation communities and resource conditions.

Conversely, constraints necessary to meet multiple management objectives may limit opportunities for grazing use to one short period annually, or no scheduled use in some years, to ensure that all management objectives are met. Examples include the compounding effects of objectives to improve riparian function or meet other riparian management objectives while maintaining upland stability and function. Though scheduled use during the upland growing season annually may be compatible with objectives to improve riparian function, health and vigor of desert steppe vegetation communities can seldom be improved or maintained with annual growing season defoliation. Similarly, scheduled deferment of grazing use until after seed-set may be compatible with meeting upland vegetation management objectives while not maintaining healthy riparian vegetation communities which support proper functioning condition. As a result, the combined objectives may further constrain opportunities for varied seasons of use.

Speciality Pastures

Construction of fences and use of other barriers to livestock movement may be utilized to create speciality pastures and implement grazing schedules consistent with meeting specific management objectives when resource values, such as riparian vegetation communities, are present in only a portion of an existing pasture. Development of speciality pastures is applicable in areas where resource values encompass a small enough area to justify fencing and to manage them separately from areas that are solely comprised of upland vegetation communities and few other resource values. Speciality pastures may continue to be grazed while meeting objectives or excluded from livestock use. Construction of fences to create corridor or riparian pastures allows riparian recovery or maintenance while allowing grazing of other uplands sites to occur with grazing strategies providing for more livestock use. Riparian pastures are normally areas of rangeland containing both upland and riparian vegetation communities large enough to support some livestock use while managed to attain riparian, water quality, and/or aquatic objectives, as opposed to stream side pastures created through corridor fencing. Total rest of riparian pastures is required at times during the first few years of corrective management of a deteriorated riparian area where the objective includes and the site potential supports the establishment of shrub or tree growth above the reach of livestock. As riparian vegetation within riparian pastures regains vigor and productivity, available forage for livestock use may often be increased while continuing to meet management objectives. Corridor pastures are generally excluded from livestock use, or used only for trailing purposes, since the areas enclosed are usually too small and narrow for proper grazing.

Grazing Rotations

Most multi-year grazing schedules can be defined as either a deferred-rotation or rest-rotation schedule. Both types of grazing schedules were designed primarily to promote plant vigor, seed production, seedling establishment, root production, and litter accumulation for herbaceous plants in upland ecosystems. Deferred rotation grazing schedules provide for one or more years of grazing use after seed-set, following one or more years of growing season use. In its simplest form, a deferred rotation grazing schedule within a pasture provides for a two-year rotation cycle with one year of use during the critical period of plant growth followed by one year of deferment of use until after the growing season. More conservative schedules provide for a higher proportion of deferment than years of use during the period of active growth. Rest-rotation schedules allow for similar opportunities for recovery with one or more years of the grazing rotation in which no use is scheduled. Caution should be implemented to ensure that higher levels of utilization during use periods of a pasture do not preclude meeting management objectives while providing for rest in other pastures. At moderate utilization levels, either rest-rotation or deferred-rotation grazing systems can allow for adequate recovery of upland herbaceous root growth and associated carbohydrate storage following the impacts of critical season defoliation. The number of years of rest or deferment necessary to meet vegetation management objectives is dependent on a number of factors including resource conditions, soil and climatic factors, and the intensity of grazing use. With an increase in the proportion of years of rest or deferred use to the number of years of use during the critical season, the opportunity for recovery and maintenance of plant health and vigor is improved. Recovery following heavy use during the critical growing season may require a substantial number of rest or deferment years to provide adequate opportunities for recovery of health and

vigor, especially when growth conditions are poor or if the vegetation resource is in poor ecological condition.

Most rest-rotation and deferred-rotation grazing schedules, designed for the physiological needs of herbaceous upland plants, can be successful within wide, low gradient sedge, rush, and grass-dominated riparian sites, provided utilization levels in riparian communities are maintained within acceptable limits. These strategies have been found to maintain species diversity and productivity of meadow systems when use is deferred in these areas until after seedripe. This promotes seed and root production, seedling establishment, and total growing period rest for each pasture every year. The need for additional livestock management may be necessary to maintain livestock distribution. Riparian herbaceous species having a natural potential to regrow following use provide for recovery and maintenance of resource values in years of the rotation when grazing occurs during the growing season. Caution in years of mid to late season use should ensure that cover necessary to buffer erosion from floods and ice is maintained and to trap sediment during high flow events. Similarly, in years of the rotation when grazing occurs during a season with high soil moisture, caution should be implemented to prevent trampling and shear damage to banks.

Rest rotation and deferred-rotation schedules are usually inappropriate for shrub-dominated riparian areas, especially in the primary stages of willow establishment and development. Establishment and growth of woody riparian species, which is attained in years when the pasture is rested or during a season of use compatible with progress toward attaining riparian objectives, may be nullified in years of use when grazing occurs during a period not consistent with maintenance or improvement of riparian values. Maintenance of established riparian communities containing a woody component may ultimately result in a population of only mature decadent stands of woody species, providing no ongoing replacement of younger stands. When these schedules are implemented, levels of use of woody riparian species must be monitored because utilization occurring during the summer months has been found to limit woody plant succession on gravel bars and other scoured areas along stream channels. Heavy utilization during late grazing periods can lead to removal of vegetation needed to protect streambanks from ice and water scouring.

