U.S. Department of the Interior

Bureau of Land Management

Proposed Southeastern Oregon Resource Management Plan and Final Environmental Statement

Prepared by

Vale District Office, April 2001

Malheur and Jordan Field Manager's Recommendation

We recommend the proposed plan and final environmental impact statement (EIS) for the revised Southeastern Oregon planning area be published for interagency and public review and comment as required by 43 Code of Federal Regulations (CFR) 1610.2. The final EIS considers all valid issues raised during plan scoping and addresses all relevant comments raised on review of the draft plan and EIS. It also reflects non-discretionary actions required by various laws, regulations, and policies; as well as compliance with the Order of Modified Injunction, issued by the District Court of Oregon, concerning the Owyhee Wild and Scenic Rivers. The preferred alternative represents the best mix of land use allocations and management direction after considering all alternatives and public and interagency comments. The proposed plan excludes the Burns District's Andrews Resource Area, which will be addressed by a separate plan to more adequately address the requirements of the recent Steens Mountain Cooperative Management and Protection Act.

Roy Masinton,
Malheur Field Manager

Jerry L. Taylor,
Jordan Field Manager

Vale District Manager Recommendation

I recommend the proposed plan and final EIS for State Director filing in accordance with 40 CFR 1500. Upon completion of Governor of Oregon review for plan consistency and resolution of any planning protests, we will prepare the plan record of decision for your approval.

Sandy Guches, Acting Vale District Manager

Oregon/Washington State Director Concurrence and Approval to File

I concur that the proposed plan and final EIS have been prepared in accordance with applicable directives and is ready for filing with the Environmental Protection Agency, on behalf of the Council of Environmental Quality. The document is approved for filing as required by 40 CFR 1506.9.

Elaine Y. Zielinski, State Director, Oregon/Washington BLM

United States Department of the Interior

Bureau of Land Management

Vale District Office
100 Oregon Street
Vale, Oregon 97918

In reply refer to:

Dear Public Land User:

Enclosed for your review is the Proposed Southeastern Oregon Resource Management Plan/Final Environmental Impact Statement (PSEORMP/FEIS) for the Malheur and Jordan Resource Areas, Vale District, Oregon. In the Draft SEORMP document (published in October, 1998), the planning area included three resource areas: Malheur and Jordan Resource Areas of the Vale District and Andrews Resource Area (ARA) of the Burns District. Included in the draft document was a proposal for a national conservation area designation for Steens Mountain in ARA. As BLM approached completion of this PSEORMP/FEIS, legislative efforts to provide special designation for the Steens Mountain area culminated in October, 2000, with congressional enactment of House Resolution 4828, the "Steens Mountain Cooperative Management and Protection Act of 2000." This Act defines management of a large portion of ARA that is significantly different than management direction identified in the Draft SEORMP/EIS. Consequently, information and analysis of ARA has been removed from this PSEORMP/FEIS.

Major changes of the Act which affect public lands in ARA include withdrawal from mineral exploration and development on approximately 900,000 acres of Federal land; designation of the Steens Mountain Wilderness Area (169,465 acres, including legislative acquisition of 13,833 acres of private land and approximately 100,000 acres as a "no livestock grazing" area); designation of three new national wild and scenic rivers (NWSR's) (13.85 miles) and addition of three new segments to the existing Donner und Blitzen NWSR (14.8 miles); establishment of a 3,267 acre Juniper Management Area; authorization for land exchanges, including five specific exchanges and others as available, and land acquisitions; and other specific management direction, including those for off-highway vehicle use and fire. The Act also established an advisory council to be involved in developing a specific management plan for the Steens Mountain area.

The BLM has prepared this document in partial fulfillment of its responsibilities under the "Federal Land Management and Policy Act" of 1976 and the "National Environmental Policy Act" of 1969. This PSEORMP/FEIS is designed to stand alone from the Draft SEORMP/EIS. However, to save publishing costs, some of the maps from the Draft SEORMP/EIS have not been reprinted, so the interested reader may find it useful to refer to the Draft SEORMP/EIS when using this document.

The Vale and Burns Districts received 266 individual comment letters containing about 1,200 specific comments following publication of the Draft SEORMP/EIS. The planning team has assessed these comments and utilized this public input in developing the proposed resource management plan (the Proposed RMP alternative in this document). The comments received pertaining to ARA will be retained at the Burns District and appropriately utilized in the district's upcoming planning efforts.

The PSEORMP/FEIS includes corrections from the draft document and responses to public comment letters. In response to comments received from public and interagency review of the Draft SEORMP/EIS, this document also considers an additional alternative, Alternative D2. In addition, Alternative E of the Draft SEORMP/EIS was revised to provide management for programs that are not considered commodity oriented. Finally, this document describes and assesses the proposed resource management plan that was developed utilizing information gathered from public review comments and all of the alternatives.

If you would like to have your interests/concerns considered by the District Manager as he makes the final decisions which will guide the management of public lands in these two resource areas for the next 20 years, please do so in writing prior to the close of the 30-day comment/protest period. Send your comments to:

District Manager
Bureau of Land Management
Vale District Office
100 Oregon Street
Vale, Oregon 97918

The planning process includes an opportunity for administrative review via a plan protest to the BLM Director if you believe approval of the proposed resource management plan would be in error. (See the following Protest Procedure.)

The PSEORMP/FEIS will be approved following the 30-day protest period, resolution of any protests, review of any comments on the plan, and the Governor of Oregon's 60-day consistency review. Approval of the plan will be documented within ta record of decision (ROD), which will be made available to the public. If you wish to receive a copy of the ROD and final RMP, please let us know.

Thank you for your continued interest in the multiple use management of your public lands.

Sincerely,

Sandy Gutches,
Acting Vale District Manager

PROTEST PROCEDURES

The public has the opportunity to protest the PSEORMP/FEIS, which is the proposed resource management plan in the final EIS. The BLM Planning Regulations, 43 CFR 1610.5-2, state that any person who participated in the planning process and has an interest which may be adversely affected may protest. A protest may only raise those issues which were submitted for the record during the planning process. The protest shall be filed within 30 days of the date the Environmental Protection Agency publishes the notice of receipt of the PSEORMP/FEIS in the Federal Register.

All protests must be filed (postmarked) by: June 18, 2001.

All protests shall be filed in writing to:

Director, Bureau of Land Management
Attention: Ms. Brenda Williams, Protests Coordinator
WO-210/LS-1075
Department of the Interior
Washington D.C. 20240

The overnight mail address is:

Director, Bureau of Land Management
Attention: Ms Brenda Williams, Protests Coordinator (WO-210)
1620 L Street, N.W., Rm. 1075
Washington D.C. 20036
[Phone: 202-452-5110]

Protests filed late, or filed with the State Director, or District or Field Manager, shall be rejected.

There is no provision for any extension of time for the 30-day protest period provided in the planning regulations
.
Resolution of protests is entirely the province of the Director of BLM, whose decision is the final decision of the Department of the Interior.

The "Planning Regulations," 43 CFR 1610.5-2, state that the protest shall contain:

1) The name, mailing address, telephone number, and interest of the person filing the protest.

2) A statement of the issue or issues being protested.

3) A statement of the part or parts of the plan being protested. (To the extent possible, this should be done by reference to specific pages, paragraphs, sections, tables, maps, etc., included in the document.)

4) A copy of all documents addressing the issue or issues that were submitted during the planning process by the protesting party or an indication of the date the issue or issues were discussed for the record.

5) A concise statement explaining why the State Director's decision is believed to be wrong.

Adherence to these points will assist in preparing a protest that will assure the greatest consideration of your point of view.

Confidentiality

Comments, including names and addresses of respondents, will be retained on file in the Vale District Office as part of the public record for this planning effort. Individual respondents may request confidentiality. If you wish to withhold your name or address from public inspection or from disclosure under the "Freedom of Information Act," you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

PROPOSED SOUTHEASTERN OREGON RESOURCE MANAGEMENT PLAN AND FINAL ENVIRONMENTAL IMPACT STATEMENT

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

#2) Draft ( ) Final (X) RMP/EIS

#3) Administrative Action (X) Legislative Action ( )

4) Abstract: The Proposed Southeastern Oregon Resource Management Plan/Final Environmental Impact Statement (PSEORMP/FEIS) addresses management on approximately 4.6 million acres of public land in southeast Oregon. The Draft SEORMP/EIS addressed approximately 6.3 million acres of public land; however, due to congressional action (House Resolution 4828, Steens Mountain Cooperative Management and Protection Act of 2000), the Andrews Resource Area was withdrawn from the proposed action and will be addressed in a separate land use planning effort scheduled to begin in 2001. With a record of decision, the Final SEORMP will provide management direction for the Malheur and Jordan Resource Areas of the original planning area in the Draft SEORMP/EIS. Both of these resource areas are in the Vale District, Oregon. The Final SEORMP will establish objectives and criteria for land management to be used within the concept of adaptive management. Adaptive management is the continuing process of action-based planning, monitoring, evaluating, and adjusting management to improve achievement of the RMP's goals and objectives. Adaptive management applies current information and professional judgment to develop activity plans that will most likely meet objectives and desired future conditions of the plan. The adaptive management approach enables BLM field managers to determine how well management actions meet RMP objectives and what modifications are needed to successfully obtain the objectives.

The Malheur and Jordan Resource Areas include 4,600,648 acres of BLM administered public lands in Malheur, Harney, and Grant Counties, Oregon, and encompasses approximately 1,851,708 acres of other Federal, State and private lands. The Proposed RMP Alternative of the PSEORMP/FEIS proposes designation of 26 ACEC's (approximately 206,257 acres); recommends 42.5 miles of four eligible and determined administratively suitable stream and river segments be congressionally designated as components of the National Wild and Scenic River System; and proposes the designation of public lands for the management of motorized vehicles use (Open - 2,615,116 acres, Limited - 2,004,369 acres, and Closed - 15,826 acres). The Proposed RMP also provides for the following: the use of wild and prescribed fire to meet resource objectives; potential disposal of several parcels of suitable public land totaling approximately 62,100 acres; livestock grazing on all public lands except for approximately 58,900 acres not allocated; varied recreation uses and establishment of five special recreation management areas; management of special status plant and animal species and habitat; improvement of water quality and riparian habitats; management of wild horses in seven herd management areas; and mineral exploration and development, with retention of existing public lands currently withdrawn from locatable minerals and recommendation for withdrawal of several parcels from locatable minerals totaling approximately 116,351 acres for provisions such as ACEC's and administrative and recreation facilities. Other management actions under the Proposed RMP Alternative are as described in the PSEORMP/FEIS.

5) Five alternatives for management of public lands in the planning area were analyzed in the Draft SEORMP/EIS. In response to public, staff, and interagency comments, this PSEORMP/FEIS also considers an additional alternative, Alternative D2, which is a variation of Alternative D found in the Draft SEORMP/EIS. Alternative E from the Draft SEORMP/EIS was revised to provide management for programs that are not considered commodity oriented. The Proposed RMP Alternative was formulated from a mix of the alternatives and comments received. The theme of each alternative is as follows:

Alternative A — Emphasize commodity production;
Alternative B — Continue present management (no action);
Alternative C — Protect and improve natural values while providing for commodity production (this was identified as the Bureau's preferred alternative in the Draft SEORMP/EIS);
Alternative D — Emphasize natural values;
Alternative D2 — Exclude commodity and other uses from sensitive areas, emphasizing natural values;
Alternative E — Exclude commodities and limit other uses, maximizing natural values; and
Proposed RMP — Protect and improve natural values while providing commodity production.

Date draft EIS made available to EPA and public: October 30, 1998.
Date final EIS made available to EPA and public: May 14, 2001.
Date comments must be received by: June 18, 2001.
Comments must be filed at the Vale District Office attention: Randy Eyre.
For further information contact:

Bureau of Land Management
Sandy Guches, Acting Vale District Manager
Vale District Office
100 Oregon Street
Vale, Oregon 97918
Telephone: (541) 473-3144

Reader notes: *The PSEORMP/FEIS is a reprint of the Draft SEORMP/EIS. Changes were made in the final document for correction and clarification and removal of Andrews Resource Area information/analysis. Since it is a reprint, only substantial changes are identified at the beginning of the chapter.*

Some of the maps referenced in this document appeared in the Draft SEORMP/EIS and have not been reprinted—these will be noted when referenced in the text. Maps developed for the PSEORMP/FEIS are found in the appended map packet with this document. Map GEN-1 is printed in Volume 1.

Literally hundreds of abbreviations and agency acronyms are used throughout this document—you will find these listed before each chapter in Volume 1, and preceding Volume 2 (Appendices) and Volume 3 (Comment Responses and Reprinted Letters).

Scientific (or Latin) plant or animal names are usually not included within the text of this document, but are listed in Appendix C.

The agency's Proposed RMP alternative for this final plan is abbreviated in many of the tables as simply PRMP.

Summary

The Proposed Southeastern Oregon Resource Management Plan/Final Environmental Impact Statement (PSEORMP/FEIS) addresses options for future management of more than 4.6 million acres of public land administered by the Malheur Resource Area (MRA) and Jordan Resource Area (JRA) of the Bureau of Land Management's (BLM) Vale District in southeastern Oregon.

The Draft SEORMP/EIS (published in October 1998) addressed options for future management of approximately 6.3 million acres within three resource areas: MRA and JRA, and Andrews Resource Area (ARA) of the Burns District. As a result of congressional passage of the "Steens Mountain Cooperative Management and Protection Act of 2000," management of a significant portion of ARA is markedly different from management direction identified in the Draft SEORMP/EIS. Major changes of the Act which affect public lands in ARA include withdrawal from mineral exploration and development on approximately 900,000 acres of Federal land; designation of the Steens Mountain Wilderness Area (169,465 acres, including legislative acquisition of 13,833 acres of private land and approximately 100,000 acres as a "no livestock grazing" area); designation of three new national wild and scenic rivers (NWSR's) (13.85 miles) and addition of three new segments to the existing Donner und Blitzen NWSR (14.8 miles); establishment of a 3,267-acre Juniper Management Area; authorization for land exchanges, including five specific exchanges and others as available, and land acquisitions; and other specific management direction, including those for off-highway vehicle (OHV) use and fire. The Act also established an advisory council to be involved in developing a specific management plan for the Steens Mountain area.

Because of the specific management directed by the Steens Mountain legislation, ARA of the Burns District has been excluded from this PSEORMP/FEIS. Most references to ARA have been removed from text and maps, but the management direction is the same, and therefore, there is no need for a supplemental draft EIS. The new planning process for the ARA portion of the original planning area will begin in 2001.

The PSEORMP/FEIS is presented in three volumes. Volume 1 is the main body of the plan with an analysis of all of the alternatives, Volume 2 includes the appendices in support of Volume 1, and Volume 3 reproduces comment letters received on the Draft SEORMP/EIS and provides agency responses. The text of the PSEORMP/FEIS is a complete document; however, to save publishing costs, some of the maps from the Draft SEORMP/EIS have not been reprinted. In response to comments received from public and interagency review of the Draft SEORMP/EIS, this document includes corrections from the draft and considers an additional alternative, Alternative D2. In addition, Alternative E of the Draft SEORMP/EIS was revised to provide management for programs that are not considered commodity oriented. Finally, this document describes and assesses the proposed resource management plan (Proposed RMP alternative) that was developed utilizing information gathered from public review comments and a mix of the alternatives. Although new alternatives were developed, these changes were determined not to require a supplemental draft for public comment because they are within the overall scope of the draft, and only constitute refinements or improvements of alternatives, or blend elements of previous alternatives in response to public and staff concerns. Any substantive changes from the Draft SEORM/EIS have been identified at the beginning of each chapter.

The planning process includes an opportunity for the public to protest the proposed resource management plan, or a portion thereof, to the BLM Director if one believes approval of the proposed resource management plan would be in error. Any person who participated in the planning process and has an interest which is or may be adversely affected by approval of the RMP may protest its approval. A protest may raise only those issues which were submitted for the record during the planning process. For additional information, see the Protest Procedures following the transmittal letter in this document.

Following resolution of any protest(s), the BLM Director will render a final decision on the Southeastern Oregon Resource Management Plan. There will be one record of decision that will include both resource areas. The approved Southeastern Oregon Resource Management Plan/Record of Decision issued, which will make the RMP final, will replace the existing management framework plans of the two resource areas, and will guide management of public lands in the southeastern Oregon planning area for approximately 20 years.

This plan is presented in three volumes. Volume 1 is the main text, Volume 2 includes the appendices in support of Volume 1, and Volume 3 is the reproduced comment letters received on the Draft SEORMP/EIS, along with responses to those comments.

The following is a brief overview to assist you in your review of this document.

Chapter 1 – Introduction

Chapter 1 identifies the purpose and need of the plan, defines the planning area, explains public participation in this planning process, and describes the analysis of public comments on the Draft SEORMP/EIS. This chapter identifies the planning criteria used as guidelines influencing all aspects of the process. These guidelines are based on law, regulation, and policy. The nine issues developed through public participation and the planning process are listed along with the management considerations for resolving conflicts. The coordination and relationship to other plans, revisions between the draft and this document, and the development of the proposed alternative is identified in this chapter.

Chapter 2 – Affected Environment

Chapter 2 provides an overview of the planning area, and describes the existing situation for each of the resource programs. Additional information has been added and a few corrections made, and the information specific to the ARA was removed, since publication of the draft plan.

Chapter 3 – The Alternatives

There is an overview of the alternatives and a description of the theme of each alternative. Five alternatives were identified in the Draft SEORMP/EIS with different intensities of resource uses and management concerns to resolve identified conflicts. In response to public, staff, and interagency comments, this document also considers an additional alternative, Alternative D2, which is a variation on Alternative D found in the draft. This document also revises Alternative E from the Draft SEORMP/EIS to provide management for other programs that are not considered commodity oriented, and describes the Proposed RMP that was developed after consideration of public, staff and interagency comments, and the alternatives. Nonissue-related uses have only small to no differences between the alternatives. Alternatives were arranged to provide a comparison of use levels, from Alternative A, emphasizing commodity production, to Alternative D, emphasizing natural processes. Alternative D2 emphasizes natural processes and eliminates or restricts grazing and off-highway vehicle use from certain areas.

Chapter 3 presents a brief portrayal of management strategies for the desired range of future conditions (DRFC's) that are expected in 50 to 100 years, if management objectives are achieved. However, this planning document only identifies management for the 20-year life

of the plan. The long-term vision may not be completely achieved under any alternative during the life of this plan.

The adaptive management process, which will be used to implement this plan on a site-specific basis, is also summarized. All numbers used for livestock, wildlife, etc., are estimates made for analysis purposes. There are no new allocations being proposed. Management actions, including those for livestock use, wildlife habitat, wild horses, prescribed fire, vegetation manipulation, recreation, special status species, riparian, and others will be evaluated periodically to identify whether or not objectives are being met. If the evaluation of implemented actions identifies that objective(s) are not being met according to criteria outlined in the selected alternative, then management changes would be implemented.

Although the National Environmental Policy Act (NEPA) requires all alternatives to be viable, Alternative E responds to issues continuously being raised during scoping. This effort to analyze no commodity extraction provides useful comparison to historical uses, as well as social/cultural aspects. Alternative E was revised from the draft to provide management for other programs that are not considered commodity oriented, such as wild horses, noxious weeds, and congressional designations.

In the Draft SEORMP/EIS, NEPA required a no action alternative or no change to the existing plan (Alternative B), and a preferred alternative (Alternative C) developed to represent an optimum multiple use of resources and values. Based on the analysis and comments received on the draft, the alternative selected for the PSEORMP/FEIS includes parts of other alternatives.

Objectives address the DRFC's for the various resources, they are based on law, regulation, and policy, and they project the direction management would follow. These objectives are constant across all alternatives. Each alternative (except Alternative E) will meet the objective(s) of the various resources; however, the rate objectives would be met and the impacts to resources would differ between alternatives.

Table 3-1 is a summary comparison of the management prescriptions for the alternatives. This table is only a summary; therefore, please read the narrative section immediately following the table.

Chapter 4 – Environmental Consequences

Chapter 4 analyzes the impacts of the management strategies (Chapter 3) on the existing condition (Chapter 2). 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 resource programs to help guide you through the thought process.

In Chapter 3, management actions are compared, where appropriate, with the existing situation (Alternative B) to show how management may change. To prevent redundancy, in Chapter 4, analysis of impacts of Alternatives B through E may be referenced "same as Alternative A" or "same as Alternative A, except . . . " The intention is not to select or compare to Alternative A, but to eliminate redundancy. The Proposed RMP alternative is presented in its entirety.

Each resource program is analyzed by objective through each of the alternatives, followed by a conclusion which discusses the cumulative impacts in the alternative. An overall comparison summary of resource impacts across all the alternatives for each program is provided at the end of that section.

The 1996 "Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin" (ICBEMP ISA) for the Interior Columbia Basin Ecosystem Management Project (ICBEMP) has been considered throughout this document.

Chapter 5 – Consultation and Coordination

Chapter 5 summarizes key events in the consultation and coordination process, and 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. Following Chapter 5 is the Glossary, an Index, and References to assist you in your review.

Appendices (Volume 2)

Volume 2 is the appendices including data to support Chapters 3 and 4 as well as mitigation measures (such as best management practices [BMP's], Standards of Rangeland Health and Guidelines for Livestock Grazing Management [S&G's], standards for range improvements, and others.).

Comment Letters and Responses (Volume 3)

Volume 3 reprints public comment letters and the Agency's responses.

Objectives

The following are the objectives by resource program.

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 wildfires, with emphasis on minimizing suppression costs, considering fire fighter and public safety, 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.

Rangeland 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-dependant wildlife.

Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.

Forest and Woodlands

Manage forests 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 forest. Increase the dominance of ponderosa pine, Douglas fir, and western larch on appropriate sites in mature forests. Decrease the amount of Douglas fir, white fir, and grand fir where they were not historically maintained by the dominant fire regime. Manage forests for long-term, healthy habitat for animal and plant species. Provide for timber production where feasible and compatible with forest health.

Restore productivity and biodiversity in western juniper and quaking aspen woodland areas. Manage western juniper areas where encroachment or increased density is threatening other resource values. Retain old growth characteristics in historic western juniper sites not prone to frequent fire. Manage quaking 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 Oregon Department of Environmental Quality (ODEQ).

Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.

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 habitats in forest, woodland, and rangeland vegetation types so that the forage, water, cover, structure, and security necessary for wildlife are available on the 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 the 1997 "Oregon's Bighorn Sheep Management Plan" (OBSMP) in a manner consistent with the principles of multiple use management.

Wild Horses

Maintain and manage wild horse herds in established herd management areas (HMA's) at appropriate management levels (AML's) 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.

Rangeland/Grazing Use Management

Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.

Recreation

Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.

Off-Highway Vehicles

Manage off-highway vehicle (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 to be consistent with visual resource management (VRM) class objectives.

Areas of Critical Environmental Concern

Retain existing and designate new areas of critical environmental concern (ACEC's)/ research natural areas (RNA's) where relevance and importance criteria are met and special management is required to protect the values identified.

Wild and Scenic Rivers

Protect and enhance outstandingly remarkable values (ORV's) of designated national wild and scenic rivers (NWSR's), and provide interim protection of ORV's of rivers found suitable for inclusion in the national wild and scenic river system (NWSRS) until Congress acts.

Land Adjacent to Wilderness Study Areas

BLM-administered land identified in the 1991 "Wilderness Study Report, Oregon" (WSRO) and determined to have wilderness values would be included in adjacent wilderness study areas (WSA's) and managed under the "Interim Management Policy for Land under Wilderness Review" (IMPLWR).

Human Uses and Values

Manage public land and pursue partnerships to provide social and economic benefits to local residents, businesses, visitors, and future generations.

Cultural Resources

Protect and conserve cultural and paleontological resources.

Increase the public's knowledge of, appreciation for, and sensitivity to cultural and paleontological resources.

Consult and coordinate with American Indian groups to ensure their interests are considered and their traditional religious sites, land forms, and resources are taken into account.

Land and Realty

Retain public land with high and public resource values. Consolidate public landholdings and acquire land or interests in land with high and public resource values to ensure effective

administration and improve resource management. Acquired land would be managed for the purposes for which it was acquired. Make available for disposal approximately 62,100 acres of public land within Zone 3 by State indemnity selection, private or State exchange, "Recreation and Public Purpose Act" (R&PP) lease or sale, public sale, or other authorized method (see Appendix L).

Establish right-of-way corridor routes to the extent possible, taking into account avoidance areas, consistent with resource objectives.

Table S-1.—*Summary comparison of PSEORMP/FEIS alternatives in acres (unless otherwise noted)*

Resources	Alternatives A	B	C	D	D2	E	PRMP
Air							
Prescribed burning limitations (acres/year)							
Rangeland	30,000	4,000	30,000	30,000	30,000	0	30,000
Forestland	300	150	300	300	300	0	300
Energy and Minerals [1]							
Leasable minerals							
Closed	1,349,307	1,404,466	1,357,095	1,393,981	1,625,471	Entire area	1,357,095
Areas of critical environmental concern	0	57,443	0	18,798	264,666		0
Designated national wild and scenic rivers	49,007	49,007	49,007	49,007	49,007		49,007
Administratively suitable wild study rivers	0	996	7,788	32,636	7,788		7,788
Steens Mountain Cooperative Management Protective Area mineral withdrawal					100,352		100,352
Wilderness study areas	1,277,464	1,277,464	1,277,464	1,277,464	1,277,464		1,277,464
Wilderness study areas additions	3,280	0	3,280	3,280	3,280		3,280
No surface occupancy	45,587	2,022	224,756	272,770	15,524	Entire area	179,916
Administratively suitable wild and scenic study rivers	2,953	0	2,953	19,245	2,953		2,953
Areas of critical environmental concern	31,279	990	223,821	245,527	0		167,312
Oregon Trail [2]	0	1,032	0	0	0		0
Special recreation management area (Succor Creek)	11,355	0	0	11,355	11,355		11,355
Special status plants	0	0	903	903	1,216		1,216
Special or seasonal stipulations	2,286,205	0	2,150,350	2,089,732	2,035,246		2,109,014
Areas of critical environmental concern	0	0	6,235	0	0		6,013
Big game winter range	2,232,584	0	2,097,390	2,037,025	1,982,287	Entire area	2,045,694
Sage grouse lek sites	88,397	0	86,497	84,974	48,704		126,106
Locatable minerals							

Resources	A	B	C	D	D2	E	PRMP
	Alternatives						
Closed	1,386,091	1,347,023	1,507,592	1,615,471	1,628,832	Entire area	1,473,446
Administrative/recreation sites	790	0	790	790	790		790
Areas of critical environmental concern	35,994	0	155,998	228,638	264,666		120,635
Designated national wild and scenic rivers	49,007	49,007	49,007	49,007	49,007		49,007
Administratively suitable wild study rivers	0	996	7,788	32,636	7,788		7,788
Special Recreation Management Area (Succor Creek)	0	0	0	11,355	11,355		0
Special status plant (Harper)	0	0	903	903	1,216		1,216
Steens Mountain Cooperative Management Protective Area mineral withdrawal	0	0	0	0	100,352		100,352
Wilderness study areas	1,277,464	1,277,464	1,277,464	1,277,464	1,277,464		1,277,464
Wilderness study areas addition	3,280		3,280	3,280	3,280		3,280
Saleable minerals							
Closed	1,445,023	1,408,228	1,576,108	1,658,898	1,637,804	Entire area	1,540,440
Administrative sites	790	0	790	790	790	0	790
Administratively suitable study rivers	2,953	996	10,540	51,881	10,540		10,540
Areas of critical environmental concern	74,669	62,201	214,842	248,947	264,666		172,607
Designated national wild and scenic rivers	49,007	49,007	49,007	49,007	49,007		49,007
Riparian conservation areas	9,525	0	9,525	9,525	9,525		9,525
Special Recreation Management Area (Succor Creek)	0	0	0	11,355	11,355		11,355
Special status plant (Harper)	0	0	903	903	1,280	0	903
Steens Mountain Cooperative Management Protective Area mineral withdrawal					100,352		100,352
Wilderness study areas	1,277,464	1,277,464	1,277,464	1,277,464	1,277,464	0	1,277,464
Wilderness study areas addition	3,280	0	3,280	3,280	3,280		3,280
Vegetation							
Native herbaceous seeding	Considered	Considered	Preferred	Emphasized	Emphasized	Limited	Preferred
Nonnative herbaceous seeding	Emphasized	Considered	Considered	None	None	None	Considered
Upland shrub cover	Minimum/ Moderate	Moderate	Moderate	Moderate/ Heavy	Moderate/ Heavy	Moderate	Moderate/ Heavy

Resources	Alternatives A	B	C	D	D2	E	PRMP
Forest and Woodlands (acres/20 years)							
Forest available for commercial harvest	4,407	1,057	2,644	0	0	0	4,407
Forest management for old growth characteristics	1,175	0	2,351	5,877	5,877	0	5,877
Western juniper treatments	124,500	41,500	124,500	83,000	83,000	0	124,500
Water Resources and Riparian/Wetland Areas (miles)	1,269	1,269	1,269	1,269	1,269	Determined by natural events	1,269
Management emphasis	RCA stream length	RCA stream length and contributing watershed	RCA stream length and contributing watershed	RCA stream length and contributing watershed	RCA stream length and contributing watershed		RCA stream length and contributing watershed
Fish and Aquatic Habitat							
Management emphasis	Games species	Game/native species at stream scale	Native species at watershed scale	Native species at watershed scale	Native species at watershed scale	Determined by natural events	Native species at watershed scale
Wildlife Habitat							
Riparian habitats—management emphasis	Game species	Balanced game/nongame	Balanced game/nongame	Balanced game/nongame	Balanced game/nongame	Determined by natural events	Balanced game/nongame
Upland habitats							
Sagebrush habitats capable of supporting sage grouse and animals that use sagebrush habitats	50+/- 10	Big game winter range	70+/-10	0+	90+	Determined by natural events	≥70%
Other upland habitats—management emphasis	Game species	Balanced game/nongame	Balanced game/nongame	Balanced game/nongame	Balanced game/nongame	Determined by natural events	Balanced game/nongame
Special Status Animal Species							
Sagebrush habitats capable of supporting sage grouse and animals that use sagebrush habitats	50+/- 10	Big game winter range	70+/-10	90+	90+	Determined by natural events	≥70%
Other upland habitats—management emphasis	Game species	Balanced game/nongame	Balanced game/nongame	Balanced game/nongame	Balanced game/nongame	Determined by natural events	Balanced game/nongame
Bighorn sheep acres available for occupancy, release, and captures	2,888,000	800,000	2,888,000	2,888,000	2,888,000	Unlimited	2,888,000

Resources	Alternatives A	B	C	D	D2	E	PRMP
Wild Horses							
Appropriate management level (long term)	Decrease	Maintain	Maintain	Increase	Increase	Increase significantly	Maintain
Rangeland Grazing							
Total AUM's initially allocated	420,584	420,584	420,584	420,584	288,084	0	420,584
Estimated AUM change long term (%)	+ 0 to 10	+ 0 to 5	+/- 0 to 10	- 0 to 20	- 0 to 10	0	+/- 0 to 10
Approximate acres not allocated to livestock grazing	50,600	41,900	50,600	50,600	1,4500,000	4,600,000 (Entire area)	58,900
New projects (% of 1987–96 level of construction)	150	100	20	5	5	0	20
Estimated new fences to protect sensitive resources (miles)	750	525	300	50	50	0	300
Recreation (number)/acres							
Special recreation management areas	(6) 864,952	(2) 352,331	(4) 661,739	(5) 663,094	(5) 663,094	(0) 0	(5) 673,069
Extensive recreation management areas	(2) 3,770,310	(2) 4,282,931	(2) 3,973,523	(2) 3,962,168	(2) 3,962,168	Entire area	(2) 3,962,193
Off-Highway Vehicles							
Open	3,267,125	2,660,155	3,036,508	1,336,644	1,236,324	0	2,615,116
Limited	1,337,554	1,939,915	1,581,521	3,230,180	3,380,500	4,634,984	2,004,369
Closed	30,583	35,193	17,233	18,439	18,439	278	15,826
Visual Resources							
Class I	79,140	80,056	103,744	1,284,433	1,312,968	1,280,257	1,307,959
Class II	1,427,001	1,416,662	1,421,060	246,024	241,648	9,219	217,235
Class III	646,961	639,002	642,680	623,114	632,732	0	639,238
Class IV	2,481,371	2,498,782	2,466,990	2,453,419	2,456,350	0	2,467,072`

Resources	Alternatives A	B	C	D	D2	E	PRMP
Areas of Critical Environmental Concern							
Number/total acres [3]	24/91,366	8/104,475	27/234,627	29/264,357	29/264,357	0	26/206,257
Relevant and important values							
Bighorn sheep and habitat	2 (24,142)	2 (24,142)	3 (114,493)	3 (114,493)	3 (114,493)		3 (80,023)
Columbia spotted frog and habitat	1 (950)		2 (17,892)	2 (18,212)	2 (18,212)		2 (17,892)
Cultural values	3 (33,265)	2 (71,290)	3 (51,871)	3 (63,913)	3 (63,913)		3 (60,071)
Historic values	3 (34,416)	2 (71,290)	3 (55,169)	3 (67,211)	3 (67,211)		3 (63,344)
Geologic features	3 (52,831)	5 (101,528)	5 (82,028)	5 (86,190)	5 (86,190)		5 (82,028)
Paleontological resources	1 (755)		1 (755)	1 (755)	1 (755)		1 (755)
Plant community types/vegetation cells	19 (73,141)	4 (43,244)	19 (83,835)	20 (100,466)	20 (100,466)		18 (81,635)
Scenic values	6 (59,074)	3 (83,759)	8 (187,120)	8 (199,482)	8 (199,482)		8 (160,828)
Special status animals	2 (29,530)	2 (35,881)	3 (39,267)	3 (39,267)	3 (39,267)		3 (39,046)
Special status fish and habitat	2 (1,008)	1 (1,977)	3 (17,950)	4 (20,530)	4 (20,530)		3 (17,950)
Special status plants and habitat	7 (62,763)	4 (65,964)	9 (134,510)	9 (135,590)	9 (135,590)		9 (100,018)
Sage grouse and habitat	4 (9,875)		4 (10,231)	4 (13,244)	4 (13,244)		4 (10,010)
Wildlife and habitat	7 (49,196)	4 (72,260)	7 (64,411)	7 (79,912)	7 (79,912)		6 (71,204)
Wild and Scenic Rivers [(number)/miles/acres]							
Designated rivers	(3) 188/49,007	(3) 188/49,007	(3) 188/49,007	(3) 188/49,007	(3) 188/49,007	(3) 188/49,007	(3) 188/49,007
Administratively suitable	(1) 13.5/3,973	(1) 3.6/996	(4) 42.5/11,761	(22) 188/56,155	(4) 42.5/11,761	0	(4) 42.5/11,761
Wilderness Study Area Addition							
Acres added	3,280	0	3,280	3,280	3,280	0	3,280

[1] Due to overlap, the acres in subheadings will not equal total closed acres. These figures show total area for each of the closed, NSO, or special stipulations, regardless of overlap with other closures.
[2] In all other alternatives, this resource is protected under the ACEC prescriptions.
[3] Due to overlap of relevant and important values, the acres in subheadings will not equal total ACEC acres.

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Chapter 1
Introduction

Abbreviations and Acronyms

Reader note: *Refer to the list below for abbreviations or acronyms that may have been used in this chapter.*

ACEC ~ area of critical environmental concern
ADC ~ animal damage control
AML ~ appropriate management level
AMP ~ allotment management plan
AMR ~ appropriate management response
APHIS ~ Agricultural Plant and Animal Health Inspection Service
ARA ~ Andrews Resource Area
ATV ~ all-terrain vehicle
AUM ~ animal unit month
BA ~ biological assessment
BIA ~ Bureau of Indian Affairs
BLM ~ Bureau of Land Management
BMP ~ best management practice
BO ~ biological opinion
BOM ~ Bureau of Mines
BOR ~ Bureau of Reclamation
BPA ~ Bonneville Power Administration
CERCLIS ~ comprehensive environmental response, Compensation and Liability Information System
CEQ ~ Council on Environmental Quality
CFR ~ "Code of Federal Regulations"
CLCAS ~ "Canada Lynx Conservation Assessment and Strategy"
CRMP ~ "Cultural Resources Management Plan"
CWA ~ "Clean Water Act"
DLCD ~ Department of Land Conservation and Development
DOD ~ Department of Defense
DOE ~ Department of Energy
DOGAMI ~ Oregon Department of Geology and Mineral Industries
DOI ~ Department of the Interior
DPC ~ desired plant community
DRFC ~ desired range of future conditions
EA ~ environmental assessment
EIS ~ environmental impact statement
EPA ~ Environmental Protection Agency
ER ~ entrenchment ratio
ERMA ~ extensive recreation management area ERU ~ ecological reporting unit
ESA ~ "Endangered Species Act"
ESI ~ ecological site inventory
E/EIS ~ "Eastside Environmental Impact Statement"
FAA ~ Federal Aviation Administration
FERC ~ Federal Energy Regulatory Commission
FLPMA ~ "Federal Land Policy and Management Act"
FMP ~ fire management plan
FWFMP ~ "Federal Wildland Fire Management Policy"
GIS ~ geographic information system
GMA ~ geographic management area
GTR ~ green tree replacement
HA ~ herd area
HMA ~ herd management area
HMP ~ habitat management plan
HUC ~ hydrologic unit code
ICBEMP ~ Interior Columbia Basin Ecosystem Management Project
IMP ~ "Interim Management Policy"
IMPLWR ~ "Interim Management Policy for Land under Wilderness Review"
INFISH ~ "Inland Native Fish Strategy"
JRA ~ Jordan Resource Area
KGRA ~ known geothermic resource area
LCDC ~ Land Conservation and Development Commission
LGMP ~ "Leslie Gulch ACEC Management Plan"
MFP ~ management framework plan
MOU ~ memorandum of understanding
MRA ~ Malheur Resource Area
NCA ~ national conservation area
NEPA ~ "National Environmental Policy Act"
NHOT ~ National Historic Oregon Trail
NHPA ~ "National Historic Preservation Act"
NL ~ no leasing
NOAA ~ National Oceanographic and Atmospheric Administration
NPS ~ National Park Service
NPSP ~ nonpoint source pollution
NRCS ~ Natural Resources Conservation Service
NRHP ~ National Register of Historic Places
NSO ~ no surface occupancy
NWSR ~ national wild and scenic river
NWSRA ~ "National Wild and Scenic River Act"
NWSRS ~ National Wild and Scenic River System
OAR ~ "Oregon Administrative Rules"
OBSMP ~ "Oregon's Bighorn Sheep Management Plan"
ODA ~ Oregon Department of Agriculture
ODEQ ~ Oregon Department of Environmental Quality
ODF ~ Oregon Department of Forestry
ODFW ~ Oregon Department of Fish and Wildlife
ODOT ~ Oregon Department of Transportation
ODPR ~ Oregon Department of Parks and Recreation
ODSL ~ Oregon Division of State Lands
OHV ~ off-highway vehicle
ONA ~ outstanding natural area
ONHP ~ Oregon Natural Heritage Program
ONHTMP ~ "Vale District Oregon National Historic Trail Management Plan"
ORS ~ "Oregon Revised Statute"
ORV ~ outstandingly remarkable value
OWFEIS ~ "Oregon Wilderness Final Environmental Impact Statement"
OWS ~ occupancy with stipulations
PFC ~ proper functioning condition
PILT ~ payments in lieu of taxes
PNC ~ potential natural community
PP&L ~ Pacific Power and Light
PSEORMP/FEIS ~ "Proposed Southeastern Oregon Resource Management Plan/ Final Environmental Impact Statement"
PRIA ~ "Public Rangelands Improvement Act"
PUC ~ Public Utilities Commission
RAIDS ~ riparian aquatic information data system
RAWS ~ remote automated weather station
RCA ~ riparian conservation area
RMO ~ riparian management objective
RMP ~ resource management plan
RNA ~ research natural area
ROD ~ record of decision
ROS ~ recreation opportunity spectrum
RPS ~ rangeland program summary
RS ~ "Revised Statutes"
R&PP ~ recreation and public purpose
SCORP ~ Oregon's "Statewide Comprehensive Outdoor Recreation Plan"
SEORAC ~ Southeastern Oregon Resource Advisory Council
SEORMP ~ "Southeastern Oregon Resource Management Plan"
SHPO ~ State Historic Preservation Office
SMA ~ special management area
SMCMPA ~ Steens Mountain Cooperative Management and Protective Area
SRMA ~ special recreation management area
SRP ~ special recreation permit
S&G's ~ "Standards of Rangeland Health and Guidelines for Livestock Grazing Management"
TGA ~ "The Taylor Grazing Act"
TMDL ~ total maximum daily load
TNC ~ The Nature Conservancy
TNR ~ temporary nonrenewable grazing
T&E ~ threatened and endangered
USDA ~ U.S. Department of Agriculture
USDI ~ U.S. Department of the Interior
USFS ~ U.S. Forest Service
USFWS ~ U.S. Fish and Wildlife Service
USGS ~ U.S. Geological Survey
VRM ~ visual resource management
WAFWA ~ Western Association of Fish and Wildlife Agencies
WFSA ~ wildland fire situation analysis
WRCS ~ "Western Regional Corridor Study"
WSA ~ wilderness study area
WSRO ~ "Wilderness Study Report, Oregon"
WQMP ~ "Water Quality Management Plan"
WQRP ~ water quality restoration plan

Introduction

The Draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) addressed and analyzed options for future management of an area encompassing the Malheur (MRA) and Jordan (JRA) Resource Areas in the Vale District and the Andrews Resource Area (ARA) in the Burns District (see Map GEN-1 of the Draft SEORMP/EIS). These three resource areas were combined for this planning effort due to common issues, similar landscape, efficiency of a combined impact analysis, and effective use of personnel.

Included in the draft document was a proposal for a national conservation area designation for Steens Mountain in ARA. As BLM approached completion of this Proposed Southeastern Oregon Resource Management Plan and Final Environmental Impact Statement (PSEORMP/FEIS), legislative efforts to provide special designation for the Steens Mountain area culminated in October 2000, with congressional enactment of House Resolution 4828, the “Steens Mountain Cooperative Management and Protection Act of 2000". This Act defines management of a significant portion of ARA that is markedly different than management direction identified in the Draft SEORMP/EIS. Consequently, information and analysis of ARA has been removed from this PSEORMP/FEIS. The planning area of this document includes MRA and JRA of the Vale District. Most references specific to ARA have been removed from the text and the maps of this PSEORMP/FEIS. Any remaining references to ARA in this PSEORMP/FEIS does not infer management direction for that resource area.

Major changes of the Act which affect public lands in ARA include withdrawal from mineral exploration and development on approximately 900,000 acres of Federal land; designation of the Steens Mountain Wilderness Area (169,465 acres, including legislative acquisition of 13,833 acres of private land and approximately 100,000 acres as a “no livestock grazing” area); designation of three new national wild and scenic rivers (NWSR’s) (13.85 miles) and addition of three new segments to the existing Donner und Blitzen NWSR (14.8 miles); establishment of a 3,267-acre Juniper Management Area; authorization for land exchanges, including five specific exchanges and others as available, and land acquisitions; and other specific management direction, including those for off-highway vehicle (OHV) use and fire. The Act also established an advisory council to be involved in developing a specific management plan for the Steens Mountain area.

Information about ARA in the Draft SEORMP/EIS and the public comments received during the public comment period on that document which affect ARA will be retained at the Burns District and appropriately utilized in the district’s upcoming planning efforts.

Purpose and Need

The SEORMP/EIS is being prepared to provide the BLM, Vale District, with a comprehensive framework for managing public land administered by the MRA and JRA. The purpose of the SEORMP/EIS is to ensure that public land is managed for multiple use and sustained yield in accordance with the "Federal Land Policy and Management Act" (FLPMA) of 1976. A primary goal of this plan is to develop management practices that ensure the long-term sustainability of healthy and productive land, consistent with principles of ecosystem management. The plan also considers the science used in the broad-scale management direction described in the Interior Columbia Basin Ecosystem Management Project (ICBEMP) “Final EIS”.

This RMP, when approved, will replace land use planning decisions in the existing Malheur and Jordan Management Framework Plans. These plans have guided the management of BLM-administered land for the past 18 years or more. The decisions that are still valid from

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U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
VALE DISTRICT
2001

SOUTHEASTERN OREGON RESOURCE MANAGEMENT PLAN

LEGEND

- BLM State Office
- BLM District Office
- BLM Resource Area Office
- Vale District Boundary
- Vale Resource Area (R.A.) Boundary
- Planning Area

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map GEN-1: General Location

D11-08-00 : CP

these plans have been carried forward and are incorporated into this PSEORMP/FEIS. Also, existing activity plans, e.g., livestock allotment management plans and wildlife habitat management plans, will continue to be in effect. They will be evaluated and changed, if needed, to be in conformance with the RMP.

This plan established parameters for all resources on BLM-administered land in these two resource areas, with the exception of the potential recommendations of wilderness study areas (WSA's) in the planning unit. The recommendations for wilderness suitability have been analyzed in the 1989 "Oregon Wilderness Final Environmental Impact Statement" and are outside the scope of this planning process.

Planning Area

The planning area considered in this document is reduced from 6.3 million acres in the Draft SEORMP/EIS to 4.4 million acres as explained above. It is spread over a total of about 6.5 million acres in southeastern Oregon. This area covers nearly 4.5 million acres in Malheur County and some BLM-administered land in Grant and Harney Counties. Acreages listed throughout this document were compiled by various means and from numerous sources and, in many cases, acreages are only approximations. Hence, some figures may not total accurately or may be inconsistent when viewed out of the context in which they are used. However, Tables 1-1 and 2-1 are from the geographic information system (GIS) and are the most accurate displays available.

In addition to BLM-administered land, the planning area contains private, State, and other land. Table 1-1 shows the amount of land in various ownership classes in each resource area.

The planning area is bounded on the east by Idaho, on the south by Nevada, on the north by the Vale District's Baker Resource Area, and on the west by the Burns District's Three Rivers and Andrews Resource Areas. Most of the public land is contiguous, with some scattered or isolated parcels (see Map GEN-2 and RELIEF MAP in Draft SEORMP/EIS map packet).

The planning area occupies the northern extent of the Great Basin division of the Intermountain Region. Physiographic provinces include much of the Basin and Range, the Owyhee Uplands, Blue Mountain, and Western Snake. The regional area and general vegetation classification is known as the Intermountain Sagebrush Province/Sagebrush Steppe Ecosystem.

The Sagebrush Steppe Ecosystem covers much of eastern Oregon and Washington, southern Idaho, and portions of northern Nevada, California, and Utah. This ecosystem contains a broad diversity of landform and vegetation types, ranging from vast expanses of sagebrush-covered plateaus to rugged mountains blanketed with western juniper woodland and grassland.

Planning Process

The BLM planning process is conducted in nine stages. Table 1-2 summarizes these stages and displays he status of each.

Table 1-1.—*Acres of Federal, State, and private land in each resource area and in the planning area*

Surface Jurisdiction	Malheur RA	Jordan RA	Planning Area
BLM			
Malheur County	1,982,572	2,462,711	4,445,283
Harney County	21,426	124,640	146,066
Grant County	9,299		9,299
Subtotal	2,013,297	2,587,351	4,600,648
Other Federal Agencies			
Malheur County	51,842	48,487	100,329
Harney County			
Grant County			
Subtotal	51,842	48,487	100,329
State of Oregon			
Malheur County	101,467	176,347	277,814
Harney County	25,344	5,909	31,253
Grant County			
Subtotal	126,811	182,256	309,067
Private			
Malheur County	1,081,194	274,364	1,355,558
Harney County	35,326	39,017	74,343
Grant County	12,411		12,411
Subtotal	1,128,931	313,381	1,442,312
TOTAL	3,320,881	3,131,475	6,452,356

Table 1-2.—*PSEORMP/FEIS planning process*

Step 1: Identification of issues	Completed October 1995
Step 2: Development of planning criteria	Completed May 6, 1996
Step 3: Data collection/consolidation	Completed November 1995
Step 4: Analysis of management situation	Completed January 1996
Step 5: Formulation of alternatives	Completed March 1996
Step 6: Estimation of effects	Completed April 1997
Step 7: Selection of preferred alternative and public review and comment periods	
— Draft SEORMP/EIS	October 1998 to March 1, 1999
— Proposed SEORMP/Final EIS	May 2001
Step 8: Record of decision	Approximately September 15, 1996
Step 9: Monitoring and evaluation	Ongoing upon approval

Planning Issues

As a result of the scoping process, nine comprehensive planning issues were identified. The following is a discussion of each of the issues with ideas and questions to consider in resolving the issue.

Issue 1: Upland Management

How will the BLM manage resource uses to improve unacceptable upland conditions or maintain acceptable upland conditions?

The vegetation on upland range provides the foundation for many uses of resources on public land. Structurally diverse plant communities provide habitat for wildlife as well as forage for domestic animals. A healthy cover of perennial vegetation stabilizes the soil, increases infiltration of precipitation, slows surface runoff, prevents erosion, provides clean water to adjacent streams, and enhances the visual quality of public land. Concern has been expressed that resource uses may affect the natural function and condition of upland communities.

Considerations in Resolving Issue 1

- How will livestock grazing be managed to sustain resource values while maintaining stable watersheds and the continued production of forage?
- Upon review, what areas previously excluded from grazing 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 special management areas (SMA's) such as WSA's, NWSR's, and areas of critical environmental concern (ACEC's)?
- What are the visual considerations relating 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 the minimum feasible level?
- What practices will be authorized and implemented to provide adequate habitat and forage for wildlife while maintaining other uses and values of public land resources?
- 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 disturbs established vegetation cover?
- What criteria should be considered for fire rehabilitation, for restoration of wildlife habitat, and for determining 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?

- How will public land management contribute to the economic stability of small rural communities in southeastern Oregon?
- Is the current strategy of full wildfire suppression compatible with upland management objectives?
- How will noxious weeds be managed in these areas?

Issue 2: Riparian Areas and Wetlands

How will the BLM manage resource uses to improve unacceptable riparian conditions or maintain acceptable riparian conditions?

The vegetation in riparian areas and wetlands provides the foundation for many uses of resources on public land. Structurally diverse plant communities provide habitat for wildlife as well as forage for domestic animals. In addition, healthy riparian areas and wetlands stabilize the soil, act as a "sponge" releasing water throughout the year, prevent erosion, and improve water quality for adjacent streams. Some people have expressed concern that resource uses may affect the natural function and condition of riparian areas and wetlands.

Among the activities that can affect riparian areas and wetlands are grazing, recreational use, forest and woodland management, mineral exploration and mining, road construction and maintenance, and OHV use.

Considerations in Resolving Issue 2

- How will riparian vegetation communities be managed to improve or maintain ecological condition, 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 timber harvest?
- Upon review, 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 wildfire 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?
- How will changes in resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?
- How will noxious weeds be managed in these areas?

Issue 3: Forest and Woodlands Management

How will the BLM maintain or improve forest and woodland communities, and how will woodlands be managed to maintain or improve rangeland and wildlife habitat?

The expansion of western juniper woodlands into other plant communities, riparian areas, and quaking aspen groves and an increase in the density of historic woodlands may be detrimental to other plants and watershed functions.

Forested areas are subject to various demands for products, including sawtimber, wood chips, firewood, tree boughs, and mushrooms. Forests and woodlands also provide habitat for many wildlife species, help protect watersheds, and have aesthetic values that are difficult to quantify.

Considerations in Resolving Issue 3

- Under what conditions is forest harvest compatible with management of SMA's such as NWSR's and ACEC's?
- What are the visual considerations relating to forest and woodland management, and how will the BLM's VRM play a role?
- What limitations on forest management are necessary to protect resource values such as wildlife habitat, riparian areas, watershed values, and rare species?
- What rehabilitation practices will be implemented following wildfire or harvest?
- What criteria should be considered in determining whether native or introduced species should be seeded to stabilize watersheds?
- Should some forested areas be set aside solely for management of forest products?
- How, and to what extent, should fire be used to manage timber and western juniper woodland areas?
- Are there old growth forest or woodland areas that should be preserved?
- What types and levels of forest and woodland products should be harvested?
- What are the potential effects of various western juniper, pine, fir, and quaking aspen management alternatives on wildlife, watersheds, soils, vegetation, recreation, aesthetics, and other resources?
- When does the establishment of western juniper threaten other resource values, and what management actions can be used to control this invasion?
- How will changes in management practices affect the economic stability of small rural communities?
- How should noxious weeds be managed in these areas?

Issue 4: Energy and Minerals

How will the BLM manage energy and mineral resources on public land?

The planning area contains a wide variety of energy and mineral resources, including significant occurrences of gold, silver, mercury, uranium, bentonite, zeolite, diatomite, and geothermal resources. Very small amounts of coal, natural gas, and oil have been reported. Although the area contains enormous reserves of saleable minerals such as sand, gravel, and rock aggregate, large-scale use of these resources has been rare. The area contains significant occurrences of rockhounding materials, including thundereggs, picture jasper, and petrified wood.

Considerations in Resolving Issue 4

- 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?
- How will changes in resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?
- What reclamation practices will be implemented following mineral development activities?

Issue 5: Special Management Areas

Should existing SMA's be continued or expanded, and are there additional areas suitable for designation?

SMA's, land designated and managed for unique or significant features or values, include:

- ACEC's
- WSA's
- NWSR's
- Caves
- Historic interpretive sites and districts
- National trails
- Other areas of national significance

Considerations in Resolving Issue 5

- Should existing SMA's be retained under their current designations and management prescriptions? If not, why not? If so, should their existing boundaries be adjusted, and if so, where?
- Are there other areas or sites in the planning area that warrant special designations to protect unique or special values? If so, where are they located, and what are their values?
- How would designating SMA's or eliminating SMA designations (where permissible under administrative authority) affect other resource values or management?
- Should the BLM recommend additional waterways for national wild and scenic river system (NWSRS) designation? What management is appropriate for public land on waterway segments under study? How would NWSR designation affect other uses of the waterway corridors?
- Are there areas, such as Steens Mountain, that should be further analyzed to determine whether some of their values are of national significance? If so, should these areas be recommended to Congress for designation as national conservation areas, national recreation areas, or national scenic areas?
- How will changes in resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?

Issue 6: Fire Management

How should the BLM manage wildland fire to be consistent with resource objectives while protecting life and property?

Historically, wildfire played an important role in ecosystem processes in the planning area. Existing plans do not address the possible use of wildland fire as a management tool.

Considerations in Resolving Issue 6

- 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 by 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 (such as Oregon Department of Environmental Quality [ODEQ] air quality standards) that could limit the use of prescribed fire?
- Which areas should continue to have full suppression to protect important values?
- How will changes in resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?
- What rehabilitation practices will be implemented following fire?

Issue 7: Recreation Management

How should the BLM manage recreation opportunities for both developed and dispersed recreation uses?

Outdoor recreation use within the planning area is expanding. There is demand for both developed and undeveloped recreation opportunities. Fishing, hunting, hiking, camping, driving for pleasure, floatboating, OHV use, and rockhounding account for most recreation activity within the planning area.

Considerations in Resolving Issue 7

- 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?
- 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 should BLM serve in providing tourism?
- How should the BLM provide public awareness of recreation resources and opportunities?
- How would changes in current resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?
- How would changing land use and tourism affect traditional rural life styles?

Issue 8: Fish, Wildlife, and Plants, Including Special Status Species

How will the BLM provide for fish and wildlife habitat, botanical resources, and special status species while considering other resource uses?

Each species in the planning area contributes to biological diversity. Fish, wildlife, and plants (including special status species) may be affected by competition for resources on public land.

Considerations in Resolving Issue 8

- To what extent will forest and livestock management and brush control be conducted to meet the habitat requirements of fish, wildlife, and plants, including special status species?
- What management practices for range and forest and woodlands accommodate the life history requirements of plants?
- Which areas, if any, are appropriate for reintroduction of wildlife and special status species?
- 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 fish, wildlife, and plants, including special status species?
- To what extent will the BLM adopt Oregon Department of Fish and Wildlife (ODFW) management objectives for game and nongame species of wildlife?
- How will changes in resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?

- What management practices best address areas of biodiversity, the needs of species at the limits of their range, and species assemblages?

Issue 9: Land and Realty

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? What level of access to public land should the BLM achieve? Should the BLM consider selling land for public purposes and community expansion?

More than two-thirds of the planning area is public land administered by the BLM. Land exchanges with the State and with private individuals have allowed the BLM to acquire land with special resource values and to consolidate holdings. Some BLM land may be exchanged or sold in the future to provide for expansion of communities or other local needs.

Physical access to the planning area ranges from good to poor, depending on location. As the demand grows for public land resources, the need for legal public access to some areas will increase.

Considerations in Resolving Issue 9

- 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 Harney, Grant, and Malheur Counties, as recognized by the BLM? If so, which land should be exchanged?
- What effect does the Oregon Division of State Land's (ODSL) "Asset Management Strategy" have on management of public land?
- Are public access easements needed in some areas?
- What roads should be maintained, upgraded, abandoned, or constructed?
- Should some Federal agency withdrawals be considered for revocation, with return of these lands to BLM administration?
- Should State or other non-Federal mineral estates under Federal surface ownership be acquired through mineral estate exchanges?
- How would land tenure adjustments affect the economic stability of small rural communities in southeastern Oregon?
- Under what conditions should private land with high natural resource values be purchased from willing sellers?

Issues Eliminated from Detailed Study

A number of issues identified through the scoping process are beyond the scope of this plan. For example, issues related to private and State land were eliminated because this document prescribes management only for BLM-administered land. Issues related to potential changes in Federal law, e.g., laws relating to energy and mineral development, grazing, and wilderness designation or release of WSA's, are outside the scope of the plan because they hinge on congressional actions. The wilderness process started in 1978, the Final EIS was completed in 1989, with the Record of Decision, and recommendation of the Secretary of Interior submitted in October 1991.

No issues of environmental justice were raised during scoping. There do not appear to be any minority or economically disadvantaged groups that would be adversely and disproportionately affected by BLM actions under this PSEORMP/FEIS.

Any proposed grasshopper or cricket control projects will be considered and either accepted, rejected, or accepted with additional mitigation measures based on land use allocations and management constraints in the approved RMP as well as additional information which may become available concerning sensitive species and indirect environmental consequences. No insecticide use is expected to be authorized under any circumstances in designated wilderness areas, NWSR corridors or river segments found administratively suitable for NWSR designation, ACEC's, or in WSA's. Pesticide use would also be significantly constrained, if allowed at all, within one-quarter mile of special status bird habitats.

Although noxious weed control and other vegetation manipulation is identified in the plan, the methods were not analyzed. These are fully analyzed in the "Vegetation Treatment on BLM Land in the 13 Western States EIS" and the "Northwest Area Noxious Weed Control Program EIS."

Military overflights are under the jurisdiction of other Federal agencies including the military, who are responsible to obtain public involvement as these are considered for analysis. BLM provides information during any analysis that is conducted to develop mitigation measures as it relates to the management of public lands. BLM works with the Federal Aviation Administration (FFA) to establish and maintain air navigation corridors. The military training routes (MTR) and military operation areas (MOA) include the Idaho Air National Guard, Whidbey Island Navel Air Station, Mountain Home Air Force Base, and Seattle Center.

Appendix A contains a complete list of issues identified during public scoping, including issues that were eliminated from detailed study.

Planning Criteria

Planning criteria are guidelines influencing all aspects of the planning process, including inventory and data collection, formulation of alternatives, estimation of effects, and selection of the preferred alternative. Planning criteria help to streamline the PSEORMP/FEIS preparation and focus; establish standards, rules, and measures to be used in the process; guide development of the plan; guide and direct issue resolution; and identify factors and data to consider in making decisions.

General Planning Criteria

Principles of ecosystem-based management, as well as a continuing commitment to multiple use and sustained yield, will guide land use decisions in the planning area. The commitment to multiple use will not mean that all land will be open for all uses. Some uses may be excluded on some land to protect specific resource values or uses. Any such exclusion, however, will be based on laws or regulations or be determined through a planning process subject to public involvement.

This plan was prepared using the best available information. Limited inventories were conducted to gather additional data. The following general planning criteria will be considered in developing the PSEORMP/FEIS:

- existing laws, regulations, and BLM policies;
- existing decisions in previous land use plans, activity plans, etc.;
- plans, programs, and policies of other Federal agencies, state and local governments, and American Indian tribes;
- public input;
- quantity and quality of noncommodity resource values;

- future needs and demands for existing and potential resource commodities and values;
- past and present uses of public land and adjacent land;
- public benefits of providing goods and services;
- environmental impacts;
- social and economic values;
- public welfare and safety; and,
- "Standards for Rangeland Health and Guidelines for Grazing Management for Public Land Administered by the BLM in Oregon and Washington," August 12, 1997.

Program Planning Criteria

In addition to the general criteria listed above, the following program-specific criteria apply to the PSEORMP/FEIS.

Air Quality

Under the "Clean Air Act," BLM-administered land in the planning area is classified as Class II (see Glossary). All land will be managed under Class II standards unless it is reclassified by the State of Oregon.

Water Quality

The "Federal Water Pollution Control Act of 1977," as amended (known also as the "Clean Water Act" [CWA]), 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 PSEORMP/FEIS will incorporate best management practices (BMP's) or other conservation measures for specific programs and activities. Water quality will be maintained or improved in accordance with State and Federal standards.

Soil Management

Soil will be managed to protect long-term productivity. BMP's will be incorporated into other programs to minimize soil erosion and compaction resulting from management actions.

Vegetation Management

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 nonconsumptive values, including visual quality and watershed condition.

Livestock forage allocations—established in the Ironside and Southern Malheur grazing program EIS's 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 PSEORMP/FEIS will include provisions for plant maintenance, watershed protection and stability, and wildlife habitat; and will provide for livestock, wildlife, and wild horses.

Fire and other treatment methods are considered tools to meet vegetation management objectives.

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, groundwater recharge, water quality, and fish and wildlife values.

Forest and Woodland Management

Land suitable for timber production will be managed on a sustained yield basis. All forestland and western juniper and quaking aspen woodlands will be managed to protect long-term productivity, biological diversity, and watershed values.

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 "Northwest Area Noxious Weed Control Program EIS" (USDI-BLM 1985). Control of noxious weeds will occur in SMA's, if needed, but may include certain restrictions to reduce potential impacts on specific values. The BLM will assess land prior to acquisition to determine whether or not noxious weeds are present.

Special Status Species

The BLM is mandated by law to assist the conservation and recovery of species listed as threatened or endangered or proposed for listing under the "Endangered Species Act" (ESA). Federal actions that may affect the well-being of these species require consultation with the U.S. Fish and Wildlife Service (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.

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 herd management areas (HMA's).

Livestock 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 allotment management plans, 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.

Fire Management

Wildland fire, as a critical natural process will be integrated into land and resource management planning to assist in the attainment of resource management objectives.

The use of surface-disturbing equipment to suppress wildland fires will be restricted in areas such as WSA's 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.

Land Tenure Adjustments

BLM-administered land will be retained in Federal ownership unless disposal of a particular parcel is determined to serve the public interest. Land may be identified for disposal by sale, exchange, State indemnity selection, or other authorized methods. Land types will be identified for acquisition based on public benefits, management considerations, and public access needs. Specific actions that meet land tenure adjustment criteria established in the PSEORMP/FEIS will occur with public participation and will be made in consultation with local, county, state, and tribal governments.

Rights-of-way

Public land will generally be available for land use authorizations including transportation and utility rights-of-way, with preference given to existing corridors. Exceptions will include areas specifically prohibited by law or regulation (such as WSA's) and specific areas identified as unavailable because of a need to protect resource values.

Energy and Minerals

Except where specifically withdrawn to protect resource values, public land will be available for energy and mineral exploration and development subject to applicable Federal and state laws and regulations.

Recreation

All public land will be identified as being within either 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.

Motorized Vehicle Use

All public land will be designated as open, limited, or closed in regard to OHV use. Public safety, resource protection, user access needs, and conflict resolution will be considered in assigning these designations.

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.

National Wild and Scenic Rivers System

As required by law, streams will be evaluated for potential addition to the NWSRS. The evaluation will be conducted according to guidelines published by the Secretaries of Interior and Agriculture on September 7, 1982, and other applicable guidance. Designated NWSR's will be managed in accordance with laws and existing plans.

Wilderness Study Areas

WSA's designated under authority of FLPMA sections 603 and 202, will be managed in accordance with the "Interim Management Policy for Land under Wilderness Review" (IMPLWR). Changes in WSA boundaries may be considered for inholdings and minor adjustments of adjacent land. 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.

Cave Resources

Cave resources will be managed to maintain or enhance significant natural, cultural, educational, scientific, and recreational values, in accordance with current laws, regulations, and BLM policy. If available information is inadequate to evaluate the values associated with a particular cave, the cave will be managed on an interim basis to preserve any significant values that may be found later.

Cultural and Paleontological Resources

Cultural and paleontological resources will be managed to maintain or enhance their scientific, interpretive, educational, and American Indian values. Cultural resources will be managed to protect American Indian interests, where possible.

Areas of Critical Environmental Concern

ACEC's 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 ACEC's will be identified in this plan.

Coordination and Consistency With Other Plans

The Bureau planning regulations state that RMP's shall be consistent with officially approved resource-related plans of other Federal agencies, state and local governments, and American Indian tribes, so long as those plans are also consistent with the purposes, policies and programs of Federal laws and regulations applicable to public lands, including Federal and state pollution control laws as implemented by applicable Federal and state air, water, noise and other pollution standards or implementation.

The proposed plan is being distributed to other Federal agencies, state and local governments and Indian Tribes for the opportunity for them to identify where specific inconsistencies may exist, and to suggest ways to resolve them.

The BLM believes this plan is consistent with the officially approved resource related plans, policies and programs of other Federal agencies, state and local governments and Indian tribes

In 1993, the BLM joined the U.S. Forest Service (USFS) and other agencies to develop regional management strategies for public land in the Pacific Northwest, as directed by the President. The resulting Fianl EIS has developed broad-scale direction for managing BLM and national forest system lands in eastern Oregon, eastern Washington, Idaho, and parts of Montana. The SEORMP/EIS is consistent with those scientific and management philosophies developed for the Final EIS. When the record of decision (ROD) is signed for the ICBEMP, 65 BLM and USFS land use plans will be amended. This SEORMP will be one of those plans. The amendment process will entail the incorporation of management direction from

ICBEMP into the RMP in a hierarchical manner. If there is management direction in the RMP that is inconsistent with ICBEMP, the RMP will be revised to ensure consistency.

Relationship to Other BLM Planning Documents

During the development of this plan, the "Malheur and Jordan Management Framework Plans," "Ironside EIS," "Southern Malheur EIS," and associated rangeland program summaries were evaluated. Appropriate sections of these previous land use plans have been incorporated into this plan, and when completed, the approved plan will supersede all previous planning documents.

BLM has three primary levels of land use planning decisions; the RMP level, the activity level, and the site-specific level. This RMP focuses mostly on broad resource objectives and direction. However, it also provides some activity-level guidance and includes some site-specific decisions. There are several existing activity plans that are acknowledged as current guidance. They will be updated or modified, as necessary, to include current information and/or to be in conformance with the approved RMP. These plans include, but are not limited to, grazing allotment management plans, NWSR plans, transportation management plans, horse herd area management plans, recreation management plans, predator control, noxious weed control, standards for rangeland health, WSA interim management, wilderness management plans.

Subsequent activity level and site-specific level planning processes will include appropriate public participation opportunities and NEPA compliance.

To ensure consistency in site-specific planning and management activities, this plan has been coordinated with RMP's for the Three Rivers Resource Area (Burns District) and Baker Resource Area (Vale District) in Oregon, the RMP for the Owyhee Resource Area (Lower Snake River District) in Idaho, and the Winnemucca District, Nevada. There are agreements with the resource areas for managing the livestock grazing use within allotments that cross district boundaries.

Revisions Between Draft SEORMP/EIS and PSEORMP/FEIS

The PSEORMP/FEIS incorporates revisions to the draft document including removal of information for ARA and a description and analysis of two new alternatives and a modification of one alternative. One of the new alternatives is the Bureau's Proposed RMP alternative, a modification of the preferred alternative, Alternative C, in the draft. These revisions are a result of:

1) consideration of public comments on the draft;
2) consideration of internal and other agency comments and recommendations;
3) new date collected and analyzed since the draft;
4) identification of geographic management areas (GMA's); and
5) legislation which created special management on the Steens Mountain area which resulted in the decision to remove ARA of the Burns District from this plan.

A summary of major changes made since publication of the draft document are listed at the beginning of Chapters 2 and 3. New or clarifying information was added throughout the document. Any changes made for Alternatives A, B, C, and D were either for clarification, correction, or removal of the ARA portion of the planning area.

Development of the Proposed RMP

The Draft SEORMP/EIS described and analyzed five alternatives in detail, including "no action" (Alternative B). During the public comment period for the Draft SEORMP/EIS, the Bureau received written comments from federally recognized Tribes, State and Federal agencies, local government, various organizations, and members of the public. Based on these written comments and internal BLM recommendations, the Final SEORMP/FEIS analyzed an additional alternative (Alternative D2) and the Proposed RMP. The Proposed RMP is a compilation of management proposals from all alternatives, but is most closely aligned with the preferred alternative (Alternative C) of the draft. The following are examples of how the Proposed RMP differs from Alternative C of the draft document:

Energy and Mineral Resources

- More acreage available for locatables and saleables due to ACEC changes.
- Congress withdraws 100,352 acres within JRA to all mineral activity (associated with the Steens Mountain Cooperative Management and Protection Area).
- The acreage of no surface occupancy (NSO) were increased for special status species and special recreation management areas (SRMA's).