Improvement of vegetation composition toward desired conditions may require recruitment of new individuals of desired species through seeding, planting or natural regeneration from vegetation materials on site. Establishment of desirable seedlings into a vegetation community may require a sequence of rest and/or deferment years to avoid defoliation and physical impacts of livestock presence. Similarly, recruitment of new shoots of desirable woody species in upland and riparian may require more than one year of rest to establish old wood, which is less palatable, and to allow growth above the reach of domestic herbivores. Removal of livestock from riparian vegetation communities may be required to allow these communities to recover herbaceous and woody species composition adequate to attain functioning condition. Upon improvement to functioning condition, a grazing schedule consistent with maintaining riparian function may be implemented.

Generally within desert steppe vegetation communities, no more than one period of use of a given pasture is planned in any one year's grazing schedule. An exception is spring/fall use in which livestock are removed in the spring while sufficient soil moisture is available for regrowth. Fall use occurs after most vegetation species have completed their growth cycle and are dormant. This schedule is used primarily within seedings of nonnative perennial bunchgrass to maintain productivity and availability of species adapted to grazing use.

Appendix P - Wildlife Habitat Descriptions and Considerations

Introduction

Chapter 2 describes the DRCs for land, resource, and social and economic conditions that are expected to be present on public land in 20 to 50 years if the plan management objectives are achieved. Since the DRCs are descriptions associated with long-term BLM management, they provide limited direction for wildlife habitat assessments and prescriptions over the next 20 years. Due to this limitation, Appendix P has been included here to provide more descriptions of habitat characteristics important to wildlife that will be incorporated into activity plans and evaluated in both the short and long term. The following text will help to explain how BLM intends to:

1) Meet the general wildlife objectives stated in Table 2.1 (Chapter 2 of the RMP/EIS) regarding riparian habitats, rangeland habitats, woodland habitats, and special status species.

2) Meet the quality of wildlife habitat that is implied in the S&Gs.

3) Provide a direct link to annual RMP progress, adopt appropriate objectives/terms/conditions in BLM activity plans, and prescribe appropriate activity plan monitoring.

This appendix is not intended to be an exhaustive list of criteria but it does address a wide variety of fundamental wildlife habitat issues. Due to economic and social constraints associated with implementation of this plan, it is assumed that some of these desired conditions and mitigations are not going to be fully attained at all times or in all places on the public land. Where they cannot be fully attained, it is assumed that either wildlife concerns have been outweighed by other resource, social, or economic values, or that site potential and other environmental factors such as weeds or frequent fire are preventing their attainment at the present time.

P-1: Wildlife Habitat Security and Disturbances

Security is a fundamental component of wildlife habitat health. Disturbance to habitat security (defined herein as unavoidable or unintended harassment to animals resulting from noise and activity) is known to adversely affect wildlife populations and productivity. Levels of big game winter mortality may increase where human activities cause additional physiological stress to animals already coping with intense cold and wet conditions. For species such as birds, annual recruitment of young may be diminished or eliminated altogether when disturbances occur during the nesting or mating season. Consequently, impacts to animal security during the breeding or wintering season that are caused by disturbance need to be avoided or minimized in BLM authorizations. Generally speaking, disturbances during the summer and fall time period have less potential to inflict serious adverse impacts to wildlife than when they occur during wintering or breeding seasons.

As a general rule, the public can expect that land use authorizations which may impact special status species, raptors, and big game will require some form of mitigation to protect habitat security values. Special stipulations may be applied for unique circumstances unforeseen in this document. Security threats to wildlife can originate from a wide range of activities which may include, but are certainly not limited to, OHV use, grazing, minerals exploration or development, recreational use, prescribed fire activities, or actions associated with rights of way. Road locations and densities typically play a very significant and interrelated role in protecting or diminishing wildlife security. Avoidance or mitigation of disturbing activities can usually be accomplished by prescribing adjustments to the timing, location, or duration of authorized actions. In some instances, project denial may be the only appropriate course of action where resource values are high and mitigation or avoidance cannot reasonably be made. The appropriate measures necessary for the protection of wildlife need to consider the nature of proposed actions, the species affected, and the time of year the action is expected to occur. Modifications and waivers may be applied to proposed actions that affect

wildlife.
General wildlife seasons of use for the planning area are as follows:

Winter: Normally begins for most eastern Oregon wildlife by December and ends by early March.

Breeding: Normally begins in early March and extends through the month of June. A few species, such as owls, begin breeding in winter months.

Summer–Fall: Normally begins in July and extends through November.