Fire

- Prescribed and wildland fire are used to meet management objectives.

Rangeland Vegetation

- Sagebrush desired range of future conditions (DRFC's) were redefined by Appendix F, Wildlife Habitat Descriptions and Considerations.

Forest and Woodlands

- All management tools would be available (including harvest) on all acres, although with additional constraints in ACEC's, to achieve forest health.
- All methods would be available for western juniper and quaking aspen management (including chemical control, cutting, and burning).

Wild Horses

- Emphasis is placed on ensuring availability of water during drought.

Rangeland/Grazing Use Management

- Areas not allocated to livestock grazing, including portions of allotments adjacent to the Owyhee NWSR were placed outside of allotment boundaries (see Map LVST-1M and -1J).
- No livestock management action would be implemented unless it would result in a net benefit toward attaining management objectives (including projects that would increase grazing use within portions of pastures in late to PNC ecological status).
- Current livestock use of Lava Butte Lower Lava Field within JRA is recognized.

Recreation

- Succor Creek SRMA is included in the Proposed RMP (from Alternative A).

Off-Highway Vehicles

- In areas with a limited to existing roads OHV use designation, motorized-vehicle supported camping activities may occur up to 150 traveled-feet from the existing road.
- Some changes made in OHV designations from open to limited to existing routes for resource protection.
- No aircraft landing would be allowed in WSA's (including cherry-stem roads and any motorized vehicular ways) and NWSR's with a wild classification.

Visual Resources

- VRM Class II lands of the Owyhee Views ACEC were changed to Class I.
- WSA's are changed from VRM II to VRM I, as per recent policy direction.

Areas of Critical Environmental Concern

- Owyhee Views ACEC was decreased from 86,973 to 52,506 acres.
- Ott Mountain ACEC was dropped for designation.
- Castle Rock ACEC increased from 14,599 to 22,799 acres.
- South Bull Canyon ACEC decreased from 1,364 to 792 acres.
- Stockade Mountain ACEC increased from 1,118 to 1,767 acres,
- South Ridge Bully Creek ACEC decreased from 841 to 620 acres.

Wildlife and Wildlife Habitat

- Result in slightly more sagebrush habitat capable of supporting sage grouse and animals that use that habitat.
- Relies upon a more explicit, updated version of Appendix F which describes habitat criteria and conditions favorable to wildlife.

Wild and Scenic Rivers

- Updated to describe management of the three Owyhee NWSR's relative to the November 18, 1999, Oregon District Court injunction barring livestock grazing within "areas of concern" as identified in the 1993 management plan.

The combined action of the Proposed RMP clarifies management direction and improves BLM's ability to implement effective management in order to address resource concerns and improve conditions. It includes an emphasis on resource activity planning based on GMA's, in order to ensure that proper assessments of watersheds, Standards for Rangeland Health, and individual project proposals are conducted within the context of broader landscapes. As a result of these modifications to the preferred alternative, the BLM believes the Proposed RMP would be more effective in improving resource conditions, while providing for consumptive resource uses such as livestock grazing and minerals exploration and development.

Analysis of Public Comment on the Draft SEORMP/EIS

A team of staff, most of whom were not involved with the Draft SEORMP/EIS, consolidated the comments from the 266 letters received into a "Summary of Public Comments." The purpose of this analysis was to objectively identify and display the nature and extent of the public input received on the draft plan. The report is a summary of the opinions and supporting reasons contained in the public input and how they differed according to other variables that may be important, such as respondent's affiliation, place of residence, or other factors. The report does not evaluate the value or importance of the comments received. Comments are displayed by major heading or category, most of which are specific programs or resources covered in the draft plan. This report was made available upon request in April 1999. Refer to Tables 1-3 and 1-4 for general demographic data on letters received during the comment period.

The "Summary of Public Comments" report was used as a template by the SEORMP Interdisciplinary Team to respond to substantive comments. Each team member also read each letter to develop their responses. Responses to public comment by program or resource appear in Volume 3, Comment Responses and Reprinted Letters. Some of the comments and/or responses were a summary of similar comments. Therefore, wording of comments are usually paraphrased. The SEORMP Interdisciplinary Team read each letter to ensure the context of each comment; most responses are only to substantive comments and not opinions or preferences.

In October 2000, the "Steens Mountain Cooperative Management and Protective Act" (H.R. 4828) was signed by President Clinton. This legislation created far different management for the ARA than the Draft SEORMP/EIS had analyzed. Therefore, it was determined that the ARA should be extracted from the PSEORMP/FEIS.

All of the letters commenting on the Draft SEORMP/EIS are published; however, since the ARA has been removed from the plan, the comments specific to the ARA do not have a written response. Some comments are inclusive of ARA, or allude to all three resource areas, and have been responded to. All comments regarding ARA will be carried forward to the scoping process of future land use planning in the ARA.

Table 1-3.—*State of origin of respondents*

State	Number
Oregon	232
California	9
Washington	9
Idaho	6
Colorado	2
Florida	1
Maryland	1
Montana	1
South Dakota	1
Virginia	1
Unknown	3
TOTAL	266

Table 1-4.—*Type or affiliation of respondent* [1]

Respondent	Number
Individuals [2]	212
Special interest groups	37
Federal/State agencies	7
County/local agencies	3
Tribes	1
TOTAL	260

[1] Some groups sent more than one letter.
[2] Approximately 146 of these individuals mailed comments/concerns prompted by an "Action Alert" mailing by the Oregon Natural Desert Association.

Chapter 2
Affected Environment

Abbreviations and Acronyms

Reader note: *Refer to the list below for abbreviations or acronyms that may have been used in this chapter.*

ACEC ~ area of critical environmental concern
ADC ~ animal damage control
AML ~ appropriate management level
AMP ~ allotment management plan
AMR ~ appropriate management response
APHIS ~ Agricultural Plant and Animal Health Inspection Service
ARA ~ Andrews Resource Area
ATV ~ all-terrain vehicle
AUM ~ animal unit month
BA ~ biological assessment
BIA ~ Bureau of Indian Affairs
BLM ~ Bureau of Land Management
BMP ~ best management practice
BO ~ biological opinion
BOM ~ Bureau of Mines
BOR ~ Bureau of Reclamation
BPA ~ Bonneville Power Administration
CERCLIS ~ comprehensive environmental response, Compensation and Liability Information System
CEQ ~ Council on Environmental Quality
CFR ~ "Code of Federal Regulations"
CLCAS ~ "Canada Lynx Conservation Assessment and Strategy"
CRMP ~ "Cultural Resources Management Plan"
CWA ~ "Clean Water Act"
DLCD ~ Department of Land Conservation and Development
DOD ~ Department of Defense
DOE ~ Department of Energy
DOGAMI ~ Oregon Department of Geology and Mineral Industries
DOI ~ Department of the Interior
DPC ~ desired plant community
DRFC ~ desired range of future conditions
EA ~ environmental assessment
EIS ~ environmental impact statement
EPA ~ Environmental Protection Agency
ER ~ entrenchment ratio
ERMA ~ extensive recreation management area ERU ~ ecological reporting unit
ESA ~ "Endangered Species Act"
ESI ~ ecological site inventory
E/EIS ~ "Eastside Environmental Impact Statement"
FAA ~ Federal Aviation Administration
FERC ~ Federal Energy Regulatory Commission
FLPMA ~ "Federal Land Policy and Management Act"
FMP ~ fire management plan
FWFMP ~ "Federal Wildland Fire Management Policy"
GIS ~ geographic information system
GMA ~ geographic management area
GTR ~ green tree replacement
HA ~ herd area
HMA ~ herd management area
HMP ~ habitat management plan
HUC ~ hydrologic unit code
ICBEMP ~ Interior Columbia Basin Ecosystem Management Project
IMP ~ "Interim Management Policy"
IMPLWR ~ "Interim Management Policy for Land under Wilderness Review"
INFISH ~ "Inland Native Fish Strategy"
JRA ~ Jordan Resource Area
KGRA ~ known geothermic resource area
LCDC ~ Land Conservation and Development Commission
LGMP ~ "Leslie Gulch ACEC Management Plan"
MFP ~ management framework plan
MOU ~ memorandum of understanding
MRA ~ Malheur Resource Area
NCA ~ national conservation area
NEPA ~ "National Environmental Policy Act"
NHOT ~ National Historic Oregon Trail
NHPA ~ "National Historic Preservation Act"
NL ~ no leasing
NOAA ~ National Oceanographic and Atmospheric Administration
NPS ~ National Park Service
NPSP ~ nonpoint source pollution
NRCS ~ Natural Resources Conservation Service
NRHP ~ National Register of Historic Places
NSO ~ no surface occupancy
NWSR ~ national wild and scenic river
NWSRA ~ "National Wild and Scenic River Act"
NWSRS ~ National Wild and Scenic River System
OAR ~ "Oregon Administrative Rules"
OBSMP ~ "Oregon's Bighorn Sheep Management Plan"
ODA ~ Oregon Department of Agriculture
ODEQ ~ Oregon Department of Environmental Quality
ODF ~ Oregon Department of Forestry
ODFW ~ Oregon Department of Fish and Wildlife
ODOT ~ Oregon Department of Transportation
ODPR ~ Oregon Department of Parks and Recreation
ODSL ~ Oregon Division of State Lands
OHV ~ off-highway vehicle
ONA ~ outstanding natural area
ONHP ~ Oregon Natural Heritage Program
ONHTMP ~ "Vale District Oregon National Historic Trail Management Plan"
ORS ~ "Oregon Revised Statute"
ORV ~ outstandingly remarkable value
OWFEIS ~ "Oregon Wilderness Final Environmental Impact Statement"
OWS ~ occupancy with stipulations
PFC ~ proper functioning condition
PILT ~ payments in lieu of taxes
PNC ~ potential natural community
PP&L ~ Pacific Power and Light
PSEORMP/FEIS ~ "Proposed Southeastern Oregon Resource Management Plan/ Final Environmental Impact Statement"
PRIA ~ "Public Rangelands Improvement Act"
PUC ~ Public Utilities Commission
RAIDS ~ riparian aquatic information data system
RAWS ~ remote automated weather station
RCA ~ riparian conservation area
RMO ~ riparian management objective
RMP ~ resource management plan
RNA ~ research natural area
ROD ~ record of decision
ROS ~ recreation opportunity spectrum
RPS ~ rangeland program summary
RS ~ "Revised Statutes"
R&PP ~ recreation and public purpose
SCORP ~ Oregon's "Statewide Comprehensive Outdoor Recreation Plan"
SEORAC ~ Southeastern Oregon Resource Advisory Council
SEORMP ~ "Southeastern Oregon Resource Management Plan"
SHPO ~ State Historic Preservation Office
SMA ~ special management area
SMCMPA ~ Steens Mountain Cooperative Management and Protective Area
SRMA ~ special recreation management area
SRP ~ special recreation permit
S&G's ~ "Standards of Rangeland Health and Guidelines for Livestock Grazing Management"
TGA ~ "The Taylor Grazing Act"
TMDL ~ total maximum daily load
TNC ~ The Nature Conservancy
TNR ~ temporary nonrenewable grazing
T&E ~ threatened and endangered
USDA ~ U.S. Department of Agriculture
USDI ~ U.S. Department of the Interior
USFS ~ U.S. Forest Service
USFWS ~ U.S. Fish and Wildlife Service
USGS ~ U.S. Geological Survey
VRM ~ visual resource management
WAFWA ~ Western Association of Fish and Wildlife Agencies
WFSA ~ wildland fire situation analysis
WRCS ~ "Western Regional Corridor Study"
WSA ~ wilderness study area
WSRO ~ "Wilderness Study Report, Oregon"
WQMP ~ "Water Quality Management Plan"
WQRP ~ water quality restoration plan

Major Changes from Draft SEORMP/EIS

Chapter 2 was updated with current information, including statistics for special recreation permits, fire, and economics. Other changes were made throughout for clarification, many of which are not listed in this summary. The following lists the major changes by program.

Soils

1) This section was modified to reflect comments on content about soils and microbiotic crusts.

Rangeland Vegetation

1) The section was rewritten for clarity.

2) Rangeland condition and trend by pasture was added to Appendix E, Allotment Summaries.

3) A paragraph was added to compare physiographic provinces and the ecological reporting units (ERU's) identified in the Interior Columbia Basin Ecosystem Management Project (ICBEMP) Final EIS.

Forest and Woodlands

1) A better definition of *old growth* stands was added to the text in Chapter 2.

Water Resources and Riparian/Wetland Areas

1) The Surface Water, Water Quality, and Groundwater sections were expanded to reflect comments on content about water resources.

2) A section explaining Water Rights was added.

3) The section on Quality of Riparian Areas was expanded to reflect comments on content about riparian condition and trend, and the new field data gathered from 1996 through 1999 was added to Appendix D.

4) Appendices were modified as follows: the Riparian Management Objectives section of Appendix D was edited for reference to the 1996 "Inland Native Fish Strategy" (INFISH) updated to reflect data gathered from 1996–1999; the Total Maximum Daily Load section was changed to Water Quality Restoration Plan heading to reflect new U.S. Forest Service (USFS) and Bureau of Land Management (BLM) policy, and incorporated total maximum daily loads (TMDL's) and water quality management plans (WQMP's) into water quality restoration plan (WQRP) concepts. Appendix O, Best Management Practices, was edited to reflect comments; and the Wildlife Habitat and Protection section was moved to Appendix F.

Wildlife and Wildlife Habitat

1) Information was added to support and more accurately address the management issues pertaining to sage grouse and other wildlife species that use sagebrush habitats (also, see the Special Status Animal Species section).

2) Appendix F, Wildlife Habitat Descriptions and Considerations, was modified to incorporate guidelines for sage grouse management and to better define wildlife desired range of future conditions (DRFC's).

3) Table 2-16, Notes and Habitat Description of Special Status Species, was added.

Special Status Animal Species

1) A section on current concerns and issues with the sage grouse was added.

2) The narratives and the criteria identified in Appendix F were modified to more accurately address the majority of management issues pertaining to sage grouse and other species of wildlife that use sagebrush habitats.

3) The decline in sage grouse throughout the West has put emphasis on using habitat requirements as a benchmark for meeting a wide range of wildlife habitat needs on public land.

4) The two most significant changes, based on information provided in several comment letters and discussions with other professional biologists during the review period, were:

   a) Identifying sagebrush cover conditions associated with sage grouse nesting, and nesting needs for sage grouse in sagebrush canopy coverages was changed from a range of 5–15 percent to 15–25 percent (shown in the draft WAFWA "Sage Grouse Management Guidelines").

   b) The consequences of fire in Wyoming sagebrush habitats used for sage grouse nesting. The draft assumed that introducing fire into sagebrush habitat with outcomes that leave a mosaic pattern would result in benefits to sage grouse by diversifying structure and enhancing herbaceous plant availability. Research indicates that fire in xeric Wyoming sagebrush types results in decreased nesting success due to the removal of shrub cover used for nesting.

5) A section was added to address the Canada lynx and gray wolf.

Wild Horses

1) Based on public comment, historic use of the Red Mountain North Pasture adjacent to Coyote Lakes Herd Management Area (HMA) was clarified, supporting proposed changes to the HMA.

2) The section was rewritten for clarity.

3) The identification of the appropriate management level (AML) within each HMA was revised to be consistent with recent national policy and is expressed as an acceptable range with a single number being the high end of that range.

Rangeland/Grazing Use

1) Base data identifying vegetation condition and trend and riparian proper functioning condition (PFC) by pasture were added to Appendix E, Allotment Summaries.

2) A paragraph and a new Appendix T identifying areas of livestock exclusion referenced in the draft were added to track management of parcels with resources potentially impacted by livestock through the alternatives (this appendix contains excluded and not allocated areas). Table 20 was deleted.

3) A statement was added noting the fact that there are areas within many pastures that are not grazed or only slightly grazed by livestock.

4) Appendix R, Effect and Intensity and Season of Grazing, was revised to include additional citations and to clarify grazing impacts to vegetation resources.

Off-Highway Vehicles

1) Table 2-25 was updated to reflect most recent land ownership status and to correct minor mathematical errors.

2) For clarification, definitions of the various off-highway vehicles (OHV) designation types used in this plan were added to Appendix I.

Visual Resources

1) Per change in BLM VRM policy since release of the Draft SEORMP/EIS regarding the management of visual resources within WSA's in the Proposed RMP alternative, WSA's are managed as VRM Class I, not VRM Class II.

Wild and Scenic Rivers

1) The narrative is updated to describe the current status in management direction of the three Owyhee NWSR's in light of an April 28, 2000, Oregon District Court Judge's modified order of injunction barring livestock grazing within those "areas of concern" identified in the rivers' 1993 management plan.

Lands Adjacent to Wilderness Study Areas

1) Map WSA-1 and Table 2-31 have been edited and updated to reflect current information.

Human Uses and Values

1) Ethnic distribution within Malheur County and Oregon was added.

2) Statistics were updated where new information was available.

3) A summary of information taken from ICBEMP Final EIS relative to information in Malheur County was added to the economic section.

4) Dependency on BLM forage was recalculated based on public comment and additional research into the source data.

Overview of the Planning Area

The planning area of the Proposed Southeastern Oregon Resource Management Plan/Final Environmental Impact Statement (PSEORMP/FEIS) is semiarid rangeland with scattered mountains and broad valleys. Elevation ranges from about 2,100 feet along the Snake River to about 8,200 feet in the Trout Creek Mountains.

In the 1800's, the lure of the unexplored west brought fur trappers and traders to this area. The flow of immigrants over the Oregon Trail to the Willamette Valley, and the discovery of gold in Mormon Basin in 1864 and in Jordan Creek in 1863, as well as the opening of mines in the Owyhee Mountains, brought people of European ancestry into this region. Settlers needed horses for transportation, and cattle and sheep for food and other products. Heavy livestock production in the area probably began in the 1880's.

There are two major river systems: the Malheur and the Owyhee. Natural flows to the Malheur and Owyhee Rivers are modified by six major reservoirs, the largest of which is Owyhee Reservoir.

Although riparian and wetland areas cover less than 1 percent of the public land in the planning area, they contribute substantially to ecosystem productivity and structural and biological diversity. Critically important to fish, birds, and other wildlife species, these areas also affect the quantity and quality of water available for irrigation, livestock watering, recreation, and other human uses.

Wildfires are common during summer and are usually started by lightning. From 1980 through 1999, an average of 46 fires burned about 43,240 acres annually.

Much of the area is dominated by sagebrush and native bunchgrass. A number of vegetation communities are the result of past heavy use, fire, and rehabilitation efforts. Vegetation communities with an overstory of fir, pine, western juniper, quaking aspen, and mountain mahogany are present on more mesic sites at higher elevations. A number of noxious weed species occur and are increasing.

None of the plant species found within the planning area are currently listed as Federally threatened or endangered, but 16 were candidates for listing under the "Endangered Species Act" (ESA). Twelve of these species are listed as either State endangered or threatened.

Forested land is restricted to the northwestern part of the planning area. The distribution and density of western juniper has increased markedly over the past 100 years.

Public land provides habitat for nearly 350 species of permanent or seasonally resident fish and wildlife. Thomas et al. (1984) lists fish and wildlife species and describes habitat relationships.

A complete list of plant and animal species with scientific names referred to in this document is found in Appendix C.

There are eight existing areas of critical environmental concern (ACEC's) designated to protect and preserve special features or values. Main Owyhee, West Little Owyhee, and North Fork Owyhee Rivers have been designated as national wild and scenic rivers (NWSR's). Although the planning area contains no designated wilderness, there are 32 wilderness study areas (WSA's) covering 1,264,184 acres.

Recreation has increased markedly in recent years, primarily on the Trout Creek/Oregon Canyon Mountains, and the Owyhee River complex. More than 97,030 recreation visits were made in 1997 to the planning area. Recreation activities include camping, rockhounding, hiking, horseback riding, sightseeing, hunting, fishing, and floatboating.

The planning area covers Malheur County and portions of Harney and Grant Counties. In 1996, the populations of Malheur County was about 28,700. Personal income is substantially lower than the State average. The estimated 1999 population for Malheur and Harney Counties was 30,700 and 7,600, respectively.

Employment in the services sector has been increasing significantly in recent years, while the number of jobs in the farm sector has been decreasing. Agriculture remains an important part of the economy in Malheur County. Agricultural activity in Malheur County is based on labor-intensive crops and food processing, although it includes cattle ranching and hay production.

Bureau of Land Management (BLM)-administered land provides a substantial amount of forage for local livestock with about 230 permittees grazing livestock on these lands.

Climate

Weather in this semiarid 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 minimum daily temperatures.

Average annual precipitation in the region is between 8 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, but at higher elevations remains until mid-June. Localized flooding often follows late winter or spring snowmelt.

Generally, the last spring frost occurs by May 30, and the first frost occurs by September 2. The frost-free period (temperatures above 32 •F) varies from 139 days at 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.

Air Resources

Under criteria established through the "Clean Air Act," as amended in 1990, the planning area has been designated as Class II, which means that no exceedence of the National Ambient Air Quality Standards has been monitored in the planning area. There are no designated areas within the planning area currently under the "Oregon Smoke Management Plan"; however, the potential to impact Class I air sheds (such as Eagle Cap Wilderness, Hells Canyon Wilderness, and Strawberry Mountain Wilderness) does exist and will require additional measures to avoid those impacts. 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 most of it is less than 10 microns in diameter (referred to as PM10).

Geology

The planning area includes portions of the southern Blue Mountains, Northern Basin and Range (including the Owyhee Uplands), and Western Snake River Plain Physiographic Provinces. Rocks in the area range from Paleozoic to Holocene in age, with Cenozoic volcanic and sedimentary rocks predominating. A detailed and technical account of the geology and energy and mineral resource potential of the Malheur Resource Area (MRA) and Jordan Resource Area (JRA), provided by the U.S. Geological Survey (USGS) in October, 1994, is available on file at the district offices.

The Blue Mountains Province is a cluster of small mountain ranges of variable relief and orientation. The southern portion of this province is situated in the northernmost part of the MRA, extending west and southwest from the Snake River at Birch Creek to the Harney County line. Relief in this area ranges from a low of 2,100 feet along the Snake River near Huntington to a high of 7,811 feet on Ironside Mountain. This province consists of a series of large blocks (terranes) of Paleozoic and Mesozoic oceanic sedimentary and volcanic rocks that collided with accreted western North America, and subsequently annealed to (welded onto) the continent by granitic igneous intrusions. One of the terranes in the planning area is the Baker, a deep, ocean floor environment that consists largely of slate, schist, argillite, and chert. These rocks have been severely deformed, contain numerous igneous intrusions, and have been regionally metamorphosed. The other terrane in the planning area is the Olds Ferry, a volcanic island environment that consists largely of andesitic volcanic rocks, partly overlain by volcanic sandstone. Cenozoic basalt and sedimentary rocks overlie both accreted terranes.

The Northern Basin and Range Province is a large, butterfly-shaped basin that covers most of the planning area; it encompasses all of JRA and about 60 percent of MRA. It extends south from the vicinity of Castle Rock, in the northwest portion of MRA, and west from the boundary with Idaho. This province consists of a series of nearly parallel, generally north-trending, fault-block mountains (horsts) and intervening broad valleys (grabens).

In the extreme southwest corner of the basin, drainage is internal (meaning the streams have no outlet to the sea). The prominent mountain-valley topography grades into a rolling, deeply dissected volcanic plateau to the east, and the Owyhee Uplands, where uplift is much less and the structure is largely hidden by erosion and subsequent deposition. Elevation ranges from a low of about 2,300 feet along the lower Owyhee River near Kern Basin, to a high of approximately 8,200 feet in the Trout Creek Mountains near the extreme southwest corner of the planning area.

This province is underlain by several thousand feet of Miocene to Holocene volcanic rocks. It began to evolve in middle Miocene time (18 million years ago) as a result of regional, generally east-west extension. It was accompanied by large-volume eruptions of basaltic lava, the largest of which is the Malheur Gorge basalt in northwest Malheur County. Shortly after eruption of the basalt (some 16 million years ago), extensive eruptions of rhyolitic ash occurred in the McDermitt area, forming several large calderas, some of which contain abnormally high concentrations of mercury, lithium, and uranium.

About 15.5 million years ago, similar caldera-forming eruptions occurred in the Owyhee Reservoir area and along the northwestern margin of MRA. At approximately the same time as the Owyhee volcanism, large-scale subsidence (such as crustal sinking) along the area that is now the Oregon-Idaho stateline resulted in the Oregon-Idaho graben, a 35-mile wide, north-trending rift zone about 70 miles long that is located largely in MRA. This graben subsided and evolved until about 9 million years ago, when regional extension migrated to the western Snake River Plain. During its 5-million-year history, more than 5,000 feet of sedimentary and volcanic rocks were deposited, and numerous hydrothermal systems produced hot spring and epithermal gold-silver deposits, the most widely known being the Grassy Mountain deposit.

Relatively minor Quaternary volcanism occurred along the Antelope Valley graben, a 16-mile-wide, east-west fault-block located along the division between MRA and JRA. This includes basalt flows surrounding Saddle Butte that are about 100,000 years old and basalt flows at Jordan Craters that have been dated at 4,000 years old.

The western Snake River Plain Province is a broad, northwest-trending graben situated in the northeastern part of MRA. It forms a triangular-shaped wedge between the southeastern Blue Mountains and the northeastern Basin and Range Province, extending westward from the Snake River to the vicinity of Little Valley. Most of the province is a relatively low,

gentle alluvial plain, although locally it has been dissected sufficiently to produce moderately rugged terrain resembling badlands. Relief ranges from approximately 2,100 feet on the Snake River near Birch Creek to 3,872 feet near Double Mountain. The province began to form 9 to 7 million years ago, as subsidence in the Oregon-Idaho graben decreased, associated with low volume basaltic volcanism; it continues to develop. Early development of the Snake River Plain (about 7 to 3 million years ago) resulted in the creation of Lake Idaho in the eastern portion of the province. This lake acted as a focal point for the deposition of more than 5,000 feet of late Miocene-Pliocene tuffaceous lacustrine and fluviatile sediments. About 14,000 years ago, most of the Snake River Plain was inundated with floodwaters from Lake Bonneville, which blanketed much of the area with a thin veneer of flood debris.

Energy and Mineral Resources

The BLM manages energy and mineral resources on 4,348,731 acres of public land and 606,536 acres of land with non-Federal surface ownership within the planning area (Table 2-1). The BLM does not manage the mineral estate on 205,528 acres, or about 5 percent of the public land in the planning area. Mineral estate ownerships occur in a variety of combinations ranging from total Federal ownership to situations where only specific minerals are retained in Federal ownership. In some areas of Federal surface ownership, the mineral estate is owned by the State of Oregon. Detailed information is on file in master title plats maintained in each BLM district office.

Gold, silver, mercury, uranium, diatomite, bentonite, zeolite, geothermal resources, sand and gravel, rock aggregate, and decorative stone make up the bulk of the area's mineral and energy resources. Mining occurs for road aggregate, sand and gravel, decorative stone,

Table 2-1.—*BLM mineral ownership by county (acres)* [1]

Resource area and ownership[2]	Malheur	Harney	Grant	TOTAL
Malheur Resource Area				
Public land	1,881,282	20,654	9,262	1,911,198
All minerals reserved	341,775	31,017	5,299	378,091
Partial minerals reserved	28,744	0	0	28,744
Jordan Resource Area				
Public land	2,328,945	108,588		2,437,533
All minerals reserved	173,849	8,207		182,056
Partial minerals reserved	11,659	5,986		17,645
Planning area				
Public land	4,210,227	129,242	9,262	4,348,731
All minerals reserved	515,624	39,224	5,299	560,147
Partial minerals reserved	40,403	5,986	0	46,389

[1] Acreage does not include 205,528 acres of BLM surface/non-Federal minerals.
[2] Definitions: public land = surface and mineral estate under BLM administration; all minerals reserved = non-Federal surface, 100 percent Federal minerals, includes Stock Raising Homestead Lands; partial minerals reserved = non-Federal surface, < 100 percent Federal minerals, includes restricted minerals.

bentonite, and zeolite. Agate, sunstone, thundereggs, picture rock, and petrified wood are collected at a constant rate and low volume. Exploration for gold and geothermal resources is sporadic. Low-temperature geothermal energy is used in the Vale area for space heating and in a mushroom plant on private land.

Mineral potentials were determined for the more significant energy and mineral resources and depicted on mineral potential maps. Saleable minerals were depicted for designated community pits, common-use areas, and State of Oregon highway material rights-of-way. Table 2-2 summarizes potentials for energy and selected minerals.

Current Minerals Management Restrictions

Congressional action has closed 49,007 acres of designated NWSR's to mineral leasing and mineral location, subject to valid existing rights (Table 2-29). Congressional actions has also closed 100,352 acres associated with the SMCMPA to all minderal activity. These lands will remain closed unless congressional action removes the designation.

Congressional action has closed 1,267,464 acres of WSA's to mineral leasing. This land will remain closed until Congress acts on wilderness designation. Land not designated as wilderness will be open to mineral leasing unless closed by other management actions. Although WSA's are available for location of mining claims, activities on these claims are limited in accordance with BLM's "Interim Management Policy for Lands Under Wilderness Review"(IMPLWR). Mining claims located in WSA's not designated as wilderness will be released from IMPLWR criteria.

Leasable Minerals

Leasable energy and mineral resources include oil and gas, geothermal, sodium, potassium, and coal**.** The BLM has developed four leasing categories to reduce conflicts with other

Table 2-2.—*Mineral potential (in thousands of acres), including non-Federal surface/Federal minerals* [1]

	Commodity	Low	Moderate	High	TOTAL [2]
Leasables					
	Oil and gas	3,458	1,485	0	4,943
	Geothermal	0	4,438	484	4,922
	Sodium/potassium	4,878	34	0	4,912
Locatables					
	Hot-springs gold, silver, and mercury	2,146	2,077	689	4,912
	Uranium	442	4,196	274	4,912
	Vein gold	4,785	98	29	4,912
	Porphyry (Cu, Au)	4,898.5	13	0.5	4,912
	Diatomite	4,861	47	4	4,912
	Zeolite	4,775	0	137	4,912
	Bentonite [3]	4,838	16	58	4,912

[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 does not include 205,528 acres of BLM surface/non-Federal minerals.
[3] Includes sodium-rich (montmorillonite) and lithium-rich (hectorite) varieties.

resource values: (1) open to leasing, subject to standard terms and conditions; (2) open to leasing, subject to special stipulations which include seasonal no surface occupancy (NSO) (timing limitations) or other special stipulations (controlled surface use); (3) open to leasing, subject to NSO; and (4) closed to leasing.

Oil and Gas

Minor amounts of natural gas and trace amounts of oil have been reported in the planning area, nearly all within the Snake River Plain where 22 wells were drilled between 1909 and 1982. No commercial discoveries have been made, but some gassy water has been used for heating and cooking. Although no documented occurrences of oil and gas are known elsewhere in the planning area, several other areas (such as the Oregon-Idaho graben, McDermitt Caldera complex, and Quinn River Valley) may contain suitable source and reservoir rocks. There are no current oil and gas leases. Map MIN-1 in the Draft SEORMP/EIS shows the oil and gas potential and all well sites, and known oil and gas occurrences.

Geothermal Resources

The planning area has a large geothermal resource base, as evidenced by the presence of hot springs scattered throughout the area, high heat flow, and late Cenozoic volcanism. The Vale Known Geothermal Resource Area (KGRA), located in MRA along the southwestern margin of the Snake River Plain, appears to be heated by basaltic magma at depth.

Several dozen temperature gradient holes have been drilled in the region, many within the KGRA. Nine of these holes were deeper than 1,000 feet. In most cases, high temperatures were encountered, but the volume of water proved to be insufficient for commercial electrical power generation. There are no current geothermal leases. Map MIN-2 in the Draft SEORMP/EIS shows the geothermal potential, the location of the Vale KGRA, and the deeper (>1,000 feet) wells.

Sodium Resources

Sodium resources occur largely as borates, chlorides, sulfates, nitrates and silicates. None of the basins, however, are known to contain conventionally mineable beds of these evaporite minerals. The ephemeral surface water has insufficient concentrations of evaporites to be a commercial source of brine. No known extraction of sodium minerals has occurred in the planning area.

The Quinn River Valley basin and Alkali Gulch have been designated as prospectively valuable for sodium minerals. Exploration and development would most likely be near hot springs and ephemeral lake shorelines. Map MIN-1 in the Draft SEORMP/EIS depicts the potential for the occurrence of sodium minerals.

Potassium Resources

Potassium resources occur largely as silicates, with minimal amounts of evaporites. Potassium feldspar is found near Rome and occurs in thin (<1-foot thick) beds in Miocene altered vitric (glassy) tuffs, associated with zeolites and bentonites. Although the deposit is relatively high grade (approximately 60 percent feldspar content), it is extremely small, and only minimal interest has been shown. Chlorides, carbonates, and nitrates are too low in concentration to be considered a resource.

Coal

Insignificant amounts of coal/carbonaceous material have been reported, all in Miocene tuffaceous sediments. The planning area has no known coal resources and, therefore, is considered unsuitable for further consideration for coal leasing and development.

Locatable Minerals

Locatable minerals include both metallic minerals (such as gold, silver, mercury, and uranium) and industrial minerals (such as diatomite, bentonite, zeolite, asbestos, talc, and fluorite), and minerals collected by rockhounds (such as picture rock, thundereggs, sunstones, and agates). As of June 28, 1999, the planning area contained 1,291 mining claims—1,061 in MRA, and 230 in JRA.

Gold, Uranium, and Mercury

The most significant metallic deposits are hot springs and epithermal-related gold, silver and mercury, as well as volcanogenic uranium. The gold and silver deposits are found mainly in the Oregon-Idaho graben in the eastern part of MRA. Other notable occurrences are in the Mormon Basin District in the northern part of MRA, and in the McDermitt Caldera complex in the southwestern corner of JRA. Hot springs and epithermal mercury are located mainly in the McDermitt Caldera complex. Volcanogenic uranium is found mainly in the McDermitt Caldera complex.

Recent exploration has focused on paleo hot springs gold and silver deposits, primarily in the Oregon-Idaho graben. The recent USGS preliminary quantitative mineral resource assessment suggests that this structure is the most likely to contain large tonnage bulk mineable hot springs or epithermal vein deposits of precious metals (USGS 1994, 1996).

Most of the mineral-related surface disturbance found in the Trout Creek Mountains is the result of prospecting for mercury and uranium. Some uranium was mined at the Moonlight Mine in the McDermitt Caldera complex. The Oregon portion of the McDermitt Caldera complex is estimated to contain more than 17 million tons of uranium reserves averaging 0.05 percent uranium oxide (USGS 1994, 1996). There has been no uranium exploration in the planning area in recent years.