P-2: Structural Projects

Powerlines should be configured and located according to the best current technical guidance for wildlife mitigation. The intent is to avoid or reduce the potential for instances of electrocution, collision, or avian predation (hunting perches that may affect some species such as sage grouse) or other avoidable adverse impacts. New power-lines should be installed within existing power line corridors whenever possible to limit the number of potential electrocution and collision hazard areas. "Suggested Practices for Raptor Protection on Power Lines" (1996) is one example of several technical references the BLM will use to provide protection for raptors.

Fences for livestock grazing administration will be designed to conform to BLM Manual 1737-1 which prescribes wire spacing and types (smooth, barbed, or net types) depending on the wildlife species that occupy a project area. These standards will accommodate most wildlife movements and minimize the risks of injuries or death due to entanglement and collisions. Fence routing needs to mitigate adverse consequences to wildlife especially in migration corridors and big game winter ranges. Proposed fence locations may be adjusted in order to avoid congregation of livestock in important wildlife habitats.

Escape ramps (expanded metal panels) will be installed in all new livestock troughs or installed in concert with scheduled maintenance in order to reduce or eliminate the potential for wildlife entrapment and drowning.

Spring sources developed for the purpose of delivering water into a livestock trough should leave some of the native source flow intact where possible. This will protect endemic molluscs, amphibians, or other wildlife vulnerable to spring dewatering. Exclosure fencing should accompany spring developments to protect wetland vegetation if grazing systems do not allow for the attainment of PFC (see Riparian/Wetland Areas sections of this document). Troughs connected with spring developments should be placed away from riparian and wetland habitats to reduce livestock trampling damage to wet areas. Trough overflow at springs should be controlled with float valves or else delivered back into the native channel.

Water developments such as reservoirs, pipelines, and guzzlers may benefit some species of wildlife such as antelope, chukar partridge, and bighorn sheep by providing new sources of drinking water. Judgment as to whether developed water will be an overall benefit or detriment to wildlife habitat and populations is dependent upon the area of consideration and the species effected. Maintaining habitats free of new water developments accessible to livestock will normally be considered a beneficial wildlife habitat conservation measure in high quality native range (refer also to P-3).

P-3: Grazing Use Considerations for Upland Habitats

Unless specified with rationale, the following factors would be considered consistent with the protection of most wildlife habitat values in activity plans.

Key area selection for monitoring activity plan performance (effectiveness monitoring) is based on habitat

type, land-form, and/or fence locations at reasonable distances from water accessible to livestock or wild horses. One or more key species of wildlife and wildlife seasons of use need to be identified for activity plan evaluation purposes.

1) Grazing systems should incorporate periodic yearlong rest and/or growing season deferment.

2) Key grass forage species on native ranges should be grazed at stocking levels that allow for maintenance or improvement of plant vigor and recruitment of young plants.

3) Native range should be grazed in such a way that a patchy appearance comprised of lightly to moderately grazed and ungrazed areas is prevalent throughout most of the pasture. The rangeland may be topped, skimmed, or grazed substantially in patches. In so doing, a combination of seasonally important habitat values important to wildlife will be present including grazed (conditioned) forage plants and areas with high quality cover and structure (ungrazed or slightly grazed vegetation).

Livestock grazing described as a thorough search (heavy trampling, limited standing herbaceous cover, and uniformly grazed key forage plants) is limited to areas near watering facilities such as troughs and reservoirs. Heavy utilization patterns do not dominate the appearance of the landscape and vegetation structure at the end of the growing season. Most young plants are undamaged subsequent to grazing use and low value herbaceous plants are left ungrazed.

4) TNR livestock grazing use in native range should be avoided to protect forage, cover and structure values for wildlife. Where it is permitted for the attainment of other management objectives, TNR grazing use should conform to the general descriptions under Alternative C and be less than or equal to 40 percent as defined in this document.

5) Native upland range that is not grazed by domestic livestock is a desired wildlife habitat condition. It is generally in limited supply and typically provides very high quality structure and native forage for wildlife use. Maintenance of currently ungrazed native range conditions by avoiding new water developments, salting, and fencing is considered a beneficial mitigating measure for the protection of wildlife habitat values.

6) Crested wheatgrass seedings should be grazed periodically in such a way that spring or fall green-up or conditioned forage is available for Canada geese, big game, or other species. Light use and non-use by livestock in seedings for long periods of time will diminish green forage values for wildlife because grass plants become rank and unpalatable.

7) Green-up and conditioned forage: Green-up (new vegetative growth initiated by growing season moisture) is valuable to wildlife because it provides succulent, nutritious, and easily digested forage. Nearly all classes of wildlife from songbirds to big game can be observed consuming green-up whenever and wherever it is available throughout the year. Domestic livestock and wild horses also consume green-up for its palatability and nutritional qualities. The value of green-up for wildlife is highest on habitats used during the spring, winter, or fall.

The nutritious character of spring green-up prepares animals for the physiological demands of breeding activity and therefore it can be directly tied to animal population productivity. Where green-up is available on winter ranges it helps animals to maintain their physiological condition; therefore, it can be directly tied to population survival. Where green forage has been unavailable for prolonged periods due to drought or normal summer conditions, it helps to restore overall animal health and therefore it can be tied directly to animal population recovery from cyclic or seasonal stress.

Conditioned forage (areas that have been burned or grazed by livestock) also tends to provide green vegetation that is sought out by wildlife. Consequently, grazing and burning can both be of benefit to wildlife by providing a higher volume and greater availability of succulent, nutritious, and easily digested forage. However, conditioned forage on native range from fires and grazing use is not in limited supply, resulting

in limited need for more conditioned forage (resulting from livestock use) to benefit wildlife on native range. Moreover, the structural characteristics and values of shrubby cover will need to be carefully weighed before emphasizing the desirability of providing more conditioned forage on public land through prescribed fire (see P-5).

8) Quaking aspen (apart from riparian habitats) and mountain shrub species should exhibit healthy growth forms, structure and plant vigor. Uneven-aged stands of aspen and mountain shrubs should be prevalent and grazing systems should include rotations that allow for seed production and seedling establishment. Grazing systems need to allow for the likelihood of maintaining or improving forage, cover, and structural features important to game and nongame species.

P-4: Grazing Use Considerations for Riparian/Wetland Habitats

At a minimum, grazing use needs to be consistent with providing those conditions which are necessary to promote properly functioning riparian/wetland areas.

There is no single management strategy that will meet all riparian needs for wildlife and there is no single tool for measuring activity plan performance that can be applied in every riparian area. This is because riparian site potential and current conditions are highly variable. The appropriate tool for monitoring activity plan performance is determined by the important wildlife resources present. Specific riparian objectives therefore need to be applied at the activity plan level in light of all these variables.

Where vegetative trend is judged to be inadequate for establishing desired wildlife habitat conditions, a desired plant community (DPC) objective will be used to address wildlife habitat management in riparian areas. Where needed, DPC objectives will address one or more of the following habitat elements important to wildlife:

Systems capable of supporting woody and herbaceous species: age composition, structural characteristics (e.g., height, volume), species distribution, and abundance of key woody species. Distribution, composition, and abundance of key herbaceous species including grasses, forbs, sedges, and rushes. Reproductive success and grazing utilization of key herbaceous or woody species.

Systems with little or no capability to support woody species: distribution, composition, and abundance of key herbaceous species including grasses, forbs, sedges, and rushes. Reproductive success and grazing utilization of key herbaceous species.

P-5: Management of Vegetation Within Steppe Rangelands Occupied by Sage Grouse and Other Species that use Sagebrush Habitats

General Values of Shrubby and Herbaceous Cover for Wildlife

Wildlife diversity and productivity is profoundly influenced by the relative abundance, structure, and spatial arrangement of sagebrush communities. Management of sagebrush communities that is appropriate to soil, climate, and landform needs to incorporate the following overstory and understory components which contribute towards healthy wildlife habitats:

Shrub overstory: Big sagebrush, low sagebrush, and other shrubby species within the genus *Artemisia* provide primary sources of wildlife habitat structure, food, and cover.

Herbaceous understory: Grasses and forbs provide primary sources of wildlife habitat structure, food and cover. Herbaceous cover also provides indirect food sources for wildlife by supporting the environments that produce insects consumed by birds and other small animals.

Two important tables of habitat information are included in this section that will be used for wildlife habitat evaluation purposes: Table P-1 describes general relationships of wildlife use at various shrub overstory canopy measures; and Table P-2 describes the amount and arrangement of habitat that is desired at mid scales (GMAs) and fine scales (pastures). Used in combination, these two tables will enable the BLM to craft a multi-scale monitoring and assessment process that is able to address cumulative effects of management actions and determine whether or not future actions conform to Chapter 2 objectives for wildlife habitat in sagebrush rangelands.

Exceeding the fine scale (pasture level) percents (acreages) of Table P-2 may be necessary in order to compensate for currently fragmented habitats and/or where it is likely that fragmentation will continue due to fire history and frequency. Determining activity plan objectives can only be done after considering existing cover conditions at mid scales and larger, and in light of wildlife survey data. This will be accomplished as a part of the rangeland health assessment process.
In addition to sage-grouse, important species of wildlife that use big sagebrush habitats are:

Nongame species: sage thrasher, Brewer's sparrow, sage sparrow, black-throated sparrow, gray flycatcher, loggerhead shrike, pygmy rabbit, sagebrush vole.

Game species: mule deer, elk, and pronghorn.

Table P-1.—*General habitat relationships of sagebrush canopy cover (as determined by line intercept) and herbaceous understory composition to wildlife habitat values and use*

Class 1 No sagebrush canopy cover—

Class 1(A): Plant communities that are dominated by native grasses and forbs which generally provide a portion of habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. These plant communities are typically observed after fire, before sagebrush species recolonize. These plant communities are desirable to achieve in a patchy, mosaic pattern within the sagebrush-steppe, intermingled with Class 2(A, C), Class 3(A, B, C), Class 4(B), and Class 5(B:25 percent to near 35 percent canopy cover) plant communities.