In the McDermitt Caldera complex, mercury was produced from the Bretz Mine (15,185 flasks) and the Opalite Mine (12,367 flasks) in Oregon, and three mines in Nevada. Two mines in Oregon have been inactive since 1968; however, the McDermitt Mine in Nevada was active until the late 1980's. Mercury production is low in other parts of the planning area.

Map MIN-3 in the Draft SEORMP/EIS depicts the mineral potential for hot springs and epithermal gold, silver, mercury, and volcanogenic uranium.

Bentonite

Extensive reserves of sodium-rich (montmorillonite) bentonite are found in Miocene tuffaceous lake sediments that occur throughout much of the planning area. The largest bentonite resource in Oregon, with estimated reserves in excess of 5 million tons, is located in the Succor Creek drainage south of Adrian. Teague Mineral Products currently operates two bentonite mines and extracts about 10,000 tons per year. Other large occurrences of bentonite are found in the Sheaville and Rome areas, and a lithium-rich variety (hectorite) is located in the McDermitt area. Map MIN-4 in the Draft SEORMP/EIS depicts the potential for the occurrence of bentonite.

Zeolite

Massive zeolite resources are found in Miocene tuffaceous lake sediments and rhyolitic tuffs that are found throughout much of the planning area, often in association with bentonite. An exceptionally large occurrence is located in the Succor Creek drainage, where Teague

Mineral Products mines about 1,000 tons per year. Large occurrences are also found in the Rome area as well as the McDermitt Caldera complex. Map MIN-4 in the Draft SEORMP/EIS depicts the potential for the occurrence of zeolite.

Diatomite

The planning area is rich in diatomite, found in Miocene and Pliocene lake sediments. An exceptionally large, pure deposit is located in the Otis-Juntura Basin on the Malheur-Harney County line. It is the site of a large open-pit mine, operated by Eagle-Picher Minerals, mining some 250,000 cubic yards per year. Although the mine is located in the Three Rivers Resource Area (Burns District), the ore is processed at an Eagle-Picher mill about 7 miles west of Vale and shipped to markets via railroad. Several other large occurrences of diatomite are found, most notably in the Harper Basin about 45 miles west of Vale, and in the Rome area. The Harper Basin deposit has been extensively explored and mined intermittently since 1910, and is currently a proposed diatomite mine site. Map MIN-4 in the Draft SEORMP/EIS depicts the potential for diatomite in the planning area.

Other Locatable Minerals

A number of other commodities are known or suspected to occur as isolated, small deposits. The more significant occurrences include porphyry deposits of copper; copper-gold; copper-molybdenum; and low-sulfide, gold-quartz veins. Other, less significant deposits include asbestos, talc, fluorite, silica, and perlite. The porphyries, low-sulfide gold-quartz veins, talc, and asbestos are located mainly in the pre-Cenozoic, accreted terranes of the Blue Mountains, associated with metamorphosed sediments and igneous intrusions. Talc and asbestos are located mainly in the pre-Cenozoic accreted terranes of the Blue Mountains. Fluorite is confined largely to late Miocene-Pliocene tuffaceous lake sediments in the Rome area. Silica, mainly as quartz, has been reported from several locations, largely in altered, volcanogenic arkosic (feldspar-rich) sandstones. Minor amounts of perlite have been reported in Miocene welded tuffs. Map MIN-3 in the Draft SEORMP/EIS depicts the mineral potential for the porphyry deposits, and Map MIN-4 in the Draft SEORMP/EIS depicts the mineral potential for low-sulfide gold-quartz veins.

Saleable Minerals

Saleable minerals include sand and gravel, rock aggregate, clay, decorative rock, limestone, obsidian, dolomite, pumice, pozzolan, and petrified wood. The planning area contains enormous mineral material reserves. There are local shortages of specific commodities, due largely to the variability of rock types and the suitability of the available material for the proposed use. Because of the area's isolation from major markets, limited transportation system, and small population base, large-scale development has not been common and has mainly been limited to road construction and maintenance projects.

There are 54 community pits/common use areas and 64 State of Oregon highway material rights-of-way in the planning area. The rights-of-way are authorized under Title 23 of the "Federal Highway Act." However, the BLM occasionally issues free-use permits to local government entities, and uses material itself on projects, with the written concurrence of Oregon Department of Transportation (ODOT). There are 27 community pits for sand and gravel, 20 for rock aggregate, 2 for riprap, 2 for topsoil, and 1 for clay. Two common use areas are for decorative rock. Map MIN-5 in the Draft SEORMP/EIS depicts the various community pits/common use areas and the type of material found at each site, as well as the locations of the State rights-of-way sites.

Rockhounding

There are several types of rocks found that rockhounds collect. The most significant occurrences are thundereggs, picture jasper, agates, and petrified wood, with minor occurrences of sunstones and obsidian. Numerous operations have taken place in the area, and several thousand pounds of material — largely thundereggs, agates, and picture jasper, with lesser amounts of petrified wood — have been removed over the past 50 to 60 years. Rockhounding continues to be popular. The Leslie Gulch ACEC is closed to rockhounding, and rock collecting in other areas may be limited to casual use.

Soils

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. Because soil recovery processes are also slow, disruption of soils can lead to long-term changes in ecological condition and productivity.

Detailed information on soils in MRA and JRA is scarce because Order III soil surveys have not been completed on about 70 percent of the public land in Malheur County. The unpublished "Ironside Soil Survey" (1977) mapped most of the remaining public land north of the Malheur River to the soil series level. Less detailed soil coverage for both resource areas is provided by an Order IV soil survey conducted for the Oregon State Water Resources Board (1969). An Order III soil survey is scheduled to begin in 2001 for Malheur County.

Soil Management and Productivity

Current management practices, such as proper stocking rates for livestock, rotation of grazing, periodic rest from grazing, improved design of roads, selective logging, rehabilitation of unneeded surface disturbance, restricting vehicles to roads and trails, rehabilitating mined areas, and control of concentrated recreational activities, have reduced erosion effects and improved soil conditions.

Management practices may affect the ability of soils to maintain productivity by influencing disturbances such as displacement, compaction, erosion, and alteration of organic matter and soil organisms levels. When soil degradation occurs in semiarid, high desert regions, natural processes are slow to return site productivity. Prevention of soil degradation is far more cost-effective and time-effective than remediation or waiting for natural processes.

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. The most productive soils for forage or wood fiber are found in valley bottoms, toeslopes, benches, and broad ridgetops. Demands for maintaining a productive ecosystem create a need for maintaining long-term soil productivity. Current soil productivity reflects site-specific natural conditions and past management practices.

Historically, erosion occurred on upland soils and in drainage channels as a result of uncontrolled land use, prolonged drought, and catastrophic storms. Many drainages were deeply incised by gully erosion more than 30 years ago. Some geologic erosion and localized erosion caused by concentrated uses still occurs.

Soil bulk density (mass per unit volume), porosity (hydraulic conductivity), organic matter content, moisture content, nutrient content, and soil temperature are affected to various

degrees by surface management actions. These factors in turn affect soil-water interactions, productivity, nutrient cycling, water holding capacity, and soil erosion rates.

Soil compaction may result from concentrated activities, such as equipment operation, livestock grazing, and pedestrian traffic. Compaction can reduce water infiltration rates, resulting in less available moisture for plants and increased surface runoff and root restrictions. These factors may contribute to reduced site productivity, increased soil erosion rates, and water quality degradation.

Limited data exist on the extent and distribution of microbiotic crusts in southeastern Oregon, although numerous studies have been conducted in the southern Great Basin, Colorado Plateau, and southwestern Idaho. Microbiotic crusts consist of lichens, bryophytes, algae, microfungi, cyanobacteria, and bacteria growing on or just below the soil surface (Eldridge and Greene 1994). Found in open spaces between larger plants, these crusts play a role in fixing nitrogen, filtering water, retaining soil moisture, and controlling soil erosion (Friedmann and Galun 1974; Belnap 1994). Cover types in the planning area that can be associated with substantial biological crust development include salt desert shrub, low sagebrush, big sagebrush, and juniper woodland. Some studies have identified that continual disturbance to these extremely fragile crusts may cause their degradation and contribute to incidental loss of ecosystem function. Activities that disturb the soil surface—including grazing, off-road vehicle use, recreational hiking, and other activities—can reduce the maximum potential development of biological crust. The importance of microbiotic crusts and their current location and distribution over much of the planning area will be identified, to the extent possible, during the proposed Order III soil survey and ecological site inventory for Vale District, Malheur County starting in 2002. Pertinent microbiotic crust information obtained from existing studies and acquired from site-specific inventory data will be incorporated into the evaluation and preparation process of geographic management area (GMA) plans.

Under all alternatives, soils would be managed in accordance with best management practices (BMP's) in Appendix O and would be addressed under specific resource activities; therefore Chapters 3 and 4 will not contain specific soil sections.

Fire

In recent years, the BLM has aggressively attempted to suppress all fires occurring on or threatening public land. The location and number of fire suppression forces are determined by the fire management plan (FMP), which is based on resource- and fire-related objectives as well as values at risk. Fire modeling programs using historical fire occurrence data — including date, time, fuels, fireline intensity, location, response time, and initial and final fire size — assist in determining the location and mix of forces necessary to meet management objectives.

The planning area has been evaluated for fire-related risk to resource values. An interdisciplinary approach determined the values to be protected, and these values, in conjunction with resource and fire objectives, form the basis for the FMP. These values, objectives, and fire risk assessments are used in determining the appropriate management response (AMR) for a given area—the guiding priority for any given response will always be firefighter and public safety.

The "Federal Wildland Fire Management Policy," issued in December 1995 and amended by the January 2001 review and update, aligns all Federal fire management agencies under the same direction. The BLM defines fire in two categories, wildland or prescribed fire. Fire strategies now enable managers to integrate fire as an essential natural process within any ecosystem.

From 1980 through 1999, 927 fires were recorded in the planning area. Despite suppression efforts, these fires burned about 832,150 acres of public land and 32,659 acres of State and private land, with a yearly average of 46 fires and about 43,240 acres burned. Because predominant fuel types are grass and brush, the number of fires and the amount of land burned can be directly linked to the amount and timing of spring moisture. From 1987 through 1995, a period in which 8 of 9 years had minimal spring moisture, an annual average of 35 fires burned 16,813 acres. By contrast, from 1980 through 1986, a period of normal or above normal spring moisture, a yearly average of 61 fires burned 83,533 acres (see Map FIRE-1J and -1M in the Draft SEORMP/EIS).

Factors that determine fire regimes include the long-term frequency, intensity, and extent of fire events, which are all largely dependent on climate and weather patterns. These fire characteristics also depend on the availability of burnable fuel, which is related to past management practices, including the use of prescribed fire, wildfire suppression, and grazing.

Alterations in natural fire regimes have greatly influenced the distribution, composition, and structure of rangeland and forest vegetation. In many locations, the frequency of fire has decreased because of fire suppression activities and removal of fine burnable fuels (grasses) by grazing. Changes resulting from decreased fire frequency include (1) encroachment of conifers, including ponderosa pine and Douglas fir, into nonforested vegetation at forest steppe boundaries; (2) increased tree density in former savanna-like stands of western juniper and ponderosa pine; and (3) increased density or coverage of big sagebrush and other shrubs, with an accompanying loss of herbaceous vegetation. In contrast, fire frequency has increased in drier locations where exotic annual grasses such as cheatgrass have become established. These changes in fire regimes have caused greater homogeneity of many landscapes.

Fire occurs at various intervals (fire return intervals) in different vegetation types. Intervals between fires are longer in warm, dry sites where the presence of only a small amount of fuel limits fire spread, and in cool, wet sites where burning conditions are limiting despite the large amount of fuel. The shortest fire return intervals occur where there is an optimum combination of flammable fuel and ignition source.

Fire return intervals have been investigated using a wide variety of methods. In some cases, the data represent best judgment; in other cases, investigators have used extensive measurements of fire scars or analyses of stand structure or fuel accumulations. The method used has greatly influenced the results of the study in some cases (Martin 1982). Studies done in fuels similar to those in the planning area have estimated fire return intervals as shown in Table 2-3.

Table 2-3.—*Estimated fire return intervals*

Vegetation	Location	Interval (years)
Western juniper/sagebrush/grass	Southwestern Idaho	16 [1]
Sagebrush/grass	Southeastern Oregon	50–65 [2]
Ponderosa pine	Central Oregon	5–20 [3]
Ponderosa pine	Blue Mountains, Oregon	10 [4]

[1] Burkhart and Tidsdale 1976.
[2] Wright and Britton 1976.
[3] Keen 1937.
[4] Hall 1976 1980

The BLM has tried to fully suppress all wildfires, regardless of cause. With multiple fires, suppression priority is given to fires threatening life, property, and resources at risk, in decreasing order of importance. Fires occurring within WSA's and other environmentally sensitive areas have received full suppression responses, but these responses are generally limited in regard to the use of mechanical equipment and retardant. If a fire is likely to become large or 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.

Each resource area has qualified resource advisors who are used during fires that escape or have the potential to escape initial attack. 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 land-owners. Although resource advisors do not make suppression decisions, their advice and concerns have a direct bearing on most major suppression decisions.

A wildland fire situation analysis, identifying various alternatives for suppression, must be developed for all fires that escape initial attack. This analysis is completed by the incident commander and resource advisor, and the selected alternative must be approved by the line officer prior to authorization of suppression actions.

Fires starting on private land are suppressed only if they threaten adjacent public land or assistance is requested by the State of Oregon or private land owner. In either of the latter instances, where there is no threat to public land, the Bureau will seek reimbursement for suppression costs.

In fire-dependent ecosystems, periodic fire is essential to the health and proper functioning of natural systems. In such systems, fire initiates or terminates key vegetational successions; controls the age structure and species composition of vegetation; produces a mosaic of plant communities; affects insect populations and plant diseases; influences nutrient cycles and energy flows; affects soil productivity; affects the stability of the ecosystem; and determines the quality and nature of wildlife habitat.

Prescribed burning can be used to meet resource and fire management objectives, including stimulation of plant growth, changes in species composition, or reduction in amounts of fuels and slash. Historic use of prescribed fire throughout the planning area has been minimal.

Rangeland Vegetation

Portions of several physiographic provinces delineated by Franklin and Dyrness (1973) are present within the planning area, all within the steppe vegetation areas east of the Cascade Mountains. Though the region is often called high desert, steppe is a more appropriate term based on the existence of an appreciable cover of perennial grasses on zonal soils. MRA and JRA are within the Owyhee Uplands Province, with some overlap into the Basin and Range Province to the west. (Some experts consider the Owyhee Uplands merely an extension or subsection of the Northern Basin and Range Province.) Low-elevation portions of the Blue Mountain Province grade into the Owyhee Uplands Province in the northern portion of MRA. (Some experts also recognize a western Snake River Plain Province covering the northeastern portion of MRA.) Portions of both resource areas contain similarities to the High Lava Plains Province, located just northwest of the planning area.

Physiographic provinces delineated by Franklin and Dryness share many similarities to ecological reporting units (ERU's) presented by scientists working on the Interior Columbia Basin Ecosystem Management Project (USDA-FS 1997). The planning area of PSEORMP/

FEIS is situated within the Owyhee Uplands (ERU 10), the Northern Great Basin (ERU 4), and the Blue Mountains ERU's (ERU 6).

In addition to the influence of geological and ecological processes, the rangeland landscape of the southeastern Oregon cool steppe environment is a product of human impacts. Immediately prior to settlement in the late 19th century, two major vegetation types dominated the lower elevation desert upland communities. One type was typified by big sagebrush and bluebunch wheatgrass in which dominance of sagebrush varied according to the incidence of fire and other factors. The presence of other species varied with elevation, soil, and rainfall. Sandberg bluegrass and bottlebrush squirreltail were found in drier areas, and low sagebrush occurred on shallow soil. Idaho fescue and antelope bitterbrush reached codominance with bluebunch wheatgrass and big sagebrush at upper elevations and composed the understory in western juniper woodlands. Other minor species included Thurber's needlegrass, prairie Junegrass, needleandthread grass, and several shrubs.

The second major low elevation steppe vegetation type, composed primarily of shrubs, grew on alkaline soil and was dominated by shadscale saltbush and other shrubs, including spiny hopsage, winterfat, bud sagebrush, and greasewood. Bluebunch wheatgrass occurred in the understory, while larger amounts of bottlebrush squirreltail and Indian ricegrass dominated on sandy soils.

High-elevation vegetation communities associated with fault-block mountain ranges also occurred within the Great Basin and Owyhee Provinces. Western juniper and quaking aspen composed a tree overstory at the forest steppe ecotone, and common snowberry, mountain big sagebrush, and willow constituted a shrub layer. The herbaceous layer contained many forbs in addition to grass species dependent on conditions more mesic than those provided in desert environments. Subalpine communities dominated mountain ranges above approximately 7,900 feet in elevation.

Many north-facing slopes in the northern part of MRA at the margins of the Blue Mountains Province were dominated by ponderosa pine and Douglas fir forested types. Understory shrubs included big sagebrush, low sagebrush, antelope bitterbrush, and common snowberry.

The migration of immigrants over the Oregon Trail to the Willamette Valley, and the opening of mines at Silver City in the Owyhee Mountains, brought a large number of people into the region. Settlers needed horses for transportation and cattle and sheep for food and other products. Locally heavy stocking of livestock probably began with the discovery of gold in 1863. By 1875, great numbers of cattle, sheep, and horses occupied the grazing land of the two resource areas in great numbers. Cattle herds expanded in the latter decades of the 1800's as the railroads were extended. By the turn of the century, rangeland deterioration had occurred adjacent to areas of settlement. Land adjacent to these settlements was often grazed year-round, including the spring growing season. In addition, historical trailing routes to shipping points at Riverside, Juntura, Harper, Vale, and Jordan Valley were heavily used by large numbers of animals.

Higher elevation rangeland was less accessible during the summer and limited to areas where adequate water was available. Because of the additional livestock management required to make use of these areas, the duration and intensity of livestock use, and thus the impacts, were often less than in areas closer to settlements. Many areas remained unavailable to livestock due to lack of water or limited accessibility, though some areas were heavily grazed by large itinerant sheep bands.

Many impacts of historical livestock grazing were thus concentrated at low elevations where temperatures were hottest, rainfall the least, and the dry season the longest. In these low elevation ranges, native vegetation communities were less resilient to gazing impacts and were replaced with introduced annual and weedy species. Today, low elevation ranges

continue to have the greatest need for reestablishment of perennial vegetation, though they are the most difficult to rehabilitate.

Inventory and delineation of vegetation communities was most recently completed in two inventories. The portion of the planning area north of U.S. Highway 20, in addition to North Harper Allotment, was inventoried to define current vegetation types as part of the 1977 Ironside Eco-Site Inventory. The Southern Malheur Modified Soil-Vegetation Inventory Method, used to define current vegetation types, was completed in 1979 for those portions of Vale District south of U.S. Highway 20, with the exception of North Harper Allotment. Current vegetation communities delineated in these two inventories have been grouped in 18 broad vegetation communities (Table 2-4; Map VEGE-1J and -1M in the Draft SEORMP/EIS). Rangeland condition and trend by pasture is presented in allotment summaries (Appendix E). Presented rangeland condition by pasture is summarized information from the above mentioned inventories. Trend is based on the most recent agency data including evaluations within each allotment.

The 18 broad vegetation communities identified above occur primarily within the dry shrub or cool shrub rangeland potential vegetation groups identified in ICBEMP Final EIS. Minor occurrence of vegetation communities of the dry grassland potential vegetation group are present in the planning area. Limited forested and woodland communities of the planning area occur in the dry forest potential vegetation group.

The planning area is dominated by sagebrush/native bunchgrass communities. Big sagebrush/bunchgrass communities are the most widespread type in southeastern Oregon, with basin big sagebrush growing on deep alluvial soils, Wyoming big sagebrush growing on well-drained soils at lower elevations, and mountain big sagebrush growing on similar soils at higher elevations. Low sagebrush/bunchgrass communities dominate on shallow soils that are either stony or clayey. Stiff sagebrush/bunchgrass communities are located on very shallow stony soils. Black sagebrush/bunchgrass communities form a minor type on shallow soil. Silver sagebrush/bunchgrass communities dominate internally drained basins with seasonally saturated soils. Perennial grassland communities do not form a major climax vegetation type though they do dominate for a period following fire when the shrub component is eliminated.

Historically, sagebrush/native bunchgrass communities were maintained with periodic wildfire as often as every 20 to 30 years in sites that support mountain big sagebrush, to every 50 to 100 years in sites that support Wyoming big sagebrush, to even less frequent in low sagebrush communities with limited fine fuels. As a result of the elimination of fine fuels capable of supporting fire spread, many sites currently support a community with a much greater woody species composition than was present prior to European settlement. Fire suppression during the past 100 years has also contributed to an increase in woody species dominance.

A number of vegetation communities are the products of past heavy use, fire, or rehabilitation efforts. Shrub/annual grassland communities are the product of past disturbance where cheatgrass and other annuals have replaced the perennial bunchgrass component of a sagebrush/bunchgrass community. Increased fire frequency, supported by heavy loading of fine fuels, has resulted in areas dominated by annual grasslands with little or no shrub component. Where present in the preburn vegetation community, rabbitbrush has replaced other shrub species in the overstory of sagebrush/bunchgrass communities for a period following fire. Seedings of crested wheatgrass and other introduced perennial species, with varying amounts of sagebrush and other shrub overstory, have been completed to rehabilitate and stabilize some low-seral sagebrush/bunchgrass communities. The scope of past seedings and land treatments is summarized in the rangeland grazing use portion of this chapter and in Table 2-21.

Table 2-4.—*Vegetation types in the planning area*

Vegetation type	Associated plant species	Acres / (Percent of resource area/planning area) MRA	JRA	TOTAL
Big sagebrush / perennial grassland	Western juniper, Wyoming big sagebrush, basin big sagebrush, mountain big sagebrush, antelope bitterbrush, bluebunch wheatgrass, Idaho fescue, Thurber needlegrass, Indian ricegrass, needleandthread grass, Sandberg bluegrass, basin wildrye, bottlebrush squirreltail, arrowleaf balsamroot, phlox	883,877 (43.9)	1,160,363 (44.9)	2,044,240 (44.5)
Low sagebrush / grassland	Western juniper, low sagebrush, bluebunch wheat-grass, Thurber needlegrass, Idaho fescue, cheatgrass, biscuitroot, Sandberg bluegrass	124,860 (6.2)	333,927 (12.9)	458,787 (10.0)
Stiff sagebrush / grassland	Western juniper, stiff sagebrush, Idaho fescue, smooth brome, Sandberg bluegrass, cheatgrass, biscuitroot, largehead clover, bluebunch wheatgrass	71,026 (3.5)	4,217 (0.2)	75,243 (1.6)
Black sagebrush / grassland	Black sagebrush, shadscale saltbush, bottlebrush squirreltail, Sandberg bluegrass, cheatgrass	0	32,062 (1.2)	32,062 (0.7)
Silver sagebrush / grassland	Silver sagebrush, creeping wildrye, Sandberg bluegrass, bluebunch wheatgrass, cheatgrass	2,375 (0.1)	593 (trace)	2,968 (0.1)
Native perennial grassland	*Steppe grassland*: bluebunch wheatgrass, Idaho fescue, bottlebrush squirreltail, Thurber's needlegrass, Sandberg bluegrass, basin wildrye, western wheatgrass, arrowleaf balsamroot, phlox	214,825 (10.7)	153,876 (6.0)	68,701 (8.0)
Big sagebrush / annual grassland	Western juniper, big sagebrush, cheatgrass, tumble mustard, clasping pepperweed, foxtail barley, Sandberg bluegrass	242,474 (12.1)	197,643 (7.6)	440,117 (9.6)
Annual grassland	Cheatgrass, foxtail barley, sixweeks fescue, Sandberg bluegrass, tumble mustard, clasping pepperweed	66,018 (3.3)	112,630 (4.4)	178,648 (3.9)
Rabbitbrush / grassland	Western juniper, rabbitbrush, horsebrush, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass, cheatgrass, foxtail barley, sixweeks fescue, Sandberg bluegrass, tumble mustard, clasping pepperweed, bottlebrush squirreltail	78,881 (3.9)	98,561 (3.8)	177,442 (3.9)
Crested wheat-grass	Crested wheatgrass, sweet-clover, fourwing saltbush	43,523 (2.2)	57,924 (2.2)	101,447 (2.2)
Big sagebrush / crested wheat-grass	Western juniper, big sagebrush, rabbitbrush, crested wheatgrass, fourwing saltbush	31,678 (1.6)	142,698 (5.5)	174,376 (3.8)
Salt desert shrub / grassland	Greasewood, shadscale saltbush, bud sagebrush, fourwing saltbush, spiny hopsage, horsebrush, winterfat, bottlebrush squirreltail, saltgrass, basin wildrye	92,894 (4.6)	125,747 (4.9)	18,641 (4.8)

Table 2-4.—*Vegetation types in the planning area (continued)*

Vegetation type	Associated plant species	Acres / (Percent of resource area/planning area) MRA	JRA	TOTAL
Western juniper / big sagebrush	Western juniper, big sagebrush, antelope bitterbrush, rabbitbrush, bluebunch wheatgrass, Thurber needlegrass, Idaho fescue, cheatgrass	6,343 (0.3)	0	6,343 (0.1)
Western juniper / low sagebrush	Western juniper, low sagebrush, bluebunch wheat-grass, Idaho fescue, Thurber needlegrass, Sandberg bluegrass, cheatgrass	1,510 (0.1)	3,684 (0.1)	5,194 (0.1)
Quaking aspen [1]	Quaking aspen, western juniper, big sagebrush, antelope bitterbrush, common snowberry, western chokecherry, bitter cherry, bluebunch wheatgrass, Idaho fescue, needlegrass, mountain brome	0	32,742 (1.3)	32,742 (0.7)
Mountain shrub / grassland	Mountain mahogany, antelope bitterbrush, common snowberry, western chokecherry, bitter cherry, bluebunch wheatgrass, Idaho fescue, needlegrass, mountain brome	9,857 (0.5)	11,729 (0.5)	21,586 (0.5)
Forested [2]	Ponderosa pine, Douglas fir, white fir,western juniper, quaking aspen, big sagebrush, antelope bitterbrush, common snowberry, rabbitbrush, bluebunch wheatgrass, Idaho fescue	7,121 (0.4)	0	7,121 (0.2)
Rock / lacustrine breaks [2]	Sandberg bluegrass, biscuitroot, largehead clover, phlox	34,077 (1.7)	0	34,077 (0.7)
No data [3]		100,732 (5.0)	117,251 (4.5)	217,983 (4.7)
TOTAL		2,012,071	2,585,647	4,597,718

[1] Not inventoried in the 1997 "Ironside Eco-Site Inventory."
[2] Not inventoried in the 1979 "Southern Malheur SVIM."
[3] Public land within the planning area though outside all inventory areas.

Salt desert shrub communities are present on saline soils and are most common where interior drainage and old lakebeds are typical. Other internally drained basins devoid of vegetation form playas.

Vegetation communities with an overstory of Douglas fir, ponderosa pine, western juniper, quaking aspen, or mountain mahogany are present on more mesic sites at higher elevations. Forested communities dominated by Douglas fir and ponderosa pine are found on north aspects of the foothills of the Blue Mountains. Western juniper occurs as a vegetation component in many forested communities.

Reduced wildfire frequency, resulting from the elimination of fine fuels and fire suppression activities in the past 100 years, has allowed sagebrush/bunchgrass communities to develop a high density of woody species including western juniper. Western juniper dominance has also increased within higher elevation sagebrush steppe vegetation communities of MRA and the forest ecotone of the Blue Mountains. Vegetation inventories have not delineated the limits of climax western juniper woodlands nor potential western juniper woodland encroachment.

Quaking aspen communities are present between the 6,400 and 7,900 foot elevations on many fault-block mountains of the planning area. They also occur at lower elevations in riparian communities and at other sites with deep soil and adequate soil moisture. Mountain mahogany communities form pure stands at higher elevations, particularly on Mahogany Mountain in MRA. Quaking aspen and mountain mahogany also form inclusions in the ecotone between western juniper and ponderosa pine in the Blue Mountains.

Subalpine grassland communities are present above 8,000-foot elevation on Trout Creek Mountain, as are subalpine meadow communities and snow zone shrub communities.

Streams and wetlands provide diverse habitat for riparian and meadow communities. These communities have potential to support tree/shrub/sod-forming herbaceous layers depending on a number of factors, including the frequency and types of disturbance.

Noxious Weeds

The "Vale District Five-Year Integrated Weed Control Plan" (1987) is tiered to the "Record of Decision for the Northwest Area Noxious Weed Control Program" (1987) with objectives to (1) maintain established noxious weed populations below the level that causes either undue and unnecessary environmental degradation or impairs the public lands' economic productivity, and (2) eradicate invading noxious weeds before they become established on public lands. This plan remains in effect until a district-wide noxious weed EIS, currently being developed, is finalized. The BLM's program for controlling or eradicating noxious weeds on public lands in the northwest United States shall integrate biological, chemical, manual, and mechanical methods.

Noxious weed invasion has many detrimental effects, including the loss of rangeland productivity, increased soil erosion, reduced species and structural diversity, reduced crop yields, and loss of wildlife habitat. Economic losses from noxious weeds are considerable and often not fully recognized. Some species pose a significant threat to multiple use management of public land.

In Oregon, as well as other western states, noxious weeds have become so thoroughly established and are spreading so rapidly that they have been declared a menace to public welfare (ORS 570.505). In some instances, failure to control these weeds leads to hazard and economic losses, as is emphasized in the "Federal Noxious Weed Act" (Public Law 93-629). The "Carlson-Foley Act" (Public Law 90-583) and the "Federal Land Policy and

Management Act" (section 302 [b]), as well as State and county laws, make the Federal government responsible and provide direction for control of weeds on Federal land.

Noxious weeds cannot be adequately controlled unless Federal, State, county, and private interests work together to control their distribution and density. The Oregon Department of Agriculture (ODA) has developed a classification system at the State level 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 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.

Malheur County has identified priority species of noxious weeds for control, and the Vale District BLM is working with the county in a coordinated approach for control of those noxious weed species.

The current distribution of noxious weeds is shown in Map SS-1 in the Draft SEORMP/EIS. Ongoing surveys are monitoring the introduction and distribution of noxious weeds.

Forest and Woodlands

Forestland is generally restricted to the northwestern portion of MRA. This area is a transition zone between the sagebrush grassland communities of the Owyhee Uplands to the south and the forests of the Blue Mountains to the north. Forestland exists on scattered sites at higher elevations, where moisture is sufficient. The driest forested sites contain mixed western juniper and ponderosa pine with an understory of rangeland species such as bluebunch wheatgrass, mountain big sagebrush, and antelope bitterbrush. At higher elevations and on northerly aspects, western juniper becomes less common and the amount of Douglas fir increases. Mixed stands of western larch, Douglas fir, grand fir, and lodgepole pine occur only at the highest elevations. As elevation increases, understory vegetation includes more moist forest species such as common snowberry, spiraea, ceanothus, sedges, and pinegrass.

Extensive forest inventory data have not been collected. Aerial photography indicates that there are approximately 5,877 acres of forested land within MRA (see Map FORS-2M in the Draft SEORMP/EIS). Included are areas of ponderosa pine, both commercial and noncommercial timberland, areas that have been selectively logged in the past 30 years, and areas burned in wildfires. Forest stand age classes, condition, productivity and stocking rates are variable, and the extent of each cannot be determined with available data. The most recent timber harvest occurred in 1996 when 257 acres were salvage-logged as the result of the approximately 841 acres of forestland that were burned in 1994.

Most forest stands are either low in productivity (due to dryness) or inaccessible for economic timber harvest. Timber harvest in MRA has removed about 4,010,000 board feet since 1955, with an average annual harvest of approximately 100,000 board feet. The potential for further timber harvest within the planning area is low due to low site productivity, small acreages, and long hauling distances.

Reduced fire frequencies and timber harvest practices over the past 100 years have changed many of the forest stands. Many areas have large numbers of Douglas fir and ponderosa pine seedlings, many ponderosa pine sites have been invaded with Douglas fir, and western juniper has expanded into nearly all forested areas. This has resulted in overstocked stands, which are more susceptible to disease, epidemic insect infestations, and intense fires. In

stands with less frequent fire, there has also been an increase in the amount of dead wood, both standing and down. In other areas, forest stands retain much of their historic open character.

Selective harvest of mature ponderosa pine, Douglas fir, and western larch has left few areas with late successional or old growth forest characteristics. These areas are important habitats that ensure the long-term viability of the special assemblages of old growth-dependent wildlife species. The distribution, occurrence, and connectivity of this type of forest community is below historic ranges.

Western Juniper

In MRA, western juniper is spread across approximately 166,000 acres. Areas dominated by western juniper range along the western one-third of the resource area near Juntura, Beulah Reservoir, Stockade Mountain, and Ironside Mountain (see Map FORS-1 in the Draft SEORMP/EIS).

Although small acreages of western juniper occur in JRA, primarily as invasion sites in big sagebrush communities, it is generally found in the eastern part of the resource area along the Idaho/Oregon border.

In the Intermountain West, the conversion of shrub steppe communities to western juniper woodlands has been an active and accelerated process during the past 120 years (Taush et al. 1981; West 1984; Miller and Wigand 1994). Over 90 percent of the western juniper woodlands are less than 100 years old (USDI-BLM 1990), even though the life span of western juniper exceeds 1,000 years (Miller unpublished data). Prior to settlement, western juniper was primarily confined to rocky ridges or surfaces with sparse vegetation (Cottam and Stewart 1940; Burkhardt and Tisdale 1969; Barney and Frishknecht 1974; Vasek and Thorne 1977; West 1984; Miller and Rose 1998a). However, newly formed western juniper woodlands now occupy more productive sites with deep well-drained soils (Burkhardt and Tisdale 1969; Taush et al. 1981; West 1984; Miller and Rose 1995, 1998a).

Western juniper is expanding into open meadows, grasslands, sagebrush steppe communities, quaking aspen groves, riparian communities, and forestlands. The replacement of shrub steppe communities with western juniper woodland has been largely attributed to the reduced role of fire due to the reduction of the fine fuels through livestock grazing (Burkhardt and Tisdale 1967; Karl and Leonard 1996; Miller and Rose 1998a). The heavy grazing that occurred between 1880 and 1930 may have set the stage for western juniper expansion.

Western juniper occurs across a broad variety of soils and terrain, resulting in extreme variability in structure, composition, and function, and varying effects on ecological processes such as hydrology and nutrient cycling. Stand variability can also be attributed to varying stages of woodland development since western juniper expansion is relatively recent (within the last 120 years).