Class 1(B): Plant communities that are dominated by introduced annual grasses and forbs such as cheatgrass, medusahead, and tumblemustard, which do not provide habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies). Before converting to annual grasses and annual forbs, these Class 1(B) plant communities were more likely to have been Wyoming big sagebrush or basin big sagebrush plant communities than either low sagebrush or mountain big sagebrush plant communities (Miller and Eddleman 2000). These plant communities are biologically and physically unstable because of high risk for repeated fire. High plant density of these annual plants, combined with great amounts of litter, effectively eliminate biological soil crusts. The combination of these conditions inhibit native plant recovery.

Class 1(C): Plant communities that are dominated by seedings of crested wheatgrass or other exotic perennial grasses which generally do not provide habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. These plant communities are lacking in sagebrush canopy cover either because a sagebrush seed source is lacking, or there has not been sufficient time elapsed for sagebrush species to recolonize the seeding. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies).

Class 1(D): Plant communities that are closed woodlands dominated by species such as western juniper. Particularly in the mountain big sagebrush and low sagebrush plant communities, western juniper encroachment and increasing density can result in near total loss of sagebrush canopy cover (Miller and

Eddleman 2000). These Class 1(D) plant communities do not provide habitat needs for sage-grouse (sage-grouse did not select western juniper communities in central Oregon for nesting or winter habitat [BLM 1994; Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitats. In many of these plant communities, excessive livestock grazing pressure and/or fire suppression have been the main contributors to their formation. These plant communities have depleted herbaceous understories in addition to depleted shrub canopy cover, and could have depleted biological soil crusts if the sites are capable of supporting biological soil crusts. The depletion of the shrub, herbaceous, and biological soil crust cover can result in accelerated erosion on these sites. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies) and supported a sagebrush plant community(ies) before the western juniper encroached.

Class 2 Trace to 5 percent—

Class 2(A): Plant communities that are dominated by native grasses and forbs with some recruitment of sagebrush species, which provide a portion of habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. These plant communities are typically observed after fire, when sagebrush species are recolonizing. These plant communities are desirable to achieve in a patchy, mosaic pattern within the sagebrush-steppe, intermingled with Class 1(A), Class 2(C), Class 3(A, B, C), Class 4 (B), and Class 5(B:25 percent to near 35 percent canopy cover) plant communities.

Class 2(B): Plant communities that are dominated by introduced annual grasses and forbs such as cheatgrass, medusahead, and tumblemustard, where sagebrush species are generally declining in abundance attributable to high fire frequency. These plant communities are typically not providing habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies). These plant communities are biologically and physically unstable because of high risk for repeated fire. High plant density of these annual plants combined with great amounts of litter effectively eliminate biological soil crusts. The combination of these conditions inhibit native plant recovery.

Class 2(C): Plant communities that are dominated by seedings of crested wheatgrass or other exotic perennial grasses where sagebrush species are in the early stages of recolonization. These plant communities might not be providing the complex shrub-grass-forb cover and food needs of sage-grouse and other wildlife that use sagebrush-steppe habitat, but if there is active recolonization of sagebrush species, the likelihood is high for providing future habitat needs. These plant communities are desirable to sustain if they are moving successionally to greater abundance of sagebrush species.

Class 2(D): Plant communities that are woodlands dominated by species such as western juniper.Particularly in the mountain big sagebrush and low sagebrush plant communities, western juniper encroachment and increasing density can result in near total loss of sagebrush canopy cover (Miller and Eddleman 2000). These plant communities do not provide habitat needs for sage-grouse (sage-grouse did not select western juniper communities in central Oregon for nesting or winter habitat [BLM 1994; Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitats. In many of these Class 2(D) plant communities, excessive livestock grazing pressure and/or fire suppression have been the main contributors to their formation. These plant communities have depleted herbaceous understories in addition to depleted shrub canopy cover, and could have depleted biological soil crusts if the sites are capable of supporting biological soil crusts. The depletion of the shrub, herbaceous, and biological soil crust cover can result in accelerated erosion on these sites. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies) and if they supported a sagebrush plant community(ies) before the western juniper encroached.

Class 3 Greater than 5 percent, up to 15 percent—

Class 3(A): Plant communities supporting low sagebrush or Wyoming big sagebrush, with an

understory of native grasses and forbs (typically about 10 percent grass canopy cover and less than 10 percent forb canopy cover), and intact biological soil crusts in interplant spaces, represent the potential natural vegetation for these plant communities (Miller and Eddleman 2000). Class 3(A) low sagebrush or Wyoming big sagebrush plant communities provide habitat needs for sage-grouse (such as winter habitat [Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitat. They are desirable to sustain in a patchy, mosaic pattern within the sagebrush-steppe, intermingled with Class 1(A), Class 2(A, C), Class 3(B, C), Class 4(B), and Class 5(B:25 percent to near 35 percent canopy cover) plant communities.

Class 3(B): Plant communities supporting basin big sagebrush or mountain big sagebrush, with an understory of native grasses and forbs, which are typically moving successionally to greater abundance of sagebrush species and are not yet at the potential natural vegetation for these two plant communities. Despite this, Class 3(B) basin big sagebrush or mountain big sagebrush plant communities provide habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitat. Their presence in a mosaic, intermingled with Class 1(A), Class 2(A, C), Class 3(A, C), Class 4(B), and Class 5(B:25 percent to near 35 percent canopy cover) plant communities, should be considered desirable for sagebrush-steppe habitat. It should be recognized however, that these Class 3(B) plant communitiesare probably transitory and should be permitted to move successionally to Class 4 (see Class 4(B) for more detail).

Class 3(C): Plant communities that are dominated by seedings of crested wheatgrass or other exotic perennial grasses, where sagebrush canopy cover is on the increase attributable to sagebrush colonization. While not providing the quality of habitat that Class 3(A) or Class 3(B) plant communities do, because typically there is not a diverse grass or forb component in these seedings, Class 3(C) plant communities do provide added structure because of the sagebrush, which provides habitat for some wildlife that use sagebrush-steppe habitat.

Class 4 Greater than 15 percent, up to 25 percent—

Class 4(A): Plant communities supporting low sagebrush or Wyoming big sagebrush, which typically show a decrease in native grass and forb canopy cover (particularly where sagebrush canopy cover is 20 percent or greater [Miller and Eddleman 2000]), and biological soil crust development, compared with Class 3(A) low sagebrush or Wyoming big sagebrush plant communities. Disturbances such as excessive livestock grazing pressure are often contributory to development of Class 4(A) plant communities (Miller and Eddleman 2000). Class 4(A) is not the potential natural vegetation, nor a desirable outcome, for these two plant communities when the inherent capabilities of soils, landform, and climate are factored in. However, Class 4(A) plant communities can provide some habitat needs for sage-grouse (such as winter habitat [Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitat.

Class 4(B): Plant communities supporting basin big sagebrush or mountain big sagebrush, with an understory of native grasses and forbs, more often than not represent the potential natural vegetation for these plant communities. Class 4(B) plant communities provide habitat needs for sage-grouse (such as nesting and brood-rearing habitat [Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitat. Their presence in a mosaic, intermingled with Class 1(A), Class 2(A and C), Class 3(A, B, C), and Class 5(B:25 percent to near 35 percent canopy cover) plant communities, should be considered desirable for sagebrush-steppe habitat.

Class 4(C): Plant communities supporting mountain big sagebrush or low sagebrush, with tree seedlings (particularly western juniper) in the understory. Particularly in the mountain big sagebrush and low sagebrush plant communities, western juniper encroachment and increasing density can result in near total loss of sagebrush canopy cover (Miller and Eddleman 2000). These Class 4(C) plant communities currently provide habitat needs for sage-grouse and other wildlife that use sagebrushsteppe habitats. However, with continued growth and increasing density of the western juniper, sagebrush will decline and these plant communities will transition and at some point not provide habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. On many of these Class 4(C) plant communities, excessive livestock grazing pressure and/or fire suppression have been the main contributors to their formation. These plant communities are not desirable

to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies) and supported a sagebrush plant community(ies) before the western juniper encroached.

Class 5 Greater than 25 percent—

Class 5(A): Plant communities supporting basin big sagebrush or mountain big sagebrush, with an understory of native grasses and forbs, can represent the potential natural vegetation for these plant communities, particularly for canopy cover that ranges from 25 percent to less than 35 percent (Miller and Eddleman 2000). However, as sagebrush canopy cover approaches 35 percent, the understory of native grasses and forbs decreases. Class 5(B) basin big sagebrush or mountain big sagebrush plant communities can provide habitat needs for sage-grouse (such as nesting and brood-rearing habitat [Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitat (such as pygmy rabbit). Class 5(B) that has sagebrush canopy cover in the range of 25 percent to less than 35 percent is probably within the range of what the soils, landform, and climate would sustain for these two plant communities, whereas canopy cover Class 5(B) that approaches or exceeds 35 percent in these two plant communities is probably undesirable and a result of excessive livestock grazing pressure and/or fire suppression

Class 5(B): Plant communities supporting low sagebrush or Wyoming big sagebrush, which typically are depauperate in understory native grasses and forbs (Miller and Eddleman 2000) and often have an understory composed of exotic annuals such as cheatgrass and mustards. Understory native grasses, forbs, and biological soil crusts would be primarily restricted to microsites beneath shrub canopies and would rarely be found in interspace microsites. Disturbances such as excessive livestock grazing pressure are often contributory to development of Class 5(A) plant communities (Miller and Eddleman 2000). Although these low sagebrush or Wyoming big sagebrush plant communities can provide some habitat needs for sage-grouse (e.g. winter habitat; Miller and Eddleman 2000) and other wildlife that use sagebrush-steppe habitat, these Class 5(A) plant communities are not the potential natural vegetation, nor a desirable outcome, for these two plant communities when the inherent capabilities of soils, landform, and climate are factored in.