Old growth western juniper woodlands in the West generally do not fit the typical image most people have of old growth coniferous forests. Western juniper can easily live past 1,000 years (Miller unpublished data). The oldest living western juniper currently reported is just over 1,600 years old. Old growth stands in existence today are relicts of the extensive stands that characterized the landscape over the past 4,000 to 5,000 years. These stands may be defined and recognized as supporting trees growing prior to European settlement and/or trees having old growth characteristics such as round-top canopies, twisted trunks, deep furrows in the bark with strips of bark falling off, and large lower branches with conspicuous yellow lichen.

In contrast, stands that have established after the 1870's appear to be considerably more dense and to have developed under different environmental conditions than the presettlement stands preceding them. In Oregon, estimates of less than 3 percent of the current 5 million acres of western juniper woodlands are characterized by trees greater than 100 years old (USDI-BLM 1990).

Quaking Aspen

Quaking aspen occurs in areas of locally high soil moisture, including riparian zones, ephemerally wet areas, and groundwater seeps. In JRA and MRA scattered quaking aspen stands occur in the areas between Castle Rock and Ironside Mountain, in the Trout Creek Mountains, in the Oregon Canyon Mountains, and near the headwaters of the West Little Owyhee River.

Communities of quaking aspen are deteriorating throughout the western United States. Comparisons of data from historical records indicate that the area occupied by aspen has declined by 60 to 90 percent or more since European settlement. Photographic comparison show dramatic changes in western landscapes (Lachowski 1996; Mueggler 1989a, 1989b). Western juniper is invading and replacing quaking aspen stands throughout the Northwest Great Basin (Wall 1999).

The distribution of quaking aspen has decreased over the past 100 to 200 years in the planning area, as in other parts of eastern Oregon. This decline has been attributed to a reduction in fire occurrence, overbrowsing by livestock, wildlife in certain localities, and/or loss of habitat due to lowering of water tables (Crowe 1996). Studies on file in the Vale District for the Bully Creek Subbasin show considerable decline in quaking aspen in the last twenty years.

Generally, quaking aspen stands contain mostly large trees with little regeneration or few trees of sapling or pole size. Mature trees are generally 100 years old or more and are approaching the end of their life span.

Special Status Plant Species

Table 2-5 lists State and Bureau 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. Five conservation agreements between the BLM and the U.S. Fish and Wildlife Service (USFWS) have guided management direction within the Vale District for seven species directly and two indirectly. Challenge Cost Share projects with ODA, Berry Botanic Garden, and The Nature Conservancy have provided studies and monitoring on six species. Special status plant surveys are made prior to land exchanges, range and wildlife projects, proposed mining operations, and other surface disturbing activities.

Within the past 10 years, management attention has focused primarily on the 16 species found in the planning area that were formerly designated by the USFWS as Category 1 and 2 candidate species being considered for listing under the ESA. These species are now classified as BLM sensitive species or are state-listed species (Table 2-6). No known plant species within the planning area are currently listed as threatened or endangered by the USFWS.

Thousands of acres have been surveyed for these special status plants within the last 15 years (see Map SS-1 in the Draft SEORMP/EIS for the general locations of these species). Inventories have led the Vale District to recommend to Federal, State, and private cooperat-

Table 2-5.—*Special status plant species found within the planning area* [1]

Common name	Scientific name	BLM (State) status [2]	Resource area [3]
Barren Valley collomia	*Collomia renacta*	SEN	J, M
Biddle's lupine	*Lupinus biddlei*	SEN	M
biennial stanleya	*Stanleya confertiflora*	SEN	M, J
Cronquist's stickseed	*Hackelia cronquistii*	(LT)	M
Cusick's chaenactis	*Chaenactis cusickii*	SEN	J, M
Davis' peppergrass	*Lepidium davisii*	(LT)	J
Ertter's senecio	*Senecio ertterae*	(LT)	M
golden buckwheat	*Eriogonum chrysops*	(LT)	M
Greeley's cymopterus	*Cymopterus acaulis* var. *greeleyorum*	SEN	M
grimy ivesia	*Ivesia rhypara* var. *rhypara*	(LE)	M
Mackenzie's phacelia	*Phacelia lutea* var. *mackenzieorum*	SEN	M
Maheur Valley fiddleneck	*Amsinckia carinata*	(LT)	M
Mulford's milkvetch	*Astragalus mulfordiae*	(LT)	M
Owyhee clover	*Trifolium owyheense*	(LE)	M
Packard's mentzelia	*Mentzelia packardiae*	(LT)	M
playa buckwheat	*Eriogonum salicornioides*	SEN	M, J
slender wild cabbage	*Caulanthus major* var. *nevadensis*	SEN	J
Smooth mentzelia	*Mentzelia mollis*	(LE)	M
Snake River goldenweed	*Pyrrocoma radiatus*	(LE)	M
sterile milkvetch	*Astragalus sterilis*	(LT)	M
weak-stemmed milkvetch	*Astragalus solitarius*	SEN	J, M
annual dropseed	*Muhlenbergia minutissima*	ASM	J
broad-flowered chaenactis	*Chaenactis stevioides*	ASM	J
Cooper's goldenflower	*Hymenoxys lemmonii*	ASM	J
Cusick's giant hyssop	*Agastache cusickii*	ASM	M
desert chaenactis	*Chaenactis xantiana*	ASM	J
iodine bush	*Allenrolfea occidentalis*	ASM	J
King's rattleweed	*Astragalus calycosus*	ASM	J
large-flowered chaenactis	*Chaenactis macrantha*	ASM	J
long-flowered snowberry	*Symphoricarpos longiflorus*	ASM	J
male fern	*Drypoteris filix-mas*	ASM	J
Malheur stylocline	*Stylocline psilocarphoides*	ASM	M
naked-stemmed phacelia	*Phacelia gymnoclada*	ASM	J
Owyhee sagebrush	*Artemisia papposa*	ASM	J
porcupine sedge	*Carex hystricina*	ASM	M
prickly-poppy	*Argemone munita* ssp. *rotundata*	ASM	M
Raven's lomatium	*Lomatium ravenii*	ASM	M
Snake River milkvetch	*Astragalus purshii* var. *ophiogenes*	ASM	M
Three Forks stickseed	*Hackelia ophiobia*	ASM	J
Alvord milkvetch	*Astragalus alvordensis*	TRA	J
Bigelow's four-o'clock	*Mirabilis bigelovii* var. *retrorsa*	TRA	M
Brandegee's onion	*Allium brandegei*	TRA	M
California chicory	*Rafinesquia californica*	TRA	J
Chambers twinpod	*Physaria chambersii*	TRA	M
four-winged milkvetch	*Astragalus tetrapterus*	TRA	J
hairy wild cabbage	*Caulanthus pilosus*	TRA	M
hairy-foot plantain	*Plantago eriopoda*	TRA	M
hedgehog cactus	*Pediocactus simpsonii* var. *robustior*	TRA	M, J

Table 2-5.—*Special status plant species found within the planning area* [1] *(continued)*

Common name	Scientific name	BLM (State) status [2]	Resource area [3]
Ibapah wavewing	*Cymopterus ibapensis*	TRA	J
Janish's penstemon	*Penstemon janishiae*	TRA	J
King's penstemon	*Penstemon kingii*	TRA	J
Kruckeberg's holly fern	*Polystichum kruckebergii*	TRA	J
Lemmon's onion	*Allium lemmonii*	TRA	M
low hawksweed	*Crepis modocensis* ssp. *modocensis*	TRA	J
Malheur cryptantha	*Cryptantha propria*	TRA	M ,J
narrowleaf cottonwood	*Populus angustifolia*	TRA	M
nodding melic	*Melica stricta*	TRA	M
ochre-flowered buckwheat	*Eriogonum ochrocephalum* ssp. *calcareum*	TRA	M
Owyhee milkvetch	*Astragalus atratus* var. *owyheensis*	TRA	M
Packard's artemisia	*Artemisia packardiae*	TRA	M, J
Packard's lomatium	*Lomatium packardiae*	TRA	M
Palmer's evening-primrose	*Camissonia palmeri*	TRA	M, J
playa phacelia	*Phacelia inundata*	TRA	J
punctate langloisa	*Langloisia setosissima* ssp. *punctata*	TRA	M, J
Rose's lomatium	*Lomatium roseanum*	TRA	M, J
salt heliotrope	*Heliotropium curassavicum*	TRA	M, J
short-lobed penstemon	*Penstemon seorsus*	TRA	M
Siberian water-milfoil	*Myriophyllum sibiricum*	TRA	M
sinister gilia	*Gilia sinistra* ssp. *sinistra*	TRA	M
smooth malacothrix	*Malacothrix glabrata*	TRA	M, J
Snake River cryptantha	*Cryptantha spiculifera*	TRA	M
spreading stickseed	*Hackelia patens* var. *patens*	TRA	M
Texas bergia	*Bergia texana*	TRA	M
Torrey's rush	*Juncus torreyi*	TRA	M
Trout Creek milkvetch	*Astragalus salmonis*	TRA	M, J
two-stemmed onion	*Allium bisceptrum*	TRA	J
white locoweed	*Oxytropis sericea* var. *sericea*	TRA	J
white-flowered penstemon	*Penstemon pratensis*	TRA	M

[1] None of the species shown in this table is listed as threatened or endangered by the USFWS.
[2] SEN = BLM sensitive species; ASM = BLM assessment species; TRA = BLM tracking species; LE = listed State endangered; LT = listed State threatened. Among these classifications, species classified as BLM sensitive and listed State endangered are considered most at risk. By contrast, those identified as BLM tracking species are the subject of less intense concern. See the glossary for definitions of classifications.
[3] J = Jordan; M = Malheur.

ing entities that two species — Biddle's lupine and weak-stemmed milkvetch — be dropped from consideration due to their wide range, frequency of occurrence, and insignificance of threats to the species and their habitats. A recent taxonomic treatment also has questioned the species validity of Biddle's lupine.

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. Often several special status species occur together. In a review of the physiographic province of the Owyhee Uplands, Vander Schaff (l996) suggests that the various ash substrates found in the province have promoted a high degree of plant endemism. Numerous species and subspecies have arisen that can occupy these often harsh ash sites.

Table 2-6.—*Management of species previously classified as Category 1 and 2 candidate species*

Common name	Scientific name	Percent inventory completed [1]	Habitat management plan	Monitoring sites	Number of exclosure	Conservation agreement [2]
Barren Valley collomia	*Collomia renacta*	10	No	0	0	No
Biddle's lupine	*Lupinus biddlei*	85	No	4	0	No
Cronquist's stickseed	*Hackelia cronquistii*	85	Yes	10	4	No
Cusick's chaenactis	*Chaenactis cusickii*	65	No	0	0	No
Davis' peppergrass	*Lepidium davisii*	85	No	4	0	Yes
Ertter's senecio	*Senecio ertterae*	85	Yes [3]	7	0	Yes
golden buckwheat	*Eriogonum chrysops*	40	No	2	0	Yes
grimy ivesia	*Ivesia rhypara* var. *rhypara*	80	Yes [3]	0	0	Yes
Maheur Valley fiddleneck	*Amsinckia carinata*	95	No	0	4	Yes
Mulford's milkvetch	*Astragalus mulfordiae*	80	No	3	0	Yes
Owyhee clover	*Trifolium owyheense*	65	Yes [3]	2	0	Yes
Packard's mentzelia	*Mentzelia packardiae*	80	Yes [3]	3	0	Yes
Smooth mentzelia	*Mentzelia mollis*	90	No	1	1	No
Snake River goldenweed	*Pyrrocoma radiatus*	80	No	8	4	No
sterile milkvetch	*Astragalus sterilis*	70	Yes [3]	1	0	Yes
weak-stemmed milkvetch	*Astragalus solitarius*	80	No	3	0	No

[1] Based on amount of likely habitat intensively inventoried.
[2] Conservation agreement signed between the USFWS and the BLM.
[3] Included in LGMP.

Table 2-7 shows the general habitat requirements, including physical habitat and associated vegetation, of the 16 species previously classified as Category 1 and 2 candidate species. The following discussion of these species is organized by habitat. Other special status species are not discussed here due to limited species information.

Vale Sand Hills

Two herbaceous, perennial plant species (Cronquist's stickseed and Mulford's milkvetch) are found north, south, and west of Vale, Oregon, where a ring of sand/sandy loam conditions prevail as the remnants of an ancient Miocene lakebed. Cronquist's stickseed is restricted within this range to sandy loam soil on north-facing slopes. Mulford's milkvetch occurs on more coarse sandy soil at the summit of ridges and bluffs with slight south- or west-facing aspects. Although the two species may grow adjacent to each other, microsite conditions required by each species do not permit occupation of the same site. The Cronquist's stickseed is relatively common within its suitable range, and studies have indicated that populations are exceedingly stable. Mulford's milkvetch is far less common, with numerous sites that appear suitable showing no signs of occupation by the species. The only site for the species that has been intensively monitored for population dynamics over an extended period showed a precipitous decline in plant numbers between 1989 and 1995, with numbers of plants increasing from 1996 to 1999. Recent studies conducted by the Biological Resources Division of the USGS have found that older seedings of crested wheatgrass reduce reproduction of Mulford's milkvetch and that grazing by livestock appears to significantly reduce its reproduction (Pyke 1997). A habitat management plan was in place for Cronquist's stickseed, and a conservation agreement between the Vale District and the USFWS has guided management actions for Mulford's milkvetch. Rush skeleton weed, found near both species, may pose a significant threat to species survival.

Table 2-7.—*General habitats of species previously classified as Category 1 and 2 candidate species*

Common name	Scientific name	Physical habitat	Associated vegetation
Barren Valley collomia	*Collomia renacta*	Scabland	Gray rabbitbrush/Sandberg bluegrass, forbs
Biddle's lupine	*Lupinus biddlei*	Loam	Big sagebrush/bluebunch wheatgrass
Cronquist's stickseed	*Hackelia cronquistii*	Sandy loam	Big sagebrush-antelope bitterbrush/ bluebunch wheatgrass, Idaho fescue
Cusick's chaenactis	*Chaenactis cusickii*	White/gray ash clay	Annual species on clay
Davis' peppergrass	*Lepidium davisii*	Playas	Barren
Ertter's senecio	*Senecio ertterae*	Ash/rhyolite talus cobbles	Barren
golden buckwheat	*Eriogonum chrysops*	Scabland	Low sagebrush/Sandberg bluegrass, forbs
grimy ivesia	*Ivesia rhypara* var. *rhypara*	Shallow, hard ash	Antelope bitterbrush/forbs
Maheur Valley fiddleneck	*Amsinckia carinata*	Yellow ash tuff	Barren
Mulford's milkvetch	*Astrgalus mulfordiae*	Sand	Big sagebrush-green rabbit-brush/Indian ricegrass, arrowleaf balsamroot
Owyhee clover	*Trifolium owyheense*	Shallow ash loam	Wyoming big sagebrush
Packard's mentzelia	*Mentzelia packardiae*	Ash/rhyolite talus cobbles	Barren
smooth mentzelia	*Mentzelia mollis*	Brown/gray ash clay	Annual species on clay
Snake River goldenweed	*Pyrrocoma radiatus*	Limestone-derived loam	Big sagebrush/bluebunch wheatgrass, cheatgrass
sterile milkvetch	*Astragalus sterilis*	Shallow ash loam	Wyoming big sagebrush/ bottlebrush squirreltail
weak-stemmed milkvetch	*Astragalus solitarius*	Sandy clays, often somewhat alkaline	Wyoming big sagebrush/ bluebunch wheatgrass

Ash Deposits

One of the distinguishing features of the northwestern portion of the Owyhee Uplands Physiographic Province is the numerous ash deposits that extend from the small settlement of Rome on the Owyhee River to Westfall at the northern end of Malheur County. Ash falls from a series of Miocene volcanic eruptive events were altered by fluid rock interactions resulting in a number of ash deposits with their own distinctive features.

A number of plant species have adapted to these exposed ash deposits. The annual herbaceous Maheur Valley fiddleneck, for example, is endemic to a 20-square-mile area west and south of Harper, Oregon. This species occurs on baked, yellow ash tuff formed into loose cobbles on a talus formation. This ash is thought to have been baked by overlying basalt flows moving east from Castle Rock. Six major population units within the species' range contain varying numbers of subpopulations. The Vale District and the USFWS have entered into a conservation agreement for this species.

The Succor Creek formation and its Leslie Gulch ash flow member occur within a larger area of ash flow that contains soils displaying varying degrees of development. They extend north from Spring Mountain and Mahogany Mountain to the basalts characteristic of the

canyons near Owyhee Dam. The younger Dry Creek formation, west of Owyhee Reservoir, is included within this broad region.

The rare annual Packard's mentzelia and annual Ertter's senecio occur on a loose talus tuff of Leslie Gulch origin. This poorly developed soil is highly porous and light-colored, and it varies in texture from large to medium-sized cobbles.

Packard's mentzelia is generally restricted to the toes of talus slopes in Leslie Gulch and two of its tributaries, Dago Gulch and Slocum Creek. It is found exclusively on the Leslie Gulch ash formations in this vicinity; the only other sighting of the species has been in northern Nevada. Ertter's senecio is endemic to Malheur County, with a range that extends from Birch Creek, approximately 10 miles southwest of Leslie Gulch, to a few sites north of Leslie Gulch. It is more widespread locally than is Packard's mentzelia and inhabits the full length of talus slopes. Both species are highly dependent on fluctuations in moisture and temperature to complete their annual growth cycles. A third species of interest, Mackenzie's phacelia, is also found on the Leslie Gulch formation, with the highest concentrations of populations found in lower Leslie Gulch and Slocum Creek.

The ash flows of the Succor Creek formation, several miles east of Leslie Gulch, have formed into a heavy clay. They have given rise to the distinctive annual, smooth mentzelia. Smooth mentzelia is found sporadically on suitable habitat near the confluence of Succor Creek and the Snake River to Coal Mine Basin. This plant has an overall range of approximately 5 by 30 miles. Cusick's chaenactis is another annual ash species almost always associated with smooth mentzelia, although its ecological amplitude is considerably broader. It is not only associated with the Succor Creek ash complex but also with the more claylike ash outcrops from Rome through the vicinity of the Owyhee Reservoir. Two other perennial, herbaceous species of interest, Greeley's cymopterus and Packard's lomatium, are occasionally found near the smooth mentzelia, and their range is restricted to the Succor Creek vicinity.

Three other herbaceous, perennial plant species endemic to ash deposits occur within the general range of the Mahogany Mountain/Succor Creek ash range. They appear to prefer neither clay nor talus ash, but instead may be found on well-drained, shallow, more nondescript deposits, often with slight soil formation. Grimy ivesia occurs on extremely shallow pinkish to apricot color ash outcrops without soil formation. Although its range includes Lake County, Oregon, and northern Nevada, numbers of sites and numbers of individuals make this species extremely rare globally. Owyhee clover is more common within the loose ash complexes, often occurring on shallow, well-drained sites of scant soil formation. Sterile milkvetch is also found within the general ash complex, although it is occasionally allied with the two Leslie Gulch species and grimy ivesia. It and Owyhee clover have not been found together. The Vale District and USFWS have signed a conservation agreement specifically naming grimy ivesia, Ertter's senecio, and Packard's mentzelia for management in Leslie Gulch, although Owyhee clover and sterile milkvetch also occur in Leslie Gulch and its tributaries. The 1995 "Leslie Gulch ACEC Management Plan" (LGMP) includes management for all five species.

Noxious weed invasion is minimal, but several have been identified within a few miles of some species endemic to ash flows. Noxious weeds can outcompete and eventually eliminate native species, including special status species. Because of its preference for well-drained sites, yellow starthistle presents a formidable, potential threat to the species that occupy loose, talus ash cobbles. Mining exploration may affect any of the ash endemics, and mineral development, particularly on the economic clay ashes, poses a threat to the species occupying those habitats. Off-highway vehicle use has modified habitat on all ash types and, if not controlled, will present a serious threat to the clay ash species. Livestock trailing has been observed through much of the ash habitat, and smooth mentzelia has been ingested at one site by livestock. Owyhee clover is the only ash species known to be highly palatable; several sites have been used by livestock.

Lithic Soils

Barren Valley collomia, an annual species, occurs on three sites globally, two in Malheur County and one in northern Nevada near Elko. The known populations occur on relatively undisturbed rocky, south-facing slopes, on sites that are considered scablands or lithic soils. These areas have poorly developed soil and are subject to greater extremes in temperature and soil moisture fluctuations than surrounding areas. As an annual, the species is vulnerable to fluctuations in annual precipitation and temperatures which influence germination and survival. The species has only been collected twice in the past 10 years, and threats to its populations are unknown.

The herbaceous perennial golden buckwheat occupies habitat similar to that of Barren Valley collomia. Its distribution is likewise extremely limited, with five sites within 3-square miles near Skull Springs in central Malheur County. The species is found on shallow, rocky soils with numerous associated forbs. To date, the only observed threat to the species has been destruction of a certain number of plants by presumed small mammal activity. Recent studies, however, show an array of age classes at several sites, indicating overall population stability. Because the species does not appear to be palatable, and the sparse vegetation at its known locations, no livestock use has been observed at any of the sites. Because of the rocky nature of both this habitat and Barren Valley collomia habitat, OHV use is not expected to be a threat to either species. Mineral exploration and mining development could have a substantial impact on the limited habitat of both species. Noxious weed invasion may be limited on these sites, and no weed sightings have been made within miles of either species. A conservation agreement between the BLM Vale District and the USFWS guides management actions for this species.

Sagebrush Steppe

Weak-stemmed milkvetch and Biddle's lupine are the most widespread of the species of concern within the project area. The milkvetch occurs from Humbolt County, Nevada, north to Westfall in Malheur County. It is found in Harney County on the eastern foothills of the Pueblo Mountains and Steens Mountain and north of the Trout Creek Mountains. Few sites have been found east of the Owyhee River. It grows on both valley floors and mesas in a variety of soil types. This species is difficult to locate because of its habit of intertwining Wyoming big sagebrush and its generally nondescript habitat. However, new sightings of the species are frequently made, and it appears secure within its range.

Biddle's lupine also occurs on sites dominated by Wyoming big sagebrush. It is generally found on low hills and flats on dry, open sites in moderately rocky soil. Its range extends from the eastern flanks of Steens Mountain to Jordan Valley and north to Warm Springs Reservoir in both Malheur and Harney Counties. Minimal threats have been identified for the species. However, recent mining exploration and a proposed mine site would affect localized sites.

Playas

Davis' peppergrass is a perennial, regional endemic, restricted to several counties south of the Snake River in Idaho; small parts of Twin Falls County, Idaho; Elko County, Nevada; and, at the westernmost portion of its range, Malheur County, Oregon. It grows within a narrow set of habitat conditions that include flat, hard floors of dry lakebeds known regionally as playas. These areas are seasonally flooded, with standing water appearing in late winter/early spring. This species does not occupy all playas that physically appear to provide suitable habitat but is found on a limited number of the playas in the Vale (JRA) and

Burns (ARA) Districts. A conservation agreement between the two BLM districts and the USFWS guides management actions for this species.

OHV use and exotic weed invasion are primary threats to the species on these playas. In addition, several of the playas have been used to create watering sources for livestock, with incidental use by wild horses.

Limestone

The herbaceous perennial Snake River goldenweed barely reaches into northern Malheur County, its primary range being to the north around Huntington, Oregon, and east into Idaho. It is restricted to a narrow range where limestone outcrops provide the slightly to very calcareous substrate on which the species grows, with sites often overlying a shale formation. Plants are found on dry, rocky, open soil, on all aspects and on slopes varying from gentle to steep. A monitoring project, through a cooperative study with the ODA, is being conducted to determine population dynamics of the species, to assess threats, and to determine long-term viability.

A primary threat to this goldenweed is invasion of exotic species due to habitat modification from livestock grazing. Much of the species' known habitat is in early seral condition, with cheatgrass being a major competitor. Herbivory, including insect damage, contributes to uncertainty of population numbers for this species.

Water Resources and Riparian/Wetland Areas

Surface Water

Hydrologic units can be identified according to a system developed by USGS. This system delineates a hierarchy of geographic regions and their subparts, such as subregion, basin, subbasin, watershed, and subwatershed. Each hydrologic division within the hierarchy is called a "field" (Table 2-8).

Table 2-8.—*Hierarchy of watersheds*

Heiracy term	HUC [1]	Number in planning area [2]	Example	Size of example (acres)
Region	First field	2	Pacific Northwest	165,757,150 [3]
Subregion	Second field	3	Middle Snake	23,488,000
River basin	Third field [4]	4	Malheur River	3,012,500
Subbasin	Fourth field	19	Bully Creek	369,300
Watershed	Fifth field	189	Indian Creek	42,720
Subwatershed	Sixth field	559	Gregory Creek	6,950

[1] Hydrologic unit code. First-field through fourth-field HUC's were formally designated by the USGS. Fifth-field and sixth-field HUC's were designated for the planning area (Keane et al. 1996).
[2] Includes all watersheds that are entirely or partly within the planning area. Fifth- and sixth-field numbers will be reduced in 2000–2001, with average acre size increasing.
[3] The Pacific Northwest Region includes the entire Columbia River Basin, including portions west of the Cascade Range and in Canada.
[4] Third-field HUC's may include many names of rivers, such as the Malheur and Owyhee Rivers within the Middle Snake-Boise River Basin.

Water resources lie within the Black Rock Desert-Humbolt Subregion of the Great Basin Hydrologic Region (USGS 1984), the Oregon Closed Basins, and Middle Snake Subregions of the Pacific Northwest Hydrologic Region. These three subregions consist of a series of smaller subbasin units (Map HYDR-2 and Table 2-9).

Areas within the Black Rock Desert-Humbolt Subregion in Oregon drain into one subbasin that extends into Nevada, while the Alvord Lake Subbasin drains into the Oregon Closed Basins Subregion.

The Middle Snake Subregion contains four subbasins in the Malheur River Basin, six in the Owyhee River Basin, one that encompasses the Succor Creek Watershed, and minor portions of two subbasins with lateral watersheds that drain directly into the Snake River near Ontario, Oregon.

Two major river systems dominate most of the planning area: the Malheur and Owyhee Rivers, draining into the Snake River. Additional important drainage areas include the Alvord Lake and Coyote Lake Closed Basins, the Succor Creek Watershed, and the upper drainage area of the Quinn River.

Most surface runoff within the planning area results from snowmelt or rainfall at higher elevations, producing peak discharges in the spring. The average annual precipitation varies substantially in relation to elevation. Year-to-year variability in rainfall and snowfall accumulation influences streamflow, both in quantity and duration of spring runoff. The

Table 2-9.—*Hydrologic subbasins corresponding to 4th-field hydrologic unit codes within the planning area*

Subbasin	HUC number	Acres total	Acres planning area	Acres BLM	Stream miles total [3]	Stream miles planning area	Stream miles BLM [3]
Great Basin Region		2,227,200 [1]	339,035	299,255	767 [2]	767	668
Black Rock Desert-Humbolt Subregion		2,227,200 [1]	339,035	299,255	767 [2]	767	668
Upper Quinn	16040201	2,227,200	339,035	299,255	767 [2]	767	668
Pacific Northwest Region		15,854,810	7,915,359	5,629,423	29,779	17,394	11,528
Middle Snake Subregion		11,207,480	5,641,809	3,879,043	22,016	13,346	8,572
Middle-Snake-Succor	17050103	1,480,560	202,845	154,280	3,434	532	336
South Fork Owyhee	17050105	1,190,400	4,670	4,670	381	9	9
East Little Owyhee	17050106	582,400 [1]	83,845	83,805	298[2]	159	158
Middle Owyhee	17050107	948,230	760,760	639,245	2,241	1,748	1,386
Jordan	17050108	773,530	390,370	243,705	1,869	981	528
Crooked-Rattlesnake	17050109	834,510	794,779	728,533	1,954	1,853	1,702
Lower Owyhee	17050110	1,329,410	1,329,410	998,805	2,970	2,970	2,111
Middle Snake-Payette	17050115	178,020	97,625	7,320	463	240	10
Upper Malheur	17050116	1,598,670	514,110	298,680	3,278	1,108	518
Lower Malheur	17050117	575,750	575,750	426,055	1,559	1,559	1,052
Bully	17050118	385,170	385,170	251,135	937	937	523
Willow	17050119	502,520	502,520	108,670	1,111	1,111	199
Brownlee Reservoir	17050201	828,310	75,415	31,945	1,521	139	40
Oregon Closed Basins		4,647,330	2,273,550	1,750,375	7,763	4,048	2,956
Alvord Lake	17120009	1,350,400 [1]	384,047	302,047	2,353 [2]	782	610

[1] Acreage based on USGS data (P. Seaber, F. Kapinos, G. Knapp. 1984. State Hydrologic Unit Maps. USGS Open-File Report 84-704). All other acreages listed in table based on GIS data.
[2] Covers only the portion of the subbasin in Oregon; does not include portion in Nevada.
[3] Includes perennial, intermittent, and ephemeral drainage channels.

annual runoff per unit area ranges from less than 1 inch over approximately 60 percent of the planning area to a maximum of about 5 inches in the Trout Creek/Oregon Canyon Mountains and Ironside area.

Historic long-term regional streamgaging records and active stations are sparse and scattered throughout the planning area. Over 30 stations have been established in the planning area, with many discontinued prior to 1930, more by 1951, and only 4 left by 1996 (USGS 1998). Two active gages are located on outlets of reservoirs with flow controlled by irrigation districts and do not interact with the largest percentage of the land base on public land. Only two stations not associated with reservoir outlets are currently active in the planning area; one at Rome on the Owyhee River (8,000 square miles), and the other on Malheur River (3,900 square miles).

The historic scarcity of streamflow has led to increased flow regulation by the State of Oregon and storage, water diversions, and groundwater withdrawal associated with irrigation of hay and improved pastures. Projects for irrigation, livestock, human use, and flood control have significantly altered natural flow regimes. This has changed habitat conditions, channel stability, and timing of sediment and organic-material transport. Streamflow has been altered by management activities such as water impoundments, water withdrawal, road construction, vegetation manipulation, grazing, fire suppression, and timber harvesting.

Vegetation manipulation can change rates and amounts of evaporation and transpiration and alter volumes of snow accumulation and snowmelt. These changes are greatest in association with rain-on-snow events, which are most common at elevations less than 5,000 feet.

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. Frequently, these drainages are essentially straight channels that are eroding in the upper reaches and deposition occurring in the lower reaches. Channels are often deeply incised, with steep banks that slough and develop new headcuts perpendicular to the main stream. Sediments deposited over time in the lower reaches of this type of stream can easily be eroded away. (See the section of this chapter on “Riparian Areas and Wetlands” for additional information on stream channel condition.)

Natural flows to the Malheur and Owyhee Rivers are modified by the operation of six major reservoirs. The Warm Springs (191,000 acre/feet), Malheur (21,000 acre/feet), Beulah (59,920 acre/feet), and Bully Creek (29,980 acre/feet) Reservoirs are located in the Malheur River Basin. The Owyhee (1,120,000 acre/feet) and Antelope (69,880 acre/feet) Reservoirs are in the Owyhee River Basin. Five of the reservoirs are associated with the Owyhee, Warm Springs, Vale-Oregon, and Jordan Valley Irrigation Districts, and the Malheur Reservoir is operated by the Orchard Water Company.

No community or municipal system watersheds are located on public land within the planning area.

Water Quality

The Environmental Protection Agency (EPA) has delegated authority to implement the “Federal Water Pollution Control Act of 1972” (Public Law 92-500) and amendments, and the 1977 “Clean Water Act” (CWA) in Oregon to the Oregon Department of Environmental Quality (ODEQ). As specified in the Act and subsequent amendments, Federal agencies are responsible for water quality on land they manage, as described in memorandums of understanding (MOU’s) with State environmental agencies. These MOU’s require Federal agencies to meet water quality standards, monitor activities to assure that they meet standards, report results to the State of Oregon, and meet periodically to recertify BMP’s. Water quality BMP’s are those practices that are the most effective, practicable, and economic

means of preventing or reducing the amount of pollution from nonpoint sources, which are defined as sources that cannot be pinpointed but that can be best controlled by proper soil, water, and land management practices.

Through a memorandum of agreement (BLM 1990), the ODEQ assists the BLM in developing or updating BMP's and evaluating practices that protect rivers and lakes. The BLM is an ODEQ designated management agency charged with implementing and enforcing natural resource management programs for the protection of water quality on Federal land under its jurisdiction.

As specified in the "Federal Water Pollution Control Act," water quality involves all attributes that affect existing and designated uses of a body of water. Included are human uses such as recreation, hydropower, water supply, and maintenance of fisheries and riparian habitats. The primary cause of water quality degradation on public land is pollution from nonpoint sources. High sediment and turbidity levels and elevated temperatures are the primary water quality problems stemming from nonpoint sources.

As part of meeting the requirements of the CWA, the State of Oregon produced the "1988 Oregon Statewide Assessment of Nonpoint Sources of Water Pollution Report." This report identified waters affected by nonpoint source pollution, categories of nonpoint source pollution, the process for identifying BMP's, and State and local nonpoint source programs. The report lists stream segments with moderate to severe (based on data or observation) water quality impacts affecting desired beneficial uses. Approximately 45 percent of the stream miles examined were either identified as having no nonpoint source-related water quality problems, or no data were available. Many reaches were identified as having nonpoint source pollution problems affecting beneficial uses, including fisheries, aquatic habitat, wildlife habitat, and water contact recreation.

Causes of degradation were identified as removal of riparian vegetation and stream channel thermal cover, animal waste, surface erosion, and sedimentation. The land uses most commonly cited in connection with these problems were grazing, mining, and forestry-related activities of timber management, harvest, and road construction. Additional land use problems are human and animal traffic (roads and trails), water withdrawal, reservoir storage and release, altered physical characteristics of the stream, bank filling, and channelization/drainage of wetlands. The report identified many reaches with elevated stream temperatures, turbidity, nutrient loading, sediment, and low dissolved oxygen levels and flow volumes.

As part of fulfilling its requirements with the EPA under section 303(d) of the CWA, the State of Oregon has updated its list of "water quality limited" waters. The current (1998) listing of waters that do not meet the State's water quality standards is based on actual evidence of violation (OAR 340-41). The BLM will coordinate with ODEQ on the development, implementation, and monitoring of future management plans, or revisions of current plans, to prevent nonpoint source pollution of water quality limited waters. Table 2-10 lists water quality limited streams.

Oregon has adopted an antidegradation standard (OAR 340-41-026, implemented through OAR 340-41-120 through 340-41-962) that incorporates Federal policies. In general, the Federal policies and State standard require that water quality be maintained for beneficial uses. Exceptions can be made through approval of the ODEQ, but in no instance are waters allowed to violate water quality standards or fall below the level required for beneficial uses. The same also applies to maintaining water quality for outstanding resource values as identified by ODEQ; however, no such values have been identified.