Each Table P-1 class has value and contributes towards meeting the yearlong needs of wildlife in terms of food, cover, and structure. ICBEMP science describes similar relationships and values.
Too much Class 1 and 2 or 4 and 5 habitat within a watershed will result in an imbalance in habitat productivity and connectivity for wildlife. An overabundance of Class 1 and 2 is indicative of undesirable conditions for wildlife due to shrub cover fragmentation. Conversely, an overabundance of Class 4 and 5, especially where there is a depleted understory, is indicative of undesirable conditions for wildlife because of limited herbaceous understory productivity (such as limited food sources for wildlife provided by herbaceous plants and insects).

In a healthy rangeland that supports multiple resource values, sagebrush canopy cover equal to or greater than 15 percent line intercept values may occur in patches (per ICBEMP Final EIS) within a community complex that is predominantly a Class 2 or 3 type. Class 4 or 5 types may also be reasonably interpreted as part of the natural complex site variability found in the sagebrush steppe (Miller and Eddleman 2000). In other words Class 4 or 5 types can be a natural product of soil, climate, and landform, and may often occur as transitional areas among Wyoming, Great Basin, and mountain sage shrub communities. Class 4 or 5 type may also be indicative of poor conditions due to grazing disturbance; these areas often support a depleted understory.

Class 4 or 5 types can be high value habitat features of a well connected, biologically diverse sagebrush landscape that is desirable for native, T&E, and locally important species of wildlife; such as Standard #5 in the S&G's. There are distinct site potential differences in shrub canopy and understory character that need to be incorporated into the management of Wyoming, basin, and mountain sagebrush communities at the fine scale.

Table P-2. - Desired Amounts and Arrangements of Sagebrush Habitats

Structural characteristics and general distribution at mid scales: Shrub cover capable of supporting the life history requirements of sage-grouse and other wildlife (such as Classes 3, 4, and 5 from Table P-1) that use sagebrush habitats should be present at multiple scales, over a large area, and in a variety of spatial arrangements (such as at a landscape level and with connectivity present). This should include a central core of sagebrush habitat which is present in large contiguous blocks as well as some other habitat arrangements such as islands, corridors, and mosaic patterns. Each of these patterns have significance to wildlife within geographic areas.

Wildlife objectives for sagebrush communities in individual pastures, allotments, and watersheds will be determined on the basis of factors such as: (1) presence of sage-grouse and their seasonal life history needs, (2) existing native shrub cover patterns and characteristics within each watershed, (3) the frequency and reasonably foreseeable likelihood of fire, and (4) locations of seedings and their shrub overstory conditions.

Shrub cover should be present that shows some mix of height and age classes but with an overall emphasis on the presence of communities with shrubs in a mature structural status per Thomas et al. (1984).

Big sagebrush shrub cover on native range at fine scales (pastures): Shrub overstories capable of supporting sage-grouse and other species that use sagebrush habitats should be present on at least 50 to 75 percent of the surface acreage of livestock management pastures capable of supporting big sagebrush communities. For example: a 1000-acre native-range pasture that is a Wyoming, mountain, or basin sagebrush type should provide shrub cover capable of supporting sage-grouse and other species that use sagebrush habitats on at least 500 to 750 acres (such as Classes 3, 4, and 5 from Table P-1).

Big sagebrush shrub cover on seeded range at fine scales (pastures): Shrub overstories capable of supporting sage-grouse and other species that use sagebrush habitats should be present on at least 25 to 50 percent of the surface acreage of livestock management pastures capable of supporting a big sagebrush community. For example: a 1000-acre seeded pasture that is a Wyoming, mountain, or basin sagebrush habitat type should provide adequate shrub cover capable of supporting sage-grouse and other species that use sagebrush habitats on at least 250 to 500 acres (such as Classes 3, 4, and 5 from Table P-1).

Herbaceous understory on native range at fine scales (pastures): Herbaceous understory composition throughout most native range habitats should exhibit multiple species of native forbs and grasses consistent with site potential at mid, late, or PNC seral stages.

Herbaceous understory on seeded range at fine scales (pastures): Herbaceous cover composition in seedings should support one or more adapted forb species.

P-6: Appropriate Management Actions in Sagebrush Habitats for Meeting Wildlife Habitat Needs

Appropriate management actions (BLM approved mechanical, chemical, biological, or firerelated means) that are consistent with management for wildlife in sagebrush ecosystems include:

1) Restore rangelands that are depleted in structure and plant composition due to past uses, fires, and weed invasions. Restoration with multiple native species is preferable to using introduced species such as crested wheatgrass. However, if native species cannot be established because (1) native seed sources are not available, or (2) intense competition from other undesirable vegetation is very likely to limit the success in establishing natives, then introduced grasses with a shrub component (crested wheatgrass and shrubs) will be considered preferable to taking no rehabilitation action at all. Fire and weed threats to remaining areas of good quality native range need to be reduced or eliminated where possible.