BLM management that affects water quality is also governed by other laws and regulations. For example, the BLM obtains permits from the EPA through the Oregon Division of State Lands (ODSL) and from the Army Corps of Engineers to comply with sections 401, 402, and 404 of the CWA. These sections cover project work (particularly dredge or fill activities)

Table 2-10.—*Water quality limited streams*

Stream name	Parameter limiting quality	Boundaries	Comments (source)
Upper Quinn Creek Drainage (Oregon Canyon Creek) (Hydrologic unit 16040201)			
Indian Creek	Temperature-Summer	Mouth to Headwaters	ODFW Data (1994)
McDermitt Creek	Temperature-Summer	Mouth to Headwaters	ODFW Data (1994)
Sage Creek	Temperature-Summer	Mouth to Headwaters	ODFW Data (1994)
Middle Owyhee River Drainage (17050107)			
West Little Owyhee River	Temperature-Summer	Mile 45 to Headwaters	BLM Data (1995–1997)
Owyhee River	Temperature-Summer	Rome to Idaho Border	BLM Data (1995–1997)
Owyhee River, Middle Fork	Temperature-Summer	Mouth to Idaho Border	Source of Data Unknown
Owyhee River, North Fork	Temperature-Summer	Mouth to Idaho Border	BLM Data (1995–1997)
Jordan Creek Drainage (17050108)			
Antelope Reservoir	Toxics: Tissue-Mercury-Annual	Reservoir	DEQ Data, OSHD Advisory (1994), 304(l) list, Part A/B
Jordan Creek	Toxics: Tissue-Mercury-Annual	Mouth to Headwaters	DEQ Data, OSHD Advisory (1994), 304(l) list, Part A/B
Lower Owyhee River Drainage (17050110)			
Owyhee Reservoir	Toxics: Tissue-Pesticides (Diedrin)-Annual Toxics: Tissue and Water Column-Mercury-Annual	Reservoir	DEQ Data, 1994 304(l) list, Part A/B
Owyhee River	Fecal Coliform-Summer Toxics: Water-Pesticides (DDT, Diedrin, Endrin) Chlorophyll a-Summer	Mouth to Black Willow Creek	DEQ /BOR Data (1992 305(b) Report); USGS Data (1994)
Owyhee River	Toxics: Mercury	Owyhee Reservoir to Headwaters	BOR Data (1992 305(b) Report) USGS Data (1994)
Owyhee River	Temperature-Summer	Owyhee Reservoir to Rome	BLM Data (1995–1998)
Upper Malheur River Drainage (17050116)			
Little Malheur River	Temperature-Summer	Mouth to Headwaters	USFS Data (1993,1994) BLM Data (1994)
Malheur River	Fecal Coliform-Spring/Summer	North Fork Malheur River to Warm Springs Reservoir	Malheur County (1981)
North Fork Malheur River	Fecal Coliform-Spring/Summer	Mouth to Beulah Reservoir	Malheur County (1981)
North Fork Malheur River	Flow Modification Temperature-Summer	Beulah Reservoir to Little Crane Creek	IWR(ODFW), Flow(USGS), Malheur Fish Plan (ODFW 90), USFS Data (1994), BLM Data (1994)
South Fork Malheur River	Fecal Coliform-Summer	Mouth to Headwaters	Malheur County (1981)
Lower Malheur River Drainage (17050117)			
Malheur River	Algae-Summer Dissolved Oxygen-Summer Fecal Coliform-Annual Toxics: Water-Pesticides (DDT, Diedrin)	Mouth to Hog Creek (Nanorf)	BOR Data (1994 305(b) Report) USBOR Data (1994 305(b) Report), BOR Data (1994 305(b) Report), Malheur County (1981)
Pole Creek	Temperature-Summer	Mouth to Headwaters	BLM Data (1995–1997)

Table 2-10.—*Water quality limited streams (continued)*

Stream name	Parameter limiting quality	Boundaries	Comments (source)
Bully Creek Drainage (17050118)			
Bully Creek	Dissolved Oxygen-Annual Fecal Coliform-Annual, Chlorophyll a-Summer	Mouth to Bully Creek Reservoir	BOR Data (1994 305(b) Report) BOR Data (1992/94 305(b) Report), Malheur County, Owyhee/Malheur Watershed Council Data (1996-1997)
Bully Creek	Fecal Coliform-Annual	Bully Creek Reservoir to Headwaters	Malheur County
Willow Creek Drainage (17050119)			
Willow Creek	Algae-Summer Dissolved Oxygen-Annual Fecal Coliform-Annual	Mouth to Pole Creek	BOR Data (1994 305(b) Report) Malheur County (1981)
Willow Creek	Dissolved Oxygen-Annual	Pole Creek to Malheur Reservoir	BOR Data (1994 305(b) Report)
Alvord Lake Drainage (17120009)			
Little Whitehorse Creek	Temperature-Summer	Mouth to Headwaters	ODFW Data (1992-1994)
Willow Creek (Trout Creek Mountains)	Temperature-Summer	Mouth to Headwaters	ODFW Data (1992-1994)

that may affect surface waters, including wetlands. The BLM also addresses water quality as it affects habitat for Federally listed species under section 7 of the ESA.

Groundwater

Regional groundwater gradients and extensive aquifer systems have not been studied. Groundwater data are limited and are based on small, isolated basin studies and well logs associated with irrigated valleys and livestock water supply wells. The geology of the area is volcanic; water-bearing properties of the formations largely depend on faults, fractures, joints, etc. The rate and quantity of groundwater movement depends on the hydraulic conductivity of the geologic formation and the hydraulic gradient. Groundwater occurs as both confined and unconfined aquifer systems. Most unconfined aquifers are located in stream valleys or associated with Pleistocene lakebeds that contain recent alluvial material, although 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 groundwater 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 deep, confined bedrock aquifer systems. The EPA has not identified any sole-source aquifers. Numerous volcanic flows and faults confound the concept of a uniform regional groundwater gradient. Recharge to groundwater systems occurs mainly at higher elevations where precipitation significantly exceeds

evapotranspiration. Precipitation is the major recharge source in areas with an exposed permeable formation and average annual precipitation in excess of 12 inches.

Groundwater is used for irrigation, domestic use, and livestock use. The quality of the groundwater is a function of the chemical makeup of the formation containing the water. 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. 1993).

Potable water wells on public land are located at three campgrounds: Twin Springs, Chukar Park, and Rome Launch Site. These wells are monitored to ensure the State of Oregon's requirements for public water systems are met (OAR 333).

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 loose their surface expression and recharge alluvial fill material or permeable stratum.

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.

Springs and seeps are important to aquatic habitats because of the perennial baseflow they provide to a stream. In summer, the outflow from springs usually helps to maintain lower water temperatures. In winter, especially in small streams, baseflow helps to maintain an aquatic habitat in an otherwise frozen environment.

Some springs are classified as warm or hot springs because of the proximity of their aquifers to a geothermal heat source. These types of springs, such as Willow Creek Hot Springs, have vegetation and microbial and algal organisms that are adapted to the hot, highly mineralized water.

Springs have been disturbed either by management activities that have affected the volume of water available to the vegetation and soils where springs begin, or by activities that have affected the vegetation and soils directly. Activities such as livestock or wild horse grazing and watering, recreation use, mining, road construction, and vegetation management have affected spring systems in the past. Activities such as well drilling or blasting can affect springs by reducing the amount of water in their aquifers or by affecting subsurface flow patterns.

Water Rights

Demands on water resources have increased in Oregon over the past few decades. Although most early water rights were established for irrigation and mining, today's demand includes municipal water supplies, commercial and industrial supplies, and maintenance of adequate streamflows for fish, recreation, and water quality.

In Oregon, all water is publicly owned. Permits for water use from any source must be obtained from the Oregon Water Resources Department, with some exceptions. Laws pertaining to the use of surface water and groundwater 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 beneficial use without waste. That is, 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 sufficient flows to protect recreation, fish, wildlife, and other river-related resources. Instream water rights are applied for by the Department of Environmental Quality, the Department of Parks and Recreation, and the Department of Fish and Wildlife to the state's Water Resource Commission. The priority date for instream water rights is the date the application is submitted to the Water Resources Department.

Current BLM and Department of Interior policy is to use the State's instream flow water right process to preserve flow-dependant values for any stream designated as a NWSR. The "National Wild and Scenic Rivers Act" (NWSRA) (Public Law 90-542) specifically reserved 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 Act, and the priority dates for each of the river segments is the date of designation. A federal reserved water right would only be exercised if the state's appropriative instream water rights process is inadequate to protect the designated values of the river. Current policy of the Department of the Interior (DOI) provides latitude to cooperate with Oregon natural resource agencies to achieve resource protection objectives prior to exercising a reserved water right. This in no way abrogates the federal reserved water right.

Protection of instream flows will rely, in part, on existing instream water rights that have been issued by the State of Oregon for some segments. These rights are subject to senior priority appropriations. The Oregon Department of Water Resources (OWRD) has identified desired flow levels to protect recreation, fish, and wildlife. These flow levels are not water rights; rather, the OWRD uses them in its calculations of water availability during low flows.

The BLM will use a variety of tools, authorities, and strategies to achieve instream flow levels that support the river values. These tools include leasing (in the short term) and transferring existing BLM consumptive use rights to instream uses (in the long term) and entering cooperative agreements with the State of Oregon and other agencies for the purchase of water rights from willing sellers for transfer to instream uses.

Additionally, Federal reserved water rights may be applied to important springs and waterholes pursuant to "Public Water Reserve (PWR) No. 107, Executive Order of April 17, 1926," under the authority of section 10 of the "Stock-Raising Homestead Act of December 29, 1916" and as directed under the enactment of FLPMA in 1976. PWR No. 107 reserves only the minimum amount of water necessary to accomplish the primary purpose of the reservation. There was no intent to reserve the entire yield of each public spring or waterhole withdrawn by the Executive order. The purposes for which these waters were reserved are limited to domestic human consumption and livestock watering on public lands. To date, no final determination of springs in the planning area that qualify as PWR No. 107 has been made. All waters from these sources in excess of the minimum amount necessary for these limited public watering purposes are available for appropriation through State water law and administrative claims procedures. Additional Federal reserved water rights applied to waters within the planning area pursuant to Executive orders are listed in Appendix L.

There are over 3,000 existing water storage impoundments, pipeline systems, groundwater wells, and irrigation diversions on public lands within the planning area that have State approved water rights. The availability of water in much of the area is limited and may hamper additional developments that are water dependent. Future development for rangeland projects for wildlife, recreation, and livestock would require a State of Oregon water right before project implementation could occur.

Riparian and Wetland Definitions, Processes, Functions, and Patterns

Riparian areas are water-dependent systems bordering streams, rivers, and wetlands. Riparian ecosystems are the ecological links between uplands and streams, between the terrestrial and aquatic components of the landscape.

The BLM Manual defines riparian areas as " . . . 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. Typical riparian areas are land along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are sites such as ephemeral streams or washes that do not have vegetation dependent upon free water in the soil."

Many riparian areas are associated with wetlands, which occur wherever the water table is usually at or near the surface, or where the land is at least seasonally covered by shallow water. In the planning area, wetlands include marshes, shallow swamps, lake shores, sloughs, bogs, and wet meadows.

Although riparian areas and wetlands cover less than 1 percent of the planning area, their ecological significance far exceeds their limited physical area. Riparian and wetland areas are major contributors to ecosystem productivity and structural and biological diversity, particularly in drier climates (Elmore and Beschta 1987).

Riparian areas provide food and shelter for the animal community and are critically important to fish, birds, and other wildlife species. Riparian areas affect the quantity and quality of water for on-site and downstream water uses, such as irrigation; livestock, wild horse, and burro watering; and recreation. They also help store floodwaters and reduce the risk of flash floods. For riparian areas to provide all of the benefits, they must have the amount and interaction of water, soil, and vegetation appropriate for the area.

Quality of Riparian Areas

The quality of streamside riparian areas has been evaluated using three different methods that assess condition, trend, or functioning condition. In general, all three assessments look at the absolute or relative amount, growth, and diversity of the riparian vegetation and the stability of the streambanks. Those assessing trend and functioning condition also evaluate changes in the riparian area over time. Although to varying degrees, all of the methods address physical as well as biological attributes and their interactions. Because the methods differ in how they address the area's potential to achieve a better rating, direct comparisons of ratings are not possible.

Each of the three methods and the assessments using those methods are briefly described as follows.

Proper Functioning Condition

In 1991, in response to growing concern over the integrity of ecological processes in many riparian and wetland areas, the BLM Director approved the "Riparian-Wetland Initiative for the 1990's," establishing national goals and objectives for managing riparian/wetland resources on land administered by the BLM. The initiative's goals are to restore and maintain existing riparian/wetland areas so that 75 percent or more are in proper functioning condition (PFC) by 1997, and to provide the widest variety of habitat diversity for wildlife, fish, and watershed protection. Subsequently, the BLM established a definition of PFC and a

methodology for its assessment. The BLM has adopted PFC assessment as a standard for evaluating riparian areas and will use it to supplement existing stream channel and riparian evaluations and assessments.

The functioning condition of riparian and wetland areas is a result of the interaction of geology, soil, water, and vegetation (USDI 1993). PFC can be defined separately for lotic and lentic waters, as follows.

> **Lotic waters**: (running water habitat, such as rivers, streams, and springs; see BLM Technical Reference 1737-9 and -15):
>
> Riparian/wetland areas are functioning properly when adequate vegetation, landform, or large 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 floodplain development;
> - improve floodwater retention and groundwater recharge;develop root masses that stabilize streambanks against cutting action;
> - 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
> - support greater biodiversity.
>
> **Lentic waters**: (standing water habitat, such as lakes, ponds, seeps, bogs, and meadows; see BLM Technical Reference 1737-11 and -16):
>
> Lentic riparian/wetland areas are functioning properly when adequate vegetation, landform, or debris is present to:
>
> - dissipate energies associated with wind action, wave action, and overland flow from adjacent sites, thereby reducing erosion and improving water quality;
> - filter sediment and aid flood plain development;
> - improve flood water retention and groundwater recharge;
> - develop root masses that stabilize islands and shoreline features against cutting action;
> - restrict water percolation;
> - develop diverse ponding characteristics to provide the habitat and water depth, duration, and temperature necessary for fish production, water bird breeding, and other uses; and,
> - support greater biodiversity.

Riparian/wetland areas are classified as functional at-risk when they are in functional condition but an existing soil, water, or vegetation attribute makes them susceptible to degradation. These areas are further distinguished based on whether or not they demonstrate an upward, static, or downward trend.

Riparian/wetland areas are classified as nonfunctional when they 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., as listed above. The absence of a particular physical attribute, such as a floodplain, is an indicator of nonfunctioning condition.

Riparian/wetland areas are classified as being in unknown condition when the BLM lacks sufficient information to make a determination.

Because the functioning condition of riparian/wetland areas is a result of interaction of geology, soil, water, and vegetation, the process of assessing whether or not a riparian/wetland area is functioning properly requires an interdisciplinary team, including specialists in vegetation, soils, and hydrology. The team also requires a biologist because of the fish and wildlife values associated with riparian/wetland areas. Because of unique attributes of individual riparian areas, site-specific and on-site assessments are necessary.

Riparian/wetland areas will function properly long before they achieve an advanced ecological status. The range between PFC and an area's biological potential then becomes the "decision space" for social, economic, and other resource considerations. Until PFC is attained, management priorities and options focus on reaching this threshold. Areas that meet PFC will be managed to assure a continuation of this condition.

Riparian Trend

The resource area specialists have evaluated riparian areas on the basis of trend information gathered from field studies. Trend has been determined by collecting resource information at two or more time periods (years) and evaluating relative differences in the data. A variety of field study methodologies have been used to determine riparian trend, including low-level infrared imagery, line intercept vegetation transects, photo points, and aquatic invertebrate samples. Resource values and other considerations have been used to design monitoring that is appropriate for each riparian area.

Trend evaluations have factored in site potential capabilities that are often variable and dependent on the location of the riparian area within the watershed. A variety of information sources has been used in assessing site potential. Trend assessments are shown in Appendix D5. Because site potential is part of the assessment, a static trend for riparian areas indicates that the riparian area is not showing signs of changing but has the potential to improve.

Specific site-guides for determining potential natural communities have not been developed for riparian/wetland areas in southeastern Oregon. BLM is currently using existing data collected at various riparian/wetland areas to assist in projecting site potential. Much of this information is derived from existing riparian exclosures that have been in place since the 1970's and 1980's and serve as reference areas for stream systems in the general area. When comparing "reference" streams to "target" streams, or individual segments, appropriate considerations such as elevation, aspect, gradient, base and parent material, existing upstream and downstream channel conditions, and surrounding topography are taken into account. Specialist and interdisciplinary teams have evaluated vegetation composition in many of these areas to aid in determining site potential of riparian species in geographically associated streams. Additional information for determining riparian site potentials has been gleaned from established streamside monitoring and study sites in allotments and pastures where livestock grazing practices were adjusted to meet objectives developed for riparian/wetland restoration.

Appendix D4, Table D4-1 shows the resource variables typically used to determine riparian trends, and the type of studies used in monitoring. The table also describes the observations used to determine static (no change), upward, or downward trend for important components of a riparian area. For example, an upward trend for herbaceous cover (grasses, forbs, sedges, and rushes) is present when an increase in herbaceous cover is observed or when plant species composition changes from early-successional species toward late-successional species.

In the past, many riparian/wetland areas were degraded by uncontrolled uses. Any management activity that disturbs water, soil, or vegetation can potentially degrade riparian areas.

Such activities include livestock grazing, road construction, timber harvest, mining, irrigation, and recreation. In addition, activities that are off-site can affect riparian areas by influencing the timing and amount of overland and subsurface flow of water and movement of soils. Some past land use practices have resulted in riparian areas that (1) have inadequate vegetation to protect streambanks from erosion; (2) lack appropriate diverse vegetation that provides habitat for riparian-dependent wildlife species; (3) contain incised channels that do not allow streams to dissipate flood energy and provide water storage; and (4) provide inadequate pools and shade for aquatic species.

Not all potentially disturbing activities are incompatible with riparian area recovery or management, and not all riparian areas are equally susceptible to degradation. For example, livestock management that adjusts the timing and amount of grazing in riparian areas allows for improvement of riparian vegetation and development of streambanks and floodplains. The application of management practices needs to address requirements for vigorous and diverse riparian vegetation. A healthy riparian community can reverse channel degradation and provide habitat for associated wildlife. In some areas where management has been changed, proactive restoration may be required to slow or reverse physical processes causing channel degradation or to initiate natural recovery of a riparian area. Restoration may include activities such as building structures for headcut stabilization or planting cottonwoods when no natural source of recolonization exists.

Of the 1,268.7 miles of known streamside riparian areas within MRA and JRA, 56.9 miles (4.5 percent) are in a downward trend, 78.2 miles (6.2 percent) are static, and 281.5 miles (22.2 percent) are in an upward trend. Long-term trend has not been evaluated on 852.1 miles (67.1 percent) of streamside riparian areas (Appendix D5, Table D5-1). Riparian areas that have an unknown trend (Table D5-1) are of two types: (1) riparian information has not been obtained, or (2) riparian baseline data has been gathered but more time is needed for long-term trend to be apparent. Table 2-10a summarizes riparian trend by miles for each resource area.

Wetlands (Including Meadows, Springs, and Seeps)

Wetlands are lakes, reservoirs, playas, sloughs, meadows, springs, and seeps that are permanently or seasonally covered with water. They are also commonly found as features independent of a defined stream channel and can occur throughout various elevations and landscape settings. This is particularly true for meadows, springs, and seeps that may be present within very arid areas and at low elevations. Common plant species of these areas include salt grass, Baltic rush, spikerush, and cattail. Intensity of wildlife use of wetlands varies seasonally. Many species of waterfowl and shorebirds use these areas during spring and fall migrations, but in summer, wildlife use is restricted to resident species. Seasonal playas may contain aquatic invertebrates that are adapted to survive periods of desiccation.

The Army Corps of Engineers, EPA, USFWS, and Natural Resources Conservation Service (NRCS) worked together to develop common language and criteria for the identification and

Table 2-10a.—*Riparian trend by miles for each resource area*

	Riparian trend				
Resource area	Upward	Static	Downward	Unknown	Total
Malheur	**115.1**	**67.3**	**53.7**	**354.1**	**590.2**
Jordan	**166.4**	**10.9**	**3.2**	**498.0**	**678.5**

delineation of wetlands in the United States. They defined wetlands as possessing three essential characteristics: (1) hydrophytic vegetation; (2) hydric soils; and (3) wetland hydrology, which is the driving force creating all wetlands.

Hydrophytic vegetation is defined as plant life growing in water, soil, or substrate that is at least periodically deficient in oxygen as a result of excess water content.

Hydric soils are those that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic (without oxygen) conditions in the upper part of the soil profile. Generally, hydric soil is subject to water saturation at temperatures above freezing for at least a week during the growing season.

Wetland hydrology is defined as permanent or periodic inundation of water, or soil saturation to the surface, at least seasonally. The presence of water for a week or more during the growing season typically creates anaerobic conditions in the soil, which affect the types of plants that can grow and the types of soils that develop (Hansen et al. 1994).

MRA and JRA contain approximately 4,000 acres of known manageable wetlands, mostly surrounding stock ponds and reservoirs. Coyote Lake and Playa is the only known large example in the Vale District of a nonmanageable wetland area. All other wetlands are contained within allotments with controlled access and uses.

Meadows occur on 3,500 acres of public land around springs and along streams. Some of the most important meadow habitats are located at mid and upper elevations of complex mountainous terrain. Good examples can be found near Skull Springs in MRA, and in the upper headwaters of the West Little Owyhee River and in the Trout Creek/Oregon Canyon Mountains in JRA.

Protection and restoration of meadows require management of activities that could affect the vegetation and the soils, which in turn affect the overland and subsurface flow and storage of water. In most settings, meadow habitats are vulnerable to grazing influences and other surface-disturbing impacts, such as OHV use and mining operations, which can affect soil stability, water-holding capacity, and plant composition. In some instances, where management has been changed, proactive stabilization of gullies may be required to slow or reverse the physical processes that are causing the degradation, until the system can begin to recover on its own.

Springs and seeps can support unusual invertebrates, such as snails or other species, that may be endemic to local areas. These systems tend to provide constant water flows and consistent temperatures that are distinctly different from adjoining riparian habitats.

Fish and Wildlife

General Narrative

Public land provides habitat for nearly 350 species of permanent or seasonally resident fish and wildlife. Based on concerns that were raised during public scoping, this chapter briefly describes certain individual species and general wildlife habitat relationship issues. BLM biologists rely upon a large library of information found in the scientific literature for addressing wildlife habitat issues in greater detail for projects or resource evaluations.

Narratives in this section and Appendix F describing the importance of water, forage, cover, structure, and security to wildlife are the foundation for Chapter 3 objectives and impact analyses in Chapter 4. Due to the limited amount of systematic survey data on record for

many species, primary emphasis in this document is placed on habitat relationships as described in "Wildlife Habitats in Managed Rangelands" (Thomas et al. 1984). Where applicable, other detailed studies and more current research findings were used. Very little information is available on invertebrates (insects, snails, etc.)

Species not specifically discussed in this plan are nevertheless important and contribute to the diversity and health of plant and animal communities on the public land. Many species fill ecological roles that are important, but yet not fully understood.

Key Interactions with the Oregon Department of Fish and Wildlife

The BLM frequently consults and cooperates with the Oregon Department of Fish and Wildlife (ODFW) on wildlife matters. The ODFW sets population and species management goals for both game and nongame species within the State. The BLM collaborates with ODFW in helping to meet these goals by providing an appropriate amount and quality of habitat on public land, consistent with multiple use management. The wildlife population data presented within this document are reasonable and informed estimates from the ODFW. The data are suitable for analysis purposes but the locations and numbers of animals can be expected to vary somewhat throughout the life of this plan due to population cycles, weather, and many other factors.

ODFW big game population management objectives identified in this chapter were developed for hunter units, which do not correspond exactly with BLM resource areas. State big game management objectives were set by using a public involvement process and interactions with the Oregon Fish and Wildlife Commission. Factors used to arrive at population management objectives included private property damage (crops), various economic considerations, hunter demand, and multiple use concerns. The estimated numbers of big game in State management objectives (deer and elk) or benchmarks (pronghorn antelope) are shown by grazing allotment in Appendix E. There are insufficient data to estimate bighorn sheep numbers to the grazing allotment level, so Appendix E simply indicates where allotments overlap with bighorn sheep range shown on Map WLDF-2.

The competitive forage demand for deer, elk, and pronghorn antelope (Appendix E) was determined using ODFW management objectives or population benchmarks and technical forage competition references (Vavra and Sneva 1978). A description of the process used and the conversion factors which compensate for dietary and body mass differences between big game and livestock is included for reader reference in Appendix F. Regardless of the alternative analyzed in this document, forage competition conflicts are assumed to be resolved on a case-by-case basis in concert with periodic rangeland health evaluations. There is no reallocation of wildlife forage proposed in this document.

For purposes of analysis in this document, fish and wildlife are divided into two broadly-defined management categories that reflect preferences in public interest. Some species, commonly called game species, are economically important for hunting and fishing opportunities. Others that do not have direct economic importance for hunting and fishing, are referred to as nongame species. Both categories have economic importance that varies locally and nationally.

Fish and Aquatic Habitat

Fisheries habitat includes perennial and intermittent streams and flatwater (lakes and reservoirs) that support fish through at least a portion of the year. There are 438 miles of stream, and about 4,500 surface acres of flatwater fisheries habitat (3,200 acres of which are in Antelope Reservoir).

The condition of fisheries habitat is related to riparian habitat and stream channel characteristics (Appendix D4, Table D4-1). Riparian vegetation moderates water temperatures, 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. Water quality, especially in regard to factors such as temperature, sediment, and dissolved oxygen, also greatly affects fisheries habitat.

Public land provides habitat for at least 15 native fish species. Two species are Federally listed, and four have other special status designations. Amphibians and aquatic invertebrates are integral components of the fish community. One amphibian species is a Federal candidate; four amphibian and eight invertebrate species have special status designations.

Several nonnative trout, sunfish, and bass species have been introduced. ODFW periodically stocks a coastal strain of hatchery rainbow trout in 35 reservoirs. In most of these reservoirs, spawning habitat is lacking, and natural reproduction does not occur.

In addition to rainbow trout fingerlings, brown trout are planted by ODFW in the Owyhee River below Owyhee Dam and provide a popular catch-and-release fishery.

Although ODFW no longer routinely stocks warmwater fish species, smallmouth bass, black crappie, channel catfish, and black bullhead have become established from previous introductions in the Owyhee River above Owyhee Reservoir and in Cow Lakes of the Vale District.

Wildlife and Wildlife Habitat

General Narrative

Wildlife habitat needs vary significantly by species. It is generally true, however, that healthy and sustainable wildlife populations can be supported where there is a diverse mix of multi-canopied plant communities to supply structure, forage, cover, and other specific habitat requirements. Readers should refer to Appendix F for a series of habitat descriptions that would be expected to meet wildlife needs in a multiple use management environment. For general information on wildlife in Oregon refer to Csuti et al. (1997).

A variety of factors are recognized as having influence on wildlife populations such as predation, disease, parasites, hunting, natural cycles, and weather. However, in the rangeland dominated setting which constitutes most of the planning area, the most controllable and influential impact on wildlife habitat is livestock grazing and the facilities associated with the administration of livestock grazing (mainly fencing and water development). This is a significant point because most of the public land addressed in this document is grazed by domestic livestock. Readers should refer to Appendices R and F for further details related to the effects grazing use on wildlife and their habitats.

The combination of timing, extent and intensity (utilization levels) of livestock grazing use determines the significance of the impacts to wildlife habitat. Because of this interrelationship, recommended guidelines about livestock grazing have been and will continue to be used to establish what are considered to be reasonable limits of use on vegetation. For instance, the Cole browse methodology has been used as an index for big game forage availability in mountain shrubs, and standing herbaceous cover measurements have been used for characterizing sage grouse nesting cover.

It is important to note that for most animal species and habitats, there are no peer reviewed guidelines of livestock utilization that could potentially be used for designing wildlife objectives in grazing allotment management plans. In light of this, BLM considers grazing use to be consistent with multiple use and broadly-based protection of wildlife habitat values

when (1) native ranges are predominantly grazed at light stocking levels (20 to 40 percent or less), and (2) grazing systems incorporate periods of year-long rest or growing season deferment.

Habitats Narrative

Broadly grouped wildlife habitats and habitat relationships are briefly described under the headings that follow.

Sagebrush Steppe / Salt Desert: Sagebrush steppe/salt desert includes a number of upland vegetation communities with a shrubland aspect and a variable understory of grass and forbs. Examples of generally short shrub species include varieties of big sagebrush, low sagebrush, rabbitbrush, shadscale saltbush, and black greasewood. Salt desert types are generally limited in the planning area, but support some important wildlife, notably kit fox. Mountain mahogany, squaw apple, and antelope bitterbrush are examples of taller steppe species collectively referred to as mountain shrubs in this document. Shrubby plants are important to most small and large wildlife because they supply food as well as hiding cover and structure. The thermal relief provided by shrub cover helps wildlife to survive the rigors of summer heat and winter cold.

Sagebrush habitats dominate a majority of the planning area; hence, the welfare of this important western shrub community has great influence on the health of many common and special status wildlife (see Appendix F). Sagebrush provides direct benefits to some species, such as sage grouse, and for others they are indirect, in the case of raptors dependent on prey that inhabit sagebrush rangelands. As already described in the vegetation section, many sagebrush communities have been altered from their natural state by invasions of weedy species, land treatments (such as seedings), grazing use, and fires.

The presence of a sagebrush overstory is strongly associated with wildlife community diversity. Figure 2-1 (see page 128), derived from "Wildlife Habitats in Managed Rangelands" (Thomas et al. 1984), indicates that significantly more species of wildlife can find suitable breeding and feeding habitat in areas with a big sagebrush shrub overstory than in those with a grassland aspect. Science documents used as the basis for the ICBEMP Final EIS also describe how wildlife are dependent upon an array of structural and seral stages to meet their life history needs. The intent of ICBEMP Final EIS and "Wildlife Habitats in Managed Rangelands" is the primary basis for sagebrush community objectives in this plan. Although a substantial portion of the shrub steppe within planning area has not been as fragmented and impacted as the Snake River plain or eastern Washington, BLM needs to exercise caution about further shrub overstory fragmentation and impacts to the herbaceous understory because of potential threats to wildlife habitat health.

Sagebrush is not the only important plant species valuable to wildlife in steppe rangelands. Grasses and forbs also provide food and cover for wildlife. Habitats providing a predominately native mixture of grasses and forbs, typically found at middle, late and PNC seral stages, meet the needs of a wide range of species. Although there are exceptions to the rule, in most instances native perennial herbaceous species are preferable as wildlife forage and cover.

For additional information on wildlife and sagebrush refer to McAdoo et al. (1989), Knick and Rotenberry (1995), Montana Department of Fish, Wildlife, and Parks (1995), Page and Ritter (1999), and Altman and Holmes (2000).

Riparian habitat and wetlands: Riparian areas consist of plant communities associated with streams and rivers. The structure, food, and water provided in riparian areas makes them the single most diverse and productive habitat for wildlife. Where site potential allows,

multi-canopy riparian areas with trees, shrubs, grasses, forbs, sedges, and rushes are exceptionally valuable as habitat for a wide array of wildlife species. Riparian areas dominated by herbaceous communities and with low potential for multi-canopy structure are nevertheless important as water and succulent food sources for wildlife. The presence of multiple-aged classes of woody and herbaceous vegetation are generally indicative of healthy wildlife habitat conditions.

Desired plant community objectives in activity plans for structure and composition important to wildlife (Riparian Area Management, BLM Technical Reference 1737-15, 1998) will incorporate knowledge regarding site capability and wildlife species presence which varies substantially within the planning area. In contrast to rangeland habitats, BLM has no standard ecological classification system for riparian areas within the planning area that can be applied uniformly to establish activity plan objectives (such as within grazing allotment management plans). Consequently, where PFC and vegetative trend objectives as stated in this document are judged to be inadequate for determining desired wildlife habitat conditions, locally adapted methods and goals will have to be used.

Other permanently wet or seasonally wet areas, typically called wetlands, include reservoirs, sloughs, playas, meadows, springs, and seeps. They are also commonly found independent of a defined stream channel and can occur throughout various elevations and landscape settings. This is particularly true for meadows, springs, and seeps that may be present within very arid areas and at low elevations.

Wetlands are similar to riparian areas in that the site potential for wildlife habitat can vary markedly. For example, extreme water fluctuations around Owyhee Reservoir in MRA limit the composition and extent of vegetation associated with some wetland areas. In contrast, Mud Spring in MRA is an example of a wetland with high site potential that has been managed to promote wetland wildlife habitat values.

Regardless of the habitat type, wetlands typically provide wildlife succulent green forage, insects, and drinking water. Green forage is especially important for many wildlife species during the summer and fall when upland vegetation has dried out.

Meadow habitats are vulnerable to grazing and other surface-disturbing uses that affect soil stability, water-holding capacity, and plant composition. Some of the most important meadow habitats are near Skull Springs in MRA, and in the upper headwaters of the West Little Owyhee River in JRA. Meadows functionally impaired by gullies, sagebrush encroachment, and dominance by species such as iris provide greatly diminished wildlife habitat values, and indicate poor habitat health.

Where the site potential exists, wetlands associated with reservoirs, sloughs, or playas commonly provide valuable nesting and brood-rearing habitat for waterfowl and shorebirds. Common vegetation associated with these types of wetlands includes inland saltgrass, Baltic rush, spikerush, alkali bulrush, and cattail. Some species of amphibians and reptiles tend to associate with these areas.

Springs and seeps occur where water from underground aquifers reaches the surface. Many springs flow directly into streams, but others form small, isolated ponds or marshy areas. Springs and seeps may also form their own channels that reach flowing streams. Some springs lose their surface expression and recharge alluvial fill material or permeable strata.

Springs and seeps are important to lotic (flowing water) habitat because of the perennial baseflow they provide to streams. In winter, especially in small streams, this baseflow prevents formation of anchor ice. In summer, inflow from springs not only provides volume but also helps to lower water temperatures.

Depending on soil and topography, extensive riparian or wetland areas may be associated with spring sources. Because of the continuous flow and constant temperature of most springs, riparian communities frequently remain permanently green, providing habitat and forage for wildlife throughout the year.

Springs can be a source of unique, often endemic assemblages of invertebrates. Because these habitats are uncommon and isolated, a particular species may be found only at that site and may have little opportunity for dispersal or migration to other areas. Several rare snail species are restricted to springs and are vulnerable to development that eliminates shallow pools and surrounding riparian vegetation.

Some springs are warm or hot because their aquifers are near a geothermal heat source. In addition to their high temperatures (above 95 °F), hot springs are often characterized by large quantities of dissolved salts, carbon dioxide, carbon sulfide, or sulfur dioxide. Animals are never abundant at hot springs. In general, 77–86 °F appears to be the dividing line between a diverse fauna at low temperatures and a poor fauna at high temperatures. Because the thermal death-point of most freshwater invertebrates is between 86 and 104 °F, many hot springs animals have developed considerable thermal adaptations. Many unique species of beetles, as well as flies, amphipods, and snails, are adapted to hot springs. These invertebrate communities generally rely on shallow rills of hot water and algae and cannot survive where dams or barriers form deep pools.

An extensive inventory of springs, their condition, and water yield to streams has not been conducted.

Western juniper woodlands: Western juniper provides habitat for the third largest number of species supported within the analysis area (Thomas et al. 1984). Western juniper stands vary greatly in their value as habitat depending on site-specific factors such as height, stocking density, age of trees, and understory composition.

Large trees provide cavities for nesting birds or features used by bats, and medium-sized trees provide nest sites on limbs for American robins, ruby-crowned kinglets, and northern flickers. A survey in Idaho (Idaho Bureau of Land Management, Technical Bulletin No. 97-12) which contrasted songbird populations in clear-cut, burned, and old growth western juniper habitats revealed a more robust and diverse population of songbirds in old growth compared to the treated areas. Deer and elk use western juniper for both thermal and escape cover. During severe winters, western juniper cover may be critical to deer survival (Leckenby et al. 1971).

The distribution of western juniper influences the condition and quality of neighboring wildlife habitat types. For example, western juniper expansion into the sagebrush steppe reduces woody understory species such as big sagebrush, antelope bitterbrush, and mountain mahogany (Adams 1975; Miller et al. 1995). This encroachment reduces forage for big game and habitat for many small species of wildlife. Western juniper expansion into the riparian zone resulting from improper grazing use and fire control policies has contributed toward the reduction or elimination of quaking aspen, which is a key vegetation type for game and nongame species.

Given the tradeoffs in wildlife habitat values associated with western juniper absence or presence, BLM needs to incorporate which limiting factors for wildlife are most in need where burning, cutting, or other treatments are proposed. This can only be accomplished at a scale which considers resource conditions within watersheds or geographic areas proposed in this plan.

Forest habitat: This includes species such as ponderosa pine, Douglas fir, and western larch. Cavity-dependent species of forest-dwelling birds and mammals require snags for their reproduction. The size, age classes, and stocking levels of trees influence their values

as wildlife habitat for game and nongame species. Dead and downed material supplies structure for a variety of purposes and plays an important role in the overall ecology of the forest and its wildlife. Appendix F describes desired forest conditions for wildlife.

The forested areas of MRA , which are naturally fragmented due to soil, climate, and landform character, are valuable as transitional habitat between the Blue Mountains and sagebrush steppe of eastern Oregon.

Habitat Security

Wildlife intolerance to human disturbance varies by species, and is influenced by factors including the intensity, duration, frequency, timing, season, and landform setting in which the disturbance occurs. Snowmobiles, 4-wheel drive vehicles, motorcycles, rafts, boats, and some aircraft are examples of mechanized and nonmechanized craft that can potentially harm wildlife directly or indirectly through noise and disruption. For many species, habitats exhibiting high quality structure, forage, and other amenities will simply not support wildlife if habitat security is absent.

Wildlife habitat security is most important during breeding periods and times of winter confinement when habitat availability may be limited by snow cover. Disruptions during the winter may result in the death of animals already under extreme stress from winter conditions, and breeding season disturbances can result in reproductive failure and reduced recruitment.

Readers should refer to Chapter 3 Energy and Minerals objectives which describe typical seasonal and spatial restrictions that can be applied to any number of activities with potential to disrupt wildlife. Refer also to Appendix F for more details on habitat security.

Selected Species Descriptions

Upland game bird species: Upland game bird habitat preferences and general abundances are outlined in Table 2-11.

Table 2-11.—*Upland game bird species and habitat preferences*

Species	Notes	Habitat preference
Chukar partridge	Associated with rocky canyons in mountainous habitat and river corridors and Owyhee River corridor	Widespread throughout the planning area
Ring-necked pheasant	Mostly associated with farmland and public land immediately adjoining farmland	Most abundant on farmland and public land
Valley quail	Associated with farmland and riparian areas	Abundant on farmland and public land
Gray partridge	Associated with grassy habitats and some farmland	Present but generally uncommon throughout the analysis area
Mourning dove	Occupy a wide variety of habitats in the analysis area	Widespread throughout the analysis area
Blue grouse	Associated with forest and riparian habitats	Present in the upper watersheds of northern Malheur County

The quality of upland game bird habitat depends on the availability of mixed shrubby and herbaceous vegetation types for nesting, foraging, and shelter. Riparian habitat plays an important role as a source of food, water, and shelter for most species.

Rocky Mountain elk: Rocky Mountain elk occupy areas at mid to upper elevations. Winter use areas are indicated on Map WLDF-1 in the Draft SEORMP/EIS. State management goals and population estimates for elk are shown in Table 2-12.

In MRA, the highest densities of elk are present in association with mixed forest and western juniper habitat near Castle Rock, Juniper Mountain, and Westfall Butte. In general, the northern MRA elk herd has been expanding both numerically and geographically for more than a decade. Population and distribution growth has been significantly influenced by private landowners. Elk expansion in this area has caused some complex management challenges for private landowners, ODFW, and BLM. For example, there is local controversy about the impact of elk on quaking aspen regeneration and on the condition of riparian habitat in the Bully Creek Watershed. Because of difficulties in developing a cooperative management scheme for elk in the Bully Creek Watershed, ODFW has determined that the East Beulah Hunter Unit is an elk deemphasis area (no population management objective has been set).

Two small elk herds are present near Cedar Mountain and Mahogany Mountain. The Mahogany Mountain herd is increasing in numbers and distribution.

ODFW has estimated that, during the winter, JRA supports about 150 headAmer of elk in the vicinity of Jordan Valley. These animals, which are not yearlong residents in Oregon, originate from herds in Idaho.

Because elk and cattle have similar food habits at certain times of the year, there is potential for forage competition where they overlap. Elk may graze areas distinct from cattle because of their cover requirements, their tendency to avoid domestic livestock because of social intolerance, and their preference for areas that have been rested or deferred from livestock grazing. However, in Montana and Oregon, elk have shown preference for wintering areas that sustain periodic livestock grazing to those that receive no livestock use over a long period of time (Frisina, M., Montana Department of Fish, Wildlife, and Parks, personal communication).

Western juniper, quaking aspen, conifer, and mountain mahogany stands typically provide elk security cover and relief from temperature extremes. Shrub species, including antelope bitterbrush and sagebrush, also provide important cover and forage for elk. Although largely grass eaters, elk consume a wide variety of forbs and shrubs.

Table 2-12.—*ODFW elk management objectives and population estimates by hunter unit* [1]

Big game hunter unit	Management objective (bulls/100 cows)	Population objective	Current Population Estimate
West Beulah	15	1,300	1,300
East Beulah	NA	None	700
North Malheur River	15	1,500	1,350

[1] Fall 1995 data.

Mule deer: Mule deer are widespread, typically associated with complex middle to upper elevation landforms that support a wide variety of sagebrush, mountain shrubs, quaking aspen, conifers, western juniper, and herbaceous vegetation. Mule deer are frequently associated with riparian habitat and tend to be present yearlong where public land adjoins cultivated farmland.

Deer migrating from U.S. Forest Service (USFS)-administered land in Oregon and from BLM-administered land in Idaho increase populations of some local herds in winter. Deer winter ranges are shown on Map WLDF-1 in the Draft SEORMP/EIS.

Table 2-13 shows current population estimates and State management objectives established in 1990 for each hunter unit. Based on ODFW survey data, mule deer numbers are currently low relative to historic numbers and State management objectives. Severe winters and other biological factors have contributed to these low numbers.

Deer are generally classified as browsers, and forbs and shrubs make up the bulk of their annual diet. The diet of mule deer is quite varied, however, and the importance of various classes of forage plants varies by season. For example, in late fall and early spring, new growth on grass may constitute an important part of their diet in some areas because it is highly palatable, nutritious, and abundant. In winter, especially when grasses and forbs are covered with snow, the entire diet may consist of shrubby species. Tall shrubs and trees are very important for food and cover.

Forest, woodland, and rangeland management actions all have the potential to influence mule deer cover and forage. Healthy quaking aspen, conifer, mountain shrub, and sagebrush communities are all important tall cover habitats for mule deer. Meadows and riparian areas provide succulent forage and water, especially during the fall and summer.

Pronghorn Antelope: Pronghorn antelope are distributed throughout much of the planning area. Winter concentration areas are shown on Map WLDF-1 in the Draft SEORMP/EIS, and Table 2-14 shows population estimates. ODFW has not established population management objectives for pronghorn, but they do currently manage for "benchmark" population characteristics.

During the summer, pronghorn antelope are widely distributed throughout valleys and mountain foothill habitats. They are associated with sagebrush habitat with low structure.

Table 2-13.—*ODFW mule deer management objectives (MO) for hunter units in the planning area*

Hunt unit	Population MO 1990 (spring adults)	Estimated current population 1995 (spring adults)	Bucks/100 doe after season MO	Fawns/100 adults (spring) MO
Sumpter	7,000	5,800	15	35
Beulah	13,700	6,900	12	35
Malheur River	13,700	7,500	12	35
Owyhee	5,000	3,800	15	35
East Whitehorse	5,500	800	15	35
Trout Creek Mountains	2,300	900	25	35

Table 2-14.—*Estimated 1996 pronghorn antelope populations in hunter units*

Hunter unit	1996 estimated population
South Sumpter	50
Beulah	1,000
Malheur River	2,400
Owyhee	2,100
Whitehorse	1,500

Rangelands with a mixture of grasses, forbs, and shrubs provide the best habitat (Yoakum 1972). Sagebrush is used for both cover and forage. Seedings and wildfires have converted some previously tall and dense stands of sagebrush into suitable range.

BLM livestock water developments, particularly pipelines, have allowed pronghorn antelope to expand into formerly unoccupied areas. Competition for forage 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 for freedom of movement for pronghorn by having smooth bottom wires spaced at least 16 inches from the ground.

Black bear: Black bear are present on forested public land adjoining the Malheur National Forest. They are seen, although rarely, in shrub steppe habitats of MRA.

Cougar: Cougar are present in major canyon corridors of the Malheur and Owyhee Rivers in MRA and JRA. ODFW data indicate that cougar populations are increasing statewide and this is being reflected in increased observations near towns within the planning area. The U.S. Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS)-Wildlife Services has reported a significantly higher number of requests for cougar removal to protect human safety.

Raptors: Raptors (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. The Owyhee Canyon is a good example of a high-density raptor breeding habitat on public land. The general location of these areas is indicated on Map WLDF-2. 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 found in western juniper, quaking aspen, and conifer 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 of the breeding species also winter within the planning area. Species that only winter in the area include the rough-legged hawk and northern bald eagle. Forestry practices, rangeland treatments, and power line locations and configurations are examples of actions which potentially threaten raptor production and survival.

Waterfowl, shorebirds, and wading birds: Approximately 70 species of birds use the area's wetlands during migration and as breeding habitat. Representative breeding species include the Canada goose, tundra swan, cinnamon teal, mallard, gadwall, American avocet,

Wilson's phalarope, greater sandhill crane, and spotted sandpiper. Vegetation cover for nest concealment from predators and for protection from other disturbances is important during the breeding season.

Landbirds (also known as neotropical migrant birds): The planning area supports a wide variety of neotropical migrant 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 migrants exhibit quite variable habitat requirements and are found in several habitat types. Important recent publications pertaining to landbirds include ICBEMP science reports, "Birds in Sagebrush Sea" (Paige and Ritter 1999), and "Conservation Strategy for Landbirds in the Columbia Plateau of Eastern Oregon and Washington (Altman and Holmes 2000)."

Invertebrates: Limited information is available on invertebrates, and more is known about aquatic than terrestrial species. Stream invertebrates are routinely collected as part of the fisheries habitat monitoring program. These collections are analyzed for species composition, abundance of organisms, and the presence of certain indicator species. If many species that are adapted to polluted or degraded environments are found, then the stream being assessed may be a candidate for restoration or improvement. Conversely, the presence of invertebrates found only in clean water, such as certain stoneflies or the large river mussel, indicates good stream conditions.

Springs are a source of unique, often endemic assemblages of invertebrates that are adapted to the constant temperatures and distinctive geochemical environments that springs provide. In addition, unusual subsurface species occasionally appear that have been washed out of subterranean habitats. Thermal springs, because of their high temperatures and concentrations of dissolved minerals, subject invertebrates to a rigorous environment that precludes high diversity or abundance. Nevertheless, some species of nematodes, mites, beetles, flies, amphipods, and snails are adapted to hot springs. A few rare snails have been collected from thermal springs in the planning area but have not as yet been described as species.

Cave environments provide habitats for many types of invertebrates. These habitats differ from surface habitats in that they have constant temperatures, dim or absent light, few disturbances, and scarce food. The food web is simple, consisting of detritivores and their predators. The incidence of endemism is especially high in cave environments because of geographic isolation.

Three cave species listed as sensitive by the BLM have been observed in only one cave. The Malheur Cave planarian, a pigmentless flatworm, and the Malheur Cave amphipod, a tiny, shrimp-like crustacean, are both detritivores that inhabit a subterranean lake in the dark zone of Malheur Cave. The Malheur pseudoscorpion, a clawed predator the size of a grain of rice, lives in soil and debris in the twilight zone of the cave.

Special Status Animal Species

Special status species of vertebrates (such as birds, fish, mammals) and invertebrates (such as mollusks, insects) occur on public land within the planning area. Special status designations are assigned for many reasons, including limited distributions, habitat losses resulting from environmental impacts, suspected or documented population declines, or some combination of these factors. Special status species usually receive priority in funding for determining their distributions, abundance, and habitat preferences. Typically, information about special status species is gathered during normal field work by BLM biologists or through contracts with qualified individuals.

Over the last three decades, BLM has gathered field data on the locations and habitats of the following former or current special status species: burrowing owl, long-billed curlew, sage grouse, Mojave black-collared lizard, short-horned lizard, northern sagebrush lizard, western

night snake, Columbia spotted frog, western toad, woodhouse toad, tiger salamander, northern bald eagle, northern goshawk, ferruginous hawk, Swainson's hawk, peregrine falcon, loggerhead shrike, California bighorn sheep, kit fox, western big-eared bat, Lahontan cutthroat trout, redband trout, and bull trout. One important source of information about special status species is "Species at Risk, Sensitive, Threatened and Endangered Vertebrates of Oregon" (Marshall et al. 1996).

BLM, State, and USFWS lists of special status animal species are shown in Table 2-15. For brief notes on habitats by species, refer to Table 2-16. All three listings are used to prioritize survey efforts by the BLM. The opinions of private organizations, such as the Oregon Natural Heritage Program (ONHP), are considered in the process of determining BLM, State, and USFWS lists.

Special status species lists are prone to change as new inventory data are gathered. Therefore, the list of special status species indicated in this document can be expected to change during the life of this plan. Changes may include adding new species, delisting species (removal from special status), or elevating species to Federal or State threatened or endangered status.

Management of special status species may be directed by law under USFWS recovery plans, in the case of formally listed species under the ESA, or by policy and interagency cooperation under conservation agreements, in the case of nonlisted special status species. Both kinds of management arrangements can and will influence land use and management actions in the planning area.

The BLM may require that land uses be adjusted to provide the correct quality and quantity of habitat for special status species on public land. Adjustments depend on the species, their life history needs, the seasons of use potentially affected, and the nature of the land use allowed. Because of the wide variety of species that might be considered, the potential impacts on land uses are quite variable. Examples of potential influences on land uses include adjustments of seasons, locations, or intensities of grazing use; locations, extent, and plant compositions of rangeland seeding projects; adjustments of the timing and location of minerals exploration activity; adjustments of permitted recreational uses; and adjustments of forest harvest configurations, allowable sale quantities, and snag retention for cavity-nesting birds or other species.

Lahontan cutthroat trout (Federal threatened): The Lahontan cutthroat trout is an inland subspecies endemic to the Lahontan Basin of northern Nevada, eastern California, and southern Oregon. Although somewhat hardier than other cutthroats, the Lahontan subspecies nonetheless requires low water temperatures, deep-water refuges, and silt-free gravels for spawning.

Lahontan cutthroat trout inhabit two basins in the Trout Creek Mountains of the JRA. A small number occur in Sage Creek and Line Canyon Creek in the Quinn River Basin. These trout are remnants of populations that historically inhabited the entire drainage. Hybridization with hatchery rainbow trout, as well as competition with brook and brown trout, has reduced the distribution of pure Lahontans in this basin.

In the Coyote Lake Subbasin, Lahontan cutthroat trout are present in Willow, Whitehorse, Little Whitehorse, Fifteenmile, Doolittle, Cottonwood, and Antelope Creeks. Recent surveys of 70 stream miles estimated a Lahontan cutthroat population of about 40,000 fish, an increase from past years that is attributable to improved riparian management and cessation of drought. A high percentage of the stream habitat in Coyote Lake Basin remains marginal, with elevated water temperatures, too few pools, and excessive silt.

Table 2-15.—*Special status animal species in southeastern Oregon*

Common name	Scientific name	BLM status [1]	USFWS status [1]	ODFW status [1]	Occupancy status [2] MRA	Occupancy status [2] JRA
Amphibian						
Blotched tiger salamander	*Ambystoma tigrinum melanostictum*	TRA		UN	DB	DB
Columbia spotted frog	*Rana luteiventris*		C	UN	DB	DB
Northern leopard frog	*Rana pipiens*	SEN		C	SB	A
Western toad	*Bufo boreas*	TRA		VU	DB	DB
Woodhouse's toad	*Bufo woodhousei*	TRA		PE	DB	DB
Bird						
American white pelican	*Pelecanus erythrorhynchos*	ASM			SU	SU
Bank swallow	*Riparia riparia*	TRA		UN	DB	DB
Barrow's goldeneye [3]	*Bucephala islandica*	TRA		UN	DM	DB
Black tern	*Chlidonias niger*	SEN			SB	SB
Black-backed woodpecker	*Picoides arcticus*	SEN		CR	DB	A
Bobolink	*Dolichonyx oryzivorus*	TRA			SM	DB
Bufflehead [3]	*Bucephala albeola*	ASM			SB	DB
Ferruginous hawk	*Buteo regalis*	SEN		CR	DB	DB
Flammulated owl	*Otus flammeolus*	SEN			U	SB
Franklin's gull	*Larus pipixcan*	ASM			DM	DMU
Grasshopper sparrow	*Ammodramus savannarum*	TRA			DB	SB
Great gray owl	*Strix nebulosa*	TRA		VU	SB	A
Greater sandhill crane	*Grus canadensis* ssp.	TRA		VU	DB	DB
Least bittern	*Ixobrychus exilis*	ASM			U	U
Loggerhead shrike	*Lanius ludovicianus*	SEN			DB	DB
Mountain quail [3]	*Oreortyx pictus*	SEN		UN	DB	A
Northern bald eagle	*Haliaeetus leucocephalus*		T		WR	WR
Northern goshawk	*Accipiter gentilis*	SEN		CR	DB	DB
Northern pygmy owl	*Glaucidium gnoma*	TRA			SB	SB
Peregrine falcon	*Falco peregrinus ssp.*	SEN			DM	DM
Pileated woodpecker	*Dryocopus pileatus*	SEN		VU	DB	A
Pygmy nuthatch	*Sitta pygmaea*	ASM		CR	SB	U
Snowy egret	*Egretta thula*	ASM		VU	SB	SB
Swainson's hawk	*Buteo swainsoni*	ASM		VU	DB	DB
Three-toed woodpecker	*Picoides tridactylus*	SEN		CR	SB	A
Upland sandpiper	*Bartramia longicauda*	SEN		CR	U	U
Western bluebird	*Sialia mexicana*	ASM			DB	SB
Western burrowing owl	*Athene cunicularia*	SEN			DB	DB
Western sage grouse [3]	*Centrocercus urophasianus*	ASM			DB	DB
Western snowy plover	*Charadrius alexandrinus*	TRA			U	DM
White-faced ibis	*Plegadis chihi*	SEN			SB	DB
White-headed woodpecker	*Picoides albolarvatus*	SEN			U	A
Williamson's sapsucker	*Sphyrapicus thyroideus*	TRA		UN	SB	SB
Yellow-billed cuckoo	*Coccyzus americanus*	SEN			DB	U
Fish						
Bull trout [3]	*Salvelinus confluentus*		T	CR	DM	A
Inland redband trout [3]	*Oncorhynchus mykiss* ssp.	TRA		V	DB	DB
Lahontan cutthroat trout [3]	*Oncorhynchus clarki henshawi*		T		A	DB
Lahontan redside	*Richardsonius egregius*	ASM		PE	A	DB
Margined sculpin	*Cottus marginatus*	TRA		V	U	SB
Tahoe sucker	*Catostomus tahoensis*	ASM		PE	A	DB
Invertebrate						
Borax Lake ramshorn	*Planorbella oregonensis*	SEN			U	U
Crooked Creek springsnail	*Pyrgulopsis intermedia*	SEN			U	DB
Hotspring physa (snail)	*Physella* sp.	SEN			U	U
Malheur Cave amphipod	*Stygobromus hubbsi*	SEN			DB	A
Malheur Cave planarian	*Kenkia rhynchida*	BT			DB	A
Malheur pseudoscorpion	*Apochthonius malheuri*	SEN			DB	A
Malheur springsnail	*Pyrgulopsis* sp. nov.	SEN			U	DB
Owyhee hot springsnail	*Pyrgulopsis* sp.	SEN			A	U

Table 2-15.—*Special status animal species in southeastern Oregon (continued)*

Common name	Scientific name	BLM status [1]	USFWS status [1]	ODFW status [1]	Occupancy status [2] MRA	JRA
Mammal						
California bighorn sheep [3]	*Ovis canadensis* ssp.	SEN			DB	DB
California wolverine	*Gulo gulo*	SEN			U	A
Fringed bat	*Myotis thysanodes*	SEN		VU	U	U
Kit fox	*Vulpes macrotis* ssp.	ASM		T	A	DB
Long-eared myotis	*Myotis evotis*	SEN		UN	SB	SB
Long-legged myotis	*Myotis volans*	SEN		UN	DB	U
Western big-eared bat	*Corynorhinus townsendii* ssp.	SEN		CR	DB	DB
Preble's shrew	*Sorex preblei*	SEN			DB	U
Pygmy rabbit	*Brachylagus idahoensis*	SEN		VU	DB	DB
Spotted bat	*Euderma maculata*	SEN			U	U
White-tailed antelope ground squirrel	*Ammospermophilus leucurus*	TRA		UN	DB	DB
White-tailed jackrabbit	*Lepus townsendii*	TRA		UN	DB	DB
Yuma myotis	*Myotis yumanensis*	SEN			U	U
Reptile						
Mohave black-collared lizard	*Crotaphytus bicinctores*	BT		VU	DB	DB
Desert horned lizard	*Phrynosoma platyrhinos*	BT		VU	DB	DB
Longnose leopard lizard	*Gambelia wislizenii*	TRA		U	DB	DB
Northern sagebrush lizard	*Sceloporus graciosus*	BT			SB	DB
Painted turtle	*Chrysemys picta*	SEN		CR	SB	SB
Western ground snake	*Sonora semiannulata*	TRA		PE	DB	SB

[1] Abbreviations for BLM status, effective September 1991: SEN = sensitive species; ASM = assessment species; TRA = tracking species. Abbreviations for Federal status as assigned by the USFWS, effective spring 1996: E = endangered (taxa in danger of becoming extinct within the foreseeable future throughout all or a significant portion of their range); T = threatened (taxa likely to become endangered within the foreseeable future); C = candidate (taxa for which information indicates that listing may be appropriate). Abbreviations for ODFW status: UN = undetermined; CR = critical; VU = vulnerable; and PE = peripheral or naturally rare; T = threatened.
[2] Abbreviations for occupancy status: DB = documented breeder; SB = suspected breeder; DM = documented migrant; SM = suspected migrant; U = uncertain; A = absent; W = winter resident; SU = summer resident, nonbreeder.
[3] Game species.

The BLM reports annually to the USFWS for grazing authorization for allotments of the Coyote Lake and Quinn River Basins where Lahontan cutthroat trout are present. Initial "Section 7"consultation concluded that current grazing practices are not likely to jeopardize the continued existence of the trout.

In 1995, the USFWS office in Reno formalized a cooperative management agreement between the ODFW, Nevada Division of Wildlife, USFS, and BLM for the coordination and performance of activities identified in the "Lahontan Cutthroat Trout Recovery Plan" (1995). 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. The Vale District is in compliance with recovery plan recommendations.

Bull trout (Federal threatened): Bull trout require very cold, pristine streams, and have been eliminated from the mainstem of most large rivers in which they historically occurred. Many remaining populations are isolated in headwater areas. In MRA, bull trout occur in the North Fork Malheur River above Agency Dam, and BLM manages 4.5 river miles of migratory habitat. Bull trout no longer inhabit the Little Malheur River, probably due to high stream temperatures and poor riparian conditions, nor are they common in the North Fork below Little Crane Creek. Spawning occurs in headwater tributaries in Malheur National Forest in the fall and some fish pass through the North Fork to use Beulah Reservoir as winter and spring habitat. However, little is known about their abundance, distribution, or migration patterns and a significant proportion of the population may remain in the

Table 2-16.—*Notes and habitat descriptions of special status species*

Common name	Brief notes about the species	Habitat issues of concern
American white pelican	Nonbreeder in planning area. Typically arrives in early June and occupies major water bodies such as Bully Creek Reservoir, Cow Lakes, and Malheur River.	Limited nesting islands, disturbance to nesting colonies by human activity. USFWS prepared management guidelines for the species in 1984.
Ring-necked duck	Reported as a breeding species at Batch Lake . Otherwise the species passes through the area during spring and fall migration	Nesting cover in breeding areas.
Lesser scaup	Reported as a breeding species at Batch Lake. Otherwise the species passes through the area during spring and fall migration.	Nesting cover in breeding areas.
Barrow's goldeneye	Reported as a breeding species at Batch Lake. Otherwise the species passes through the area during spring and fall migration.	Nesting cover in breeding areas.
Bufflehead	Reported as a breeding species at Batch Lake. Otherwise the species passes through the area during spring and fall migration.	May benefit from installation of nest boxes. No other specific recommended measures for conservation identified at this time.
Northern goshawk	Breeding species in some MRA western juniper habitat. Suspected but undocumented as a breeder in Trout Creek/Oregon Canyon Mountains of JRA.	Found in a variety of dense, mature or old growth forests and quaking aspen; many of the quaking aspen stands on public land are not reproducing due to several factors; protection of western juniper nesting habitats will influence proposed western juniper "control" areas.
Ferruginous hawk	Breeder in MRA and JRA in open sagebrush country. Nests on a variety of substrates including sagebrush, rock ledges, western juniper, and other isolated tree species.	Limit human disturbances around nest sites, avoid large blocks of crested wheatgrass seedings which limit prey density and diversity, avoid OHV vehicle use around nest sites, maintain scattered western juniper for nest sites. Sagebrush control.
Swainson's hawk	Associated primarily with wooded farm land in the Treasure Valley. Also present in willow bottoms on larger river systems near Jordan Valley.	General habitat health.
Black-shouldered kite	Considered by ODFW as "recent immigrants with no long term historical status in the state as a breeding species." Confirmation of breeding status could elevate the species to a special status. No special status identified at this time.	Typically hunts meadows, pastures, or alfalfa fields with high meadow mouse populations.
Northern bald eagle	Winter resident only. Associated with major river systems and large water bodies such as Bully Creek Reservoir, Beulah Reservoir, Owyhee Reservoir, Malheur River, and Owyhee River.	May require protection of deciduous and coniferous roost trees; forage on waterfowl and livestock carcasses.

Table 2-16.—*Notes and habitat descriptions of special status species (continued)*

Common name	Brief notes about the species	Habitat issues of concern
Merlin	Reportedly extirpated from Oregon as a breeding species (Oregon Natural Heritage Program [ONHP]). Identified as a spring and fall migrant only.	None identified in planning area at the present time.
Peregrine falcon	Rare winter visitor, spring and fall migrant. See Birds of Malheur County, Contreras, 1996.	Typically hunts over large wetlands and marshes supporting shorebirds which are sought as prey.
Mountain quail	Associated with mid- and upper elevation riparian habitats with quaking aspen and other shrubby riparian species. See "Birds of Malheur County", Contreras, February 1996.	Quality riparian habitat.
Western sage grouse	Fairly common as a breeder in preferred habitat supporting a variety of tall and low sagebrush varieties interspersed with meadow complexes. Populations are low in contrast to historical records according to ODFW.	Sagebrush cover for forage and shelter, healthy meadows for succulent forage and insect food sources, herbaceous cover for nesting.
Great egret	Associated with major river systems. Potentially a breeder in association with the Owyhee River and Snake River below the Owyhee Dam.	Healthy riparian habitat on major river systems.
Snowy egret	Birds observed over the years are thought to be visitors from breeding populations in Idaho or the Malheur National Wildlife Refuge.	Would benefit from more wetlands and improved riparian habitat capable of supporting fish and amphibians.
White-faced ibis	In MRA and JRA, present only as a breeder on private land; may use BLM land during the breeding season, but has not been documented. They are seen as migrants throughout the county in the fall.	Nests in marshes (mainly hardstem bulrush); feeds in marshes, meadows and some agricultural fields; nesting areas sensitive to drought; species is susceptible to organochloride pesticides.
Greater sandhill crane	Present only as a breeder on private land (McDermitt Creel drainage in southern JRA). May use BLM land during the breeding season, but such use has not been documented.	Roosts, nests, and rears young in wet meadows; large area required per nesting pair; nest and young (called colts) trampling by livestock; power line collisions resulting in mortality; net wire barriers separating young from adults.
Snowy plover	Reported as a migrant at Batch Lake.	Off-road vehicles may disturb nesting activity.
Upland sandpiper	Rare occurrence in upper elevation mountain meadows in MRA.	Uses lightly grazed meadows.

Table 2-16.—*Notes and habitat descriptions of special status species (continued)*

Common name	Brief notes about the species	Habitat issues of concern
Long billed curlew	Breeds in several lower elevation rangelands on BLM land. Associated with rangelands in early succession often supporting species such as cheatgrass and annual mustards.	Conversion of rangeland to agriculture may adversely impact the species.
Black tern	Seen at Batch Lake and Bully Creek Reservoir during the summer but not confirmed as a breeder to date.	Heavy grazing on emergent vegetation.
Caspian tern	Breeds along major river systems such as Malheur River.	Requires sand islands for nesting and a healthy population of small to medium sized fishes.
Forster's tern	May nest locally at Beulah Reservoir, Bully Creek Reservoir. Fledglings seen at Antelope Reservoir (JRA) in 1995.	Nesting sites on major river systems.
Yellow-billed cuckoo	Associated with cottonwoods on Snake River in MRA.	Cattle grazing and stream alteration impacts on the health of cottonwoods.
Burrowing owl	Typically breeds in deep soil types; often in early succession rangeland supporting cheatgrass and other weedy annual species at lower elevations. (*Note*: They have been seen occasionally in good quality rangeland also.)	Human disturbances during nesting season.
Northern pygmy owl	Probably breeds in northwestern corner of Malheur County. Recent observations have been made during the breeding season.	Needs large western juniper, quaking aspen or pines for nest cavities.
Flammulated owl	Reported several times March–May at Batch Lake.	General habitat health.
Great gray owl	Probably present in northern Malheur County around Ironside Mountain.	Old growth lodgepole pine and ponderosa pine habitats; apparently prefer to nest near meadows; potentially impacted by logging.
Black-chinned hummingbird	Seen around Vale and Ontario at midsummer. Rare in western juniper woodlands.	Riparian and shrub habitat health.
Broad-tailed hummingbird	Reported from Spring Mountain and Mahogany Mountain during the summer.	General habitat health.
Lewis' woodpecker	Breeds in quaking aspen, burned ponderosa pine, and mature western juniper types in MRA.	Competition for nest sites by starlings, availability of large cottonwoods, nesting trees in ponderosa pine forests.
Black-backed woodpecker	Aspen, western juniper, and forest habitats of upper Bully Creek Watershed and probably around Ironside Mountain in MRA. Lodgepole pine, ponderosa pine, and mixed forests with larch, true fir, and Engleman spruce, tends to be more common in lower elevation forests.	Conversion of mature forest types to young and fast growing stands; loss of snags for nesting.

Table 2-16.—*Notes and habitat descriptions of special status species (continued)*

Common name	Brief notes about the species	Habitat issues of concern
Three-toed woodpecker	Pine forest near Ironside Mountain.	Forest harvest practices; snag availability.
Pileated woodpecker	Pine forest near Ironside Mountain.	Retention of two or more canopy layers of forest overstory, retention of nest trees over 21 inches in diameter.
Williamson's sapsucker	Pine forest near Ironside Mountain.	Removal of old growth trees in ponderosa pine forests, snag retention for nesting purposes.
Willow flycatcher	Uncommon breeder, lower elevation riparian habitats supporting willow and other shrubby species.	Grazing impacts in riparian areas have severely impacted habitat in some areas.
Bank swallow	Colonial nester in selected locations, notably on highway from Adrian to Homedale.	Protect nesting colonies from mineral material sales.
Pinyon jay	No modern records but may have occupied western juniper habitat in the past.	Western juniper management.
Pygmy nuthatch	Uncommon to rare breeder in pine forests on northwestern Malheur County.	Pine forest management.
Gray catbird	Historic breeder in Malheur County but apparently no longer, in spite of some specific surveys conducted for the species during the 1990's. Eastern Oregon is the western edge of this species range.	Riparian habitat health, shrub structure availability.
Veery	Rare wanderer in recent times. Historic records of the species have been made in the early 1900's. Kindschy reported one at Batch Lake; some records indicate observations were made near the Malheur National Wildlife Refuge.	Riparian habitat health, shrub structure availability.
Mountain bluebird	Higher elevation rangeland of both southern and northern Malheur County in association with western juniper, mahogany, and conifers.	Western juniper and quaking aspen community health.
Western bluebird	Breeds locally in northwestern part of Malheur County and in the Oregon Canyon Mountains. Forest and quaking aspen-dependent species.	Western juniper and quaking aspen community health.
Loggerhead shrike	Typically observed in small numbers but widely distributed in their preferred habitat which includes tall patches of sagebrush, squaw apple, and some salt desert habitats.	General habitat health in open sagebrush and salt desert shrub types.