2) Reduce the level of western juniper encroachment into rangeland sites that threaten sage-grouse as a result of habitat loss and hunting perches for avian predators. Use mechanical means, rather than fire, where the risk of exacerbating fire cycles associated with invasive species (such as cheatgrass) is high.

3) Modify landscape character in monotypic stands of sagebrush where there is reason to believe that such action would enhance wildlife habitat values and not further exacerbate problems associated with fragmentation.

4) Restore habitat complexity, diversity, and structure in at least portions of rangelands currently dominated by monoculture stands of adapted grasses (nonnative). This action is considered appropriate if the area is judged to be of substantial consequence to the connectivity of individual geographic areas and the outcome would benefit critically important wildlife habitats (such as areas of concentrated or otherwise highly significant wildlife use).

5) Delay the timing of certain crested wheatgrass retreatments (treatments for the purpose of encouraging more grass production) where the status of sage-grouse winter use and breeding activity is uncertain. Prescribe treatments based on documented field survey data that address sage-grouse absence or presence.

6) Use cultural practices to establish greenstrips in order to diminish the chances for further loss of quality sagebrush habitats to wildfire. This is especially true for quality sage-grouse habitats that adjoin fire prone, cheatgrass-dominated areas.

7) Where necessary, bring livestock utilization levels or seasons of use into conformance with herbaceous cover requirements in sage-grouse nesting habitats.

P-7: Western Juniper Woodland Management Considerations

Habitats that support western juniper should provide the following kinds of characteristics important to wildlife:

1) Patches of thermal and hiding cover sufficient to meet the habitat requirements of mule deer and elk.

2) Scattered mature trees suitable for nesting raptors such as ferruginous hawks.

3) Limited juniper presence in rangelands where sage-grouse forage and cover values are threatened or where predation by raptors may be affecting limited grouse populations.

4) Maintenance of all large trees (approximately 24-inch diameter measured one foot above ground) with nesting/hiding cavities used by various species of small mammals and birds.

5) Downed trees for small animal refugia and big game hiding cover.

6) Vegetation mosaics within project sites so that the result of treatments is approximately 50 percent juniper habitat and 50 percent shrub/grassland habitat. The patch size and layout of cover types resulting from projects (burning or cutting) is dependent upon wildlife that use the area and cover conditions within the geographic area being effected

P-8: Bighorn Sheep Guidelines

Management pertaining to bighorn sheep, domestic sheep, and goats is specified within the BLM "Revised Guidelines for Management of Domestic Sheep and Goats in Native Wild Sheep Habitats" (1997). These guidelines, which may be modified by agreement among the parties involved, will be reviewed at least every five years by a work group of representatives from the livestock industry, State wildlife agencies, BLM, and native wild sheep organizations.

P-9: Calculation of Big Game Forage Demand

Big game numbers used to set forage demand in this plan were supplied by the State of Oregon, Department of Fish and Wildlife, and are based on State-approved management objectives (MOs) and benchmark levels by seasons of use and grazing allotment.

Adhering to the descriptions of grazing use in P-3 of this section would allow BLM to meet upland wildlife forage needs within the the planning area. Conflicts regarding forage availability for wildlife will be addressed on a case basis within periodic rangeland health evaluations. Evaluations may disclose the need for an allotment-specific wildlife forage allocation where desired conditions described under upland utilization are not being met.

Bighorn sheep forage demand was not calculated in Appendix E. Specific locations of bighorn sheep use at the pasture level throughout the plan area was not possible. Nevertheless, bighorn sheep forage will be considered in the course of evaluations similar to pronghorn, deer, and elk.

Big game forage demand in Appendix E, Allotment Summaries, was established by using the three mathematical calculations described below. These calculations are consistent with the "Three Rivers Resource Management Plan" (1991) in Burns District, and they use locally adapted studies on dietary overlap cited in Vavra and Sneva (1978).

Mathematical Calculations Used for Determining Wildlife Forage Demand

1) Land ownership differences: The percentage of the grazing allotment administered by BLM was multiplied by the MO/benchmark number to determine the number of big game supported on public land versus other ownerships such as state or private.

2) Body mass differences: The number of big game at MO/benchmark levels supported on BLM lands was then divided by a factor of 5.3 (for deer), 7.0 (for pronghorn), and 2.4 (for elk) to determine the number of each species that would potentially consume forage equal to one AUM, which is defined as 800 pounds of air dry forage. (The figure derived from this calculation is referred to as the unadjusted forage demand because it does not factor the dietary differences between livestock and big game.)

3) Dietary preference differences: The unadjusted forage demand was then multiplied by factors of 0.18 for deer, 0.10 for antelope, and 0.70 for elk to reflect the differences in forage preferences between livestock and big game (this figure is referred to as the adjusted forage demand).

For example: The adjusted big game forage demand (sometimes referred to as the competitive AUMs) needed to support 50 mule deer on an allotment with 80 percent public land over a period of 12 months would be 16.3 AUMs using the following calculation:

[50 deer x 12 months x 18 percent dietary overlap x 80 percent public land] ÷5.3 deer per AUM.