Table 2-16.—*Notes and habitat descriptions of special status species (continued)*

Common name	Brief notes about the species	Habitat issues of concern
Black-throated sparrow	Central to southern Malheur County in sage-covered slopes.	General habitat health in open sagebrush and salt desert shrub types.
Grasshopper sparrow	Recently seen by advanced birders around Vale.	Data from Morrow County, Oregon, suggests protect natural grasslands on slopes.
Bobolink	Recent records from Juntura, Jordan Valley, and Adrian. Moist grassy areas with some willow, according to Contreras.	Heavy grazing use of meadows during the spring period.
Pine grosbeak	May be an irregular breeder in Ironside vicinity of Malheur County.	Pine forest management.
Northern leopard frog	Recent records from agricultural land around Vale, but not recently reported on BLM.	Rare due to loss of habitat (permanent ponds) and introduction of bullfrogs.
Columbia spotted frog	Federal candidate requiring permanent water; found in slow stream margins and ponds.	Not compatible with introduced bullfrogs or small-mouth bass; the frog depends on healthy riparian habitats and undeveloped springs.
Western toad	Widely distributed in Malheur County; breeds in marshes and small lakes.	Numbers decreasing in many parts of Oregon due to habitat loss and unknown causes.
Woodhouse's toad	Reported in association with lower reaches of Owyhee River; common in Vale area.	Can utilize drier habitats than western toad; although abundant to the east, Oregon is at edge of range.
Blotched tiger salamander	Breeding in reservoirs, in JRA north and south of Jordan Valley, and in MRA near Cow Lakes; appears to be moving east from Idaho.	Most abundant in fishless reservoirs; numbers increased following Vale Project reservoir construction in 1960's.
Mojave black-collared lizard	Inhabits rock piles, boulder hillsides, and talus slopes where vegetation is sparse.	Not abundant, at northern limit of range; populations can easily be depleted by collectors.
Desert horned lizard	Occurs at lower elevations than short-horned lizard; requires sandy openings in shrub cover.	Not abundant, at northern limit of range; populations can easily be depleted by collectors. Would not thrive in homogeneous grasslands.
Northern sagebrush lizard	In the past, erroneously thought to be uncommon; very abundant in sagebrush flats.	Requires shrubland or woodland; would not thrive in homogeneous grasslands.
Western ground snake	In MRA, found in Owyhee Reservoir area in sandy or loose soil, or rocky slopes.	At western limit of range; infrequent observations may be due to secretive behavior.
Lahontan cutthroat trout	Threatened species that inhabits Coyote Lake and McDermitt basins of JRA.	Though fairly temperature tolerant, benefits from intact riparian cover and beaver ponds; subject to hybridization with hatchery trout.

Table 2-16.—*Notes and habitat descriptions of special status species (continued)*

Common name	Brief notes about the species	Habitat issues of concern
Inland redband trout	Widely distributed in MRA, less abundant in JRA; few populations are genetically pure.	Though fairly temperature tolerant, benefits from intact riparian cover; subject to hybridization with hatchery trout.
Bull trout	Threatened species that inhabits North Fork Malheur River, MRA; only migration and holding habitats occur on BLM.	Requires cold, clean water; intact riparian canopy and deep pools for refuge essential.
Tahoe sucker	Inhabits McDermitt Creek basin in JRA.	At northern limit of range in Oregon; abundant in Nevada and California.
Lahontan redside	Inhabits McDermitt Creek basin in JRA.	At northern limit of range in Oregon; abundant in Nevada and California.
California bighorn sheep	Present in a variety of canyonlands and scattered mountain ranges in the planning area.	Avoidance of contact with domestic sheep.
Gray wolf	No longer resident as a breeding population in the planning area.	
Kit fox	Associated with salt desert habitat in JRA only.	General habitat health, avoid animal damage control trapping and use coyote getter in occupied habitat.
Canada lynx	Relatively few sightings from Oregon, but two have been documented within 30 miles of MRA and JRA.	General habitat health.
California wolverine	Possibly present in extreme northwestern part of MRA.	General habitat health.
White-tailed jackrabbit	Seen at higher elevations in grassland aspect habitats in northern MRA. Also seen in the lower southeast corners of the JRA also in grassland aspect habitats.	General habitat health.
Pygmy rabbit	Great Basin sagebrush habitats.	Brush control in Great Basin sagebrush habitats.
Preble's shrew	Forested and unforested riparian habitats.	General habitat health especially in riparian areas.
Fringed myotis	Potentially present in a variety of habitats.	Impacts from caving activity, very susceptible to human disturbances, forest practices, livestock grazing.
Western big-eared bat	Present in some caves and western juniper habitats throughout the planning area.	Cave management, western juniper management
Antelope groundsquirrel	Fairly common in selected lower elevation sagebrush and salt desert rangelands.	General riparian habitat health in sailt desert environments.

Table 2-16.—*Notes and habitat descriptions of special status species (continued)*

Common name	Brief notes about the species	Habitat issues of concern
Malheur pseudoscorpion	Occurs in a State and privately-owned cave; BLM administers some of the subsurface minerals.	Destruction of cave environment, mineral development.
Malheur cave planarian	Inhabits pools and seeps in one cave.	Destruction of cave environment, mineral development.
Malheur cave amphipod	Inhabits pools and seeps in one cave.	Destruction of cave environment, mineral development.
Malheur pebblesnail	Limited data about the species.	Requires clear, cold springs.
Crooked creek springsnail	Inhabits Crooked Creek (Owyhee Basin)	Requires clear, cold springs; restricted to less than 12 known sites.
Owyhee hot springsnail	Inhabits one hot spring site on Owyhee River.	Threatened by spring development for recreation.
Malheur springsnail	Inhabits Crooked Creek (Owyhee Basin).	Requires clear, cold springs.
Hotspring physa	Limited data about the species.	Occurs in permanent springs.
Borax Lake ramshorn snail	Occurs in the Great Basin.	Permanent ponds, lakes.

headwaters throughout the life cycle. Bull trout numbers and distribution have declined regionally due to loss of habitat, poor water quality, past fisheries management practices, and overharvest.

The BLM manages bull trout habitat according to the "Inland Native Fish Strategy" (1995). This plan provides review of timber sales, road and trail maintenance, grazing permits, mining, and other activities that may pose an unacceptable risk to bull trout habitat, and contains long-term direction that is intended to recover and sustain healthy bull trout populations.

Inland Columbia Basin redband trout (BLM sensitive): The inland Columbia Basin redband trout is a rainbow trout subspecies inhabiting portions of the Owyhee and Malheur Basins. The steelhead component of the population became extinct as a result of dam construction. Although redbands can withstand somewhat elevated water temperatures and alkalinity, optimal habitat includes cool water and clean gravels. As a result of poor riparian condition and stream degradation, many redband populations have retreated to headwater areas, causing extensive population fragmentation and a decline in numbers. Redband trout readily interbreed with the coastal strain of rainbow trout commonly produced in hatcheries, and consequently many populations become hybridized and lose their unique redband genetic makeup.

Recent genetic testing (1989–1996) of trout populations in the planning area has identified approximately seven redband "strongholds" (strongholds are stream segments, usually near headwaters, with redband populations that are genetically pure or only slightly hybridized with hatchery stocks). Additional testing will be necessary to determine the genetic composition of other trout populations in the planning area.

Northern bald eagle (Federal threatened): The planning area supports a wintering population of northern bald eagles, but no breeding pairs. Based on mid 1980's survey data, about 20 to 30 northern bald eagles winter within the planning area, usually near major river systems and large reservoirs.

ODFW gathers winter survey data by vehicle on the Malheur River and lower Owyhee River. No systematic winter roost inventories have been conducted in MRA and JRA, so it is not clear whether bald eagles roost in dispersed or concentrated areas. It is probable that both MRA and JRA provide winter roost sites because of the availability of mature black cottonwoods, western juniper, ponderosa pine, and volcanic cliffs. The "Working Implementation Plan for Bald Eagle Recovery in Oregon and Washington" (1990) is a good source of more detailed information regarding this species.

American peregrine falcon (BLM sensitive): American peregrine falcons are occasionally seen along the Owyhee Reservoir during fall or spring migration, but no recent nesting activity has been documented. There is a USFWS recovery plan for the peregrine falcon that indicates how BLM may take actions that contribute toward conservation of this species.

The "Recovery Plan for Peregrine Falcon [Pacific Population]" (1982) is a good source of more detailed information regarding this species.

Gray wolf (Federal endangered): It is probable that wolves historically occupied some of the habitats within the planning area. The southern extent of the Blue Mountains in MRA would appear to be a likely area of historic wolf use, but this is speculation based on habitat types. There are no wolf populations currently occupying the planning area and no denning or rendezvous sites have been identified in the course of recent interagency efforts to compile wolf observations. Most BLM management activities for nonbreeding populations are compatible with wolf protection and recovery. If nonbreeding wolves were to appear periodically in the future, prey availability is not a limiting factor for their survival.

There are two records of wolf sightings that are close to the planning area but not within it. One was made in 1974 about 1 mile south and 6 miles east of the settlement of Huntington, Oregon. In this case, the animal was shot and the skull was recovered for identification purposes. Reportedly, the skull was shipped to the USFWS and was confirmed to have been a gray wolf. The other record is from 1999 in which a collared wolf (B-45-F) from an experimental population in Idaho traveled into national forest lands of the Blue Mountains. This animal was eventually captured and returned to the state of Idaho.

Canada lynx (Federal threatened): The Canada lynx was listed as threatened under the ESA on March 21, 2000. According to the "Canada Lynx Conservation Assessment and Strategy" (CLCAS), typical lynx habitat in Oregon is comprised of subalpine fir habitat types where lodgepole pine is a major seral species. Moist grand fir and moist Douglas fir habitat types where intermixed with subalpine fir habitat types also provide lynx habitat. Quaking aspen/tall forb community types, especially those that include common snowberry, serviceberry, and chokecherry shrub understories, and shrub steppe communities that are adjacent to high elevation fir communities maybe important lynx foraging areas (CLCAS 2000). None of these plant communities or associations of communities are present in the planning area.

Although there is no habitat that could support a population of lynx, shrub-steppe rangelands within the planning unit may be used by dispersing lynx. During periods of prey scarcity both adult and juvenile lynx are known to make long distance moves. The presence of lynx on numerous mountain ranges within the northern Rocky Mountain geographic area that are surrounded by shrub-steppe habitat suggest such movements may not be unusual (CLCAS 2000). Unfortunately, lynx traveling from the likely refugia in the mountains of east-central Oregon across the planning area would not find suitable habitat regardless of distance traveled. Therefore, the planning area probably constitutes a population sink.

Studies have documented exploratory movements of lynx during summer (CLCAS 2000). It is possible that the occasional availability of abundant prey, such as jackrabbits or ground squirrels, may attract lynx out of typical habitat and into shrub-steppe habitats. Although there is no information to suggest this is occurring in Oregon, let alone in the planning area, management actions identified in the Proposed RMP would result in adequate habitat for atypical prey species should a lynx enter the planning area. Management direction to provide sufficient habitat conditions for lynx and lynx prey species are contained within the goals identified for forested communities in the S&G's to meet riparian area objectives, and as identified within Appendix F. These management standards and other directives and policies insure habitat conditions, and that prey populations will be adequate to support lynx during short-term dispersal attempts or during seasonal elevational movements.

Northern kit fox (State threatened): The northern kit fox is present within some of the salt desert shrub habitat of JRA, but it is absent from MRA. Oregon kit fox populations are thought to be naturally limited by the amount of salt desert habitat available. They are common in Nevada and some other western states. The USDA-APHIS-Wildlife Services avoids trapping and poisoning within kit fox occupancy areas in accordance with an existing BLM habitat management plan.

Columbia spotted frog (Federal candidate): Columbia spotted frogs are associated with riparian and wetland habitat, and require permanent water (usually near springs) with algae or emergent vegetation for cover. They have been heavily impacted in recent years by habitat loss and introduction of exotic animals that prey upon them. Their known distribution within the planning area ranges from Malheur City to Parsnip Peak south of Jordan Valley. The population appears to be fragmented into small, isolated units.

Sage grouse (BLM assessment species): The planning area supports roughly one-third of the sage grouse population of eastern Oregon. ODFW considers Malheur and Harney Counties to be the core of the sage grouse habitat of eastern Oregon. Historic records, which are mostly anecdotal and lack systematic survey data, indicate that sage grouse populations have fluctuated widely in Oregon. ODFW has indicated that although the current population is relatively small it is considered to be stable (Willis et al. 1993).

In much of the popular and scientific literature, sage grouse are considered an indicator species or "icon" of the sagebrush steppe. The ICBEMP Final EIS and Partners in Flight Western Working Group (Altman and Holmes 2000) both consider sage grouse a species of focus. Both documents highlight sage grouse as a species that occupies habitats that have declined substantially within the interior Columbia Basin since historical times. Sage grouse are wide ranging and they occupy both upland and riparian habitats. It is for this reason that sage grouse are identified as the primary indicator or umbrella species for sagebrush habitats in this plan (see Appendix F).

This species is highly dependent upon the presence of several species and subspecies of shrubs, notably Wyoming, mountain, and great basin sagebrush. Other species such as low sagebrush and stiff sagebrush are also important. Nesting tends to occur at mid-elevation habitats that support adequate shrubby and herbaceous plant cover (Connelly et al. 2000). Nesting habitats are typically associated with big sage/low sagebrush habitat complexes. Spring, summer, and fall ranges with a good compliment of native grasses and forbs are associated with productive sage grouse habitat. During the winter, sage grouse forage almost exclusively on either big sagebrush or low sagebrush depending upon severity of snowfall and migratory habits of populations.

Mountain meadows, riparian areas, and moist upland range sites all provide sources of succulent green forage and insects that are important food for grouse during the spring, summer, and fall. A number of private meadowlands and alfalfa fields are important sources of herbaceous summer and fall forage.

Sage grouse habitat and breeding complex monitoring is an ongoing effort that ODFW and BLM have participated in jointly for several decades. Lek locations are indicated on Map WLDF-2. Because leks are typically positioned within close proximity to nesting and brood rearing habitat, they are often considered an excellent reference point for monitoring and habitat protection measures.

Current concerns and issues surrounding sage grouse—There is a substantially heightened public interest in the welfare of sage grouse throughout the West due to population declines reported by state game agencies. These trends and ongoing impacts to habitat that supports the species have resulted in petitions to the USFWS for possible listing of the species under the protection of the ESA. It is possible that a petition will be submitted for the State of Oregon within the near future.

As a primary land administrator of sage grouse habitat throughout the West, it is expected that BLM will likely be influenced by the recommended sage grouse management guidelines currently being revised under the direction of the Western Association of Fish and Wildlife Agencies (Connelley et al. 2000). The main content of the sagebrush conservation measures that are expected to result from this effort and that are pertinent to BLM are shown in Appendix F. Promoting and protecting habitat conditions that support long-term wildlife species persistence and characteristics of vegetation that contribute to stable or positive population growth will benefit sage grouse.

There are a wide variety of factors that have been reported to have effects on sage grouse habitat and populations including; natural population cycles, sagebrush conversion, livestock grazing use, water and fence development, drought, cold/wet spring weather, crested wheatgrass seeding management, wildfire and prescribed fire, nest predation, predator control, alternate prey availability for species such as coyotes that are known to prey upon sage grouse, and pesticide use. Disease or parasites may also be playing some role.

It is the cumulative effect of these factors occurring at different locations, scales, intensities and time-frames that make sage grouse a management challenge. Although research biologists are generally in agreement that no single factor is responsible for current declines, there are a number of substantive actions BLM can take as a land management agency to help conserve habitat for the species. A cautious approach to managing the following BLM programs or authorizations, which potentially alter habitat conditions, may be expected over the life of this plan. These include:

- New pasture fences, water developments, and pipelines in native range used for nesting;
- Authorization of temporary nonrenewable AUM' s in native range used for nesting;
- General grazing season use in native range used for nesting;
- Prescribed fire or other treatments to reduce shrub cover within nesting and wintering habitat; especially Wyoming sagebrush types (ICBEMP science reports; Miller and Eddleman 2000; Connelly et al. 2000).
- Retreatment of existing seedings for the purpose of enhancing livestock forage production when it is within winter range or nesting habitat;
- Riparian/wetland area management; and
- Wildfire management, especially near or within remaining habitats exhibiting characteristics important to sage grouse.

California bighorn sheep (BLM sensitive): Due to a number of factors, bighorn sheep were eliminated from Oregon by 1915. Existing populations are the result of numerous ODFW-initiated reintroductions and supplemental releases that began as early as 1963. Current bighorn sheep population estimates for various geographic areas are indicated in Table 2-17.

Table 2-17. —*Estimated 1993 bighorn sheep populations by geographic area*

Geographic area	Population estimate
Lower Owyhee River	470
Malheur River	40
Upper Owyhee River	240
Battle Mountain	53
Oregon Canyon/Trout Creek Mountains	170
Sheepshead Mountains	40

Bighorn sheep typically prefer remote and complex mountainous terrain where adequate water is available. Several artificial water sources (guzzlers) have been installed within the planning area so that marginally suitable habitats areas can support a larger number and greater distribution of bighorn sheep.

Because of spatial separation in habitat preferences among deer, wild horses, cattle, and bighorn sheep, forage competition in this planning area is generally limited (Ganskopp 1984). Known areas of overlapping cattle and bighorn sheep use have not presented issues of forage availability or disease transmission requiring resolution. Domestic sheep grazing/ trailing permits do not overlap with currently occupied bighorn sheep range, so the risk of disease transmission between domestic sheep and bighorn sheep is limited. Stray domestic sheep or wandering bighorn sheep (that have shown up in unexpected areas) occasionally require action on the part of ODFW to avoid conflicts. Disease transmission between bighorn sheep and domestic sheep can result in massive bighorn sheep losses and the potential for intense public controversy.

As of 1993, ODFW data indicated that there were about 1,000 bighorn sheep in the planning area. The bulk of their occupied range is associated with the canyonlands and tributaries of the Owyhee and Malheur Rivers. Blue Mountain, the Oregon Canyon Mountains, and the Sheepshead Mountains also support bighorn sheep. Some bighorn sheep probably range between Oregon, Idaho, and Nevada.

Bighorn sheep from Leslie Gulch have been captured and relocated within Oregon and other western States. Although populations within the analysis area have recently increased, according to the 1992–1997 “Oregon’ s Bighorn Sheep Management Plan” (OBSMP), the current distribution in Oregon still represents a small percentage of the former historic range.

In accordance with an approved State management plan, ODFW wishes to continue to release bighorn sheep into suitable unoccupied habitat and to conduct supplemental releases into currently occupied habitat. New release areas, supplemental release areas, and currently occupied bighorn sheep habitat are collectively identified as bighorn sheep habitat on Map WLDF-2. No reintroductions are planned within or near areas that are currently grazed by domestic sheep. Map WLDF-2 shows areas that are currently unoccupied by bighorn sheep and unsuitable for bighorn sheep releases due to authorized domestic sheep grazing.

Wild Horses

The "Wild Free-Roaming Horse and Burro Act" (Public Law 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, JRA and MRA were inventoried for free-roaming horses and burros. Four areas were found to have wild horses within JRA and were designated as herd areas (HA's). Similarly, 10 HA's were designated in MRA. No burros were found in the planning area. Seven HA's were designated herd management areas (HMA's) for the maintenance and management of wild horse herds (Table 2-18; Map WLHS-1 in the Draft SEORMP/EIS). Ten additional HA's or portions of HA's remain designated as HA's though no wild horse herd remains following past land use planning decisions. Management of wild horses in these inactive areas was discontinued due to one or a number of the following reasons: limited horse numbers precluded maintenance of a viable herd, unacceptable resource impacts due to horse use, the presence of restrictive fencing, lack of publicly-owned water, conflicts with the interests of private property owners within HA's, and the legal claim of horses by private parties.

Wild horses from Sheepheads HMA within JRA have unrestricted access to the adjoining Heath Creek-Sheephead HMA within the ARA of Burns BLM District. Similarly, wild horses from Coyote Lakes HMA within JRA have unrestricted access to the adjoining Alvord-Tule Springs HMA within ARA of Burns BLM District.

Table 2-18. —*Herd management areas and herd areas in the planning area*

Herd management areas or herd areas	Public acres	Appropriate management level (high end)	Appropriate management level range	Forage allocation (AUM's)
Malheur Resource Area				
Hog Creek HMA	21,814	50	30–50	600
Cold Springs HMA	29,883	150	75–150	1,800
Three Fingers HMA	62,508	150	75–150	1,800
Three Fingers HA	20,411			
Atturbury HA	7,906			
Cottonwood Creek HA	24,325			
Cottonwood Basin HA	7,804			
Basque HA	8,677			
Pot Holes HA	9,341			
Lake Ridge HA	3,966			
Stockade-Morger HA	22,849			
Jordan Resource Area				
Jackies Butte HMA	65,211	150	75–150	1,800
Sheepshead HMA	136,050	200	100–200	2,400
Sand Springs HMA	192,524	200	100–200	2,400
Coyote Lake HMA	167,919	250	125–250	3,000
Coyote Lake HA	59,369			
Jackies Butte HA	56,104			

Though not identified as part of the Coyote Lake HMA, information supports the conclusion that wild horse use of Red Mountain North Pasture existed in 1971. Wild horses have used Red Mountain North Pasture since 1971 and have been periodically counted as part of Coyote Lakes HMA since establishment of the HMA.

Appropriate management levels (AML's) within each HMA were established through previous land use plans to ensure public land resources, including wild horse habitat, are maintained in satisfactory, healthy condition, and unacceptable impacts to these resources are minimized. Monitoring data, through the life of those plans, support established AML's. The AML for each HMA is expressed as an acceptable range with a single number being the high end of that range. Forage allocations for horses in the HMA are based on that maximum number of the AML range. Maintaining a thriving, natural ecological balance, the biological/social need of the herds, economics of management actions, reasonable cycles of gathering, genetic diversity, and the population at which resource deterioration would be expected to begin were all considered in establishing the AML range (Table 2-18).

To prevent resource overuse and maintain a thriving ecological balance, gathering takes place as a herd reaches the maximum number of established AML range and/or monitoring data indicate that an excess of horses is present. Generally, horses are gathered and removed every 3 to 4 years depending on reproductive rates, death rates, funding, public concern, and other special management considerations. Horses are usually gathered down to the minimum number of the AML range to avoid the need for frequent, expensive gathering. In keeping with the principle of minimum feasible management, all animals above the lower limit of the AML range can be considered excess. Site-specific details of gathering, including trap location, are determined at the time of each gather. Although most of those gathered are adopted from the Burns Wild Horse Corrals near Burns, Oregon, some are transported to other adoption sites throughout the United States.

A number of HMA's contain fences necessary to control livestock movement; however, these fences also create barriers to wild horse movement. After the livestock are removed at the end of the grazing season, gates are left open to allow horse movement within the HMA. Open gates prevent entrapment of horses that could lead to malnutrition and death of otherwise healthy animals. Additionally, the availability of reliable yearlong water, especially in drought years, is a limiting factor within the HMA's of JRA and the adjoining ARA outside the planning area.

Between 1920 and 1940, the U.S. Army provided approximately 700 remount stallions to private agents throughout the United States. Several horse ranchers in Malheur County were issued these stallions, used to breed local mares, improving the physical characteristics of their herds. The offspring of the remounts were then sold to the Army and other ranchers, bringing a higher price than "cold-blooded" horses. Today, a few horses in Malheur County may possess the Army remount bloodlines, though they are several generations removed from the original stallions. This segment of our American heritage and western history influenced the characteristics of the wild horses in the Vale District.

The wild horses in the Jackies Butte HMA, though not true descendants of Army remount stallions, have physical traits similar to those of the remounts, such as a hot-blooded thoroughbred temperament; small keen head; well-defined, moderately-elevated withers; and well-proportioned and relatively small feet. Horses in the Jackies Butte HMA are being managed through removal and introduction of horses from other HMA's to preserve the remount type.

Historically, the Sand Springs HMA had a high percentage of pinto and buckskin saddle-type horses, and the herd has been managed to maintain this conformation and color.

Horses within the Hog Creek HMA are mostly palomino and sorrel saddle type. Because this is a relatively small population covering a small area, horses that match these types from other HMA's have been introduced to avoid inbreeding and maintain a viable gene pool.

In the early 1970's, wild horses within the Cold Springs HMA were predominantly grays and draft type. Sorrel, buckskin, bay, brown, black, and red roan were also found, with most showing draft breed characteristics. Management of wild horses in the Cold Springs HMA has been hindered by the limited size of this HMA, as compared to the established AML, as well as its proximity to private land. Recent counts have identified a substantial portion of the herd outside the HMA. Additionally, the severe winter weather of 1992–1993 reduced the herd to less than minimum AML numbers.

Wild horses of all colors are found within the Coyote Lake, Sheepshead, and Three Fingers HMA's. Although, most are of saddle type conformation, showing influence of thoroughbred ancestry, a few show evidence of draft blood.

Within the adjoining Alvord-Tule Spring Herd, dominant colors are bay, black, brown, sorrel, palomino, and buckskin. Historically, many of these animals have reflected thoroughbred blood. Similarly, major colors in the adjoining Heath Creek/Sheepshead herd are dun, black, brown, bay, sorrel, and an occasional paint. All are of saddle stock conformation.

Most mature horses are 14 to 16 hands and weigh 950 to 1,250 pounds. Mature stallions are usually slightly larger than mares. Although most of the horses are of saddle stock conformation, showing influence of thoroughbred ancestry, a few horses in many of the HMA's have characteristics indicating draft breed lineage.

Rangeland/Grazing Use

Passage of the "Taylor Grazing Act" in 1934 was a major step toward protecting public land and resources from degradation, and toward providing for the orderly use, improvement, and development of the range. Following various homestead acts, the Act established a system for the allotment of grazing privileges to livestock operators based on grazing capacities and priorities of use, and for the delineation of allotment boundaries. It also established standards for rangeland improvements and implemented grazing fees. The act placed 142 million acres of land in western states under the jurisdiction of the Grazing Service, which evolved into the BLM in 1946. The "Federal Land Policy and Management Act" (FLPMA), passed in 1976, and the "Public Rangelands Improvement Act" (PRIA), passed in 1978, also provide authority for the management of livestock grazing on public land.

Grazing Authorization

Livestock grazing is administered on 123 allotments in MRA and 45 allotments in JRA. Allotment boundaries are delineated on Maps LVST-1M and LVST-1J of the draft SEORMP/EIS. Information specific to each of the 168 allotments in the planning area is provided in Appendix E. Authorization to graze livestock consistent with permit terms and conditions is currently allotted to 155 permittees in MRA and 64 in JRA; all under section 3 permits of the "Taylor Grazing Act." The total number of AUM's of grazing use authorized in grazing permits in 1997 was 232,818 in MRA and 187,766 in JRA. Scattered parcels of public land, intermixed with other ownerships and outside allotment boundaries, remain unallotted to a specific livestock operator.

Additionally, temporary non-renewable (TNR) grazing use is periodically authorized for qualified applicants under 43 CFR 4110.3-1(a) and 43 CFR 4130.6-2 when forage is temporarily available for livestock grazing use, provided this use is consistent with multiple use objectives and does not interfere with existing livestock operations on the public lands.

Most pastures in the planning area have portions which are either not used by livestock or only slightly used due to topography, distance from water, limitations caused by natural barriers or for other reasons. These areas of limited livestock use within allotments provide many valuable benefits to meet other resource management objectives though livestock grazing remains an allocated use.

Within the planning area, 41,874 acres of public land in three blocks have been set apart from grazing allotments for the specific purpose of improving or maintaining resource values that cannot be protected through mitigation of livestock impacts, or these areas were found unsuitable or unavailable for livestock grazing. Land listed in Table 2-19 and Appendix T as not allocated to livestock grazing in the existing situation is not included in any grazing allotment.

Approximately 250 additional areas (encompassing an estimated 18,000 acres) within livestock grazing allotments, ranging from less than 1 acre to 5,000 acres, are excluded from livestock by past decisions or agreements. These exclusion areas protect resource values or facilities from livestock impacts. Examples of resource values and facilities which may require livestock removal for protection through exclusion or designation as not allocated for livestock grazing include, but are not limited to, identified riparian vegetation communities adjacent to streams, reservoirs, springs, and wetlands; developed water sources; special status plant or animal habitats; relevant and important values for which ACEC's are designated; outstandingly remarkable values (ORV's) for which NWSR's were designated; wilderness values; research and study plots; administrative sites; recreation sites; archaeological sites; and waste disposal sites. Included in Appendix T is a listing by allotment of those areas of livestock exclusion which are greater than 10 acres in size. This listing is not inclusive of all areas from which livestock are currently excluded. Specifically, it does not include a significant number of spring developments from which livestock are excluded.

On April 28, 2000, the United States District Court for the District of Oregon issued a modified order of injunction requiring BLM to permanently eliminate livestock grazing from all areas of concern identified by the Bureau in the 1993 "Owyhee National Wild and Scenic River Plan". The Bureau was enjoined to take any action necessary and feasible to exclude livestock from these areas commencing May 1, 2000. Terms of exclusion of livestock from areas of concern, as identified in Appendix T, and acreage affected is subject to jurisdiction by the Court pending completion of the EIS and/or resolution of appeals.

Available forage within Ten Mile Seeding Pasture (3,514 acres) of Ten Mile Allotment (allotment number 01308) in JRA is allocated to livestock grazing on an annual basis though has not been allotted to a specific livestock operator. Grazing of forage produced in this area

Table 2-19.—*Areas not allocated to livestock grazing*

Area	Acres
Malheur Resource Area	
Leslie Gulch	11,673
Jordan Resource Area	
Jordan Craters	15,856
Lava Butte Lower Lava Field	14,345

has been authorized on a temporary basis to provide necessary livestock management flexibility. That flexibility has been used following fire, fire rehabilitation, poor climatic conditions, implementation of rest or deferment of use of other pastures or allotments to facilitate recovery of resource values, or for other reasons (Table 2-20: deleted).

Rangeland Projects

Rangeland treatments, including brush control and rangeland seeding, in addition to structural improvements of fences, cattleguards, reservoirs, spring developments, wells and pipelines, have been completed to better distribute livestock and facilitate livestock and rangeland management. Seeding of non-native perennial grass species began in the late 1950's. The rangeland seeding program was most active during the 1960's and early 1970's. From the mid 1970's to the present, rangeland seedings have been established on a limited scale. The original intent of rangeland seedings with nonnative perennial species was to increase forage production. As rangeland practices evolved, seedings were used more as a tool to provide rest and deferment for the adjacent native vegetation communities. Additionally, seedings have been developed as a result of emergency fire rehabilitation on sites that were susceptible to erosion, repeated fire, and invasion by noxious weeds and/or cheatgrass. As summarized in the rangeland vegetation section, crested wheatgrass is the dominant vegetative type on 2.2 percent of the planning area. On 3.8 percent of the planning area, the dominant vegetative community type is a mixture of crested wheatgrass and big sagebrush.

Funding by the federal government for the construction of range improvements and rangeland treatments was minimal in the planning area prior to 1960, though some improvements were completed by livestock operators. As mandated in FLPMA in 1976 and in PRIA in 1978, a portion of grazing fees is invested in range improvements, which may benefit wildlife, watersheds, and livestock producers. Additionally, emergency fire rehabilitation funds have been expended to protect resource values or convert poor condition annual vegetative community types which are subject to frequent wildfire, erosion, the exclusion of perennial herbaceous cover, and the exclusion of desirable woody species. Livestock operators, state and federal agencies and other affected publics have continued to fund the construction of some rangeland improvement projects.

A special appropriations bill passed in 1962 funded the Vale Project, a large-scale program of land treatments and project construction to rehabilitate rangelands in the two resource areas of the Vale District. The project proposal specifically offered, "... a solution to the national problem of depleted and deteriorating public rangelands. It proposes to do so without seriously impairing the livestock industry and supporting local economies." The objectives were "... a seven-year program with emphasis on rehabilitation measures designed to protect and improve the soil, conserve and utilize the water, and increase forage for livestock and wildlife. It also considers the needs for recreational development and construction of service roads and related measures that will strengthen and improve the local economy" (Heady and Bartolome 1977). The Vale proposal specifically listed eight objectives:

- To correct erosion and accompanying downstream sedimentation and prevent further soil losses;
- To increase the forage supply for wildlife and livestock;
- To stabilize the livestock industry at the existing or an increased level of production;
- To facilitate fire control by replacing high hazard cheatgrass and sagebrush with low hazard perennial grasses and improving detection and suppression facilities;
- To prevent the encroachment and spread of noxious and poisonous weeds;
- To accomplish necessary land tenure adjustments;
- To safeguard public lands from improper recreational use; and
- To provide for the development of access roads and service roads in the vast area of untapped recreation potential.

Rangeland projects implemented through 1996 are summarized by resource area in Table 2-21. Rangeland projects continue to support the allocation of forage resources to livestock production.

Grazing Schedules

Grazing systems beyond the stipulation of allotment boundaries and authorized dates of grazing were limited before 1960. Beginning in the mid-1960's, seasonal grazing systems were established to maintain or improve the health and vigor of the vegetation resource. Livestock grazing schedules have evolved to protect and maintain the diversity of resource values present on public land.

Livestock grazing allotments are administered under three selective management categories designed to concentrate public funds and management efforts on allotments with the most significant resource conflicts and the greatest potential for improvement.

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 to ensure that resource values do not decline.

Custodial (C) category allotments include a high percentage of private land and are managed custodially while protecting existing resource values. In MRA, 30 allotments are in the I category, 35 in the M category, and 58 in the C category (see Appendix E for allotment-specific information). In JRA, 8 are I, 21 are M, and 16 are in the C category.

The Ironside and Southern Malheur Grazing EIS's, and subsequent rangeland program summaries outlined proposed grazing systems for all I and M allotments. Since completion of current land use plans, grazing systems have been developed and implemented, primarily through agreement with concerned parties and implementation of allotment management plans (AMP's). An AMP is a documented program, developed as an activity plan, that contains guidance necessary for the management of livestock grazing on specified public land to achieve objectives relating to desired resource conditions, sustained yield, multiple-use, and economics. An AMP is considered implemented when it is incorporated into the permit or lease and accepted by the permittee or lessee. AMP's are not always fully opera-

Table 2-21.—*Existing rangeland improvements*

Improvement	JRA	MRA	TOTAL
Fences (miles)	1,370	1,555	2,925
Cattleguards	136	255	391
Seedings (acres)	202,512	103,328	305,840
Land treatments (acres) [1]	375,044	287,871	662,915
Reservoirs and waterholes	589	719	1,308
Spring developments	136	475	611
Wells	16	27	43
Pipelines (miles)	422	172	594
Guzzlers	12	19	31

[1] Land treatments include herbicide spraying, prescribed burning, and plowing.

tional until supporting rangeland projects are constructed and grazing schedules have been initiated. The MRA and JRA have 36 and 17 allotments, respectively, with implemented AMP's. Grazing management has been developed for the remainder of the allotments by agreement or annual authorization. Appendix E summarizes information for each allotment.

Collection of monitoring data is scheduled to track progress toward meeting identified management objectives. Active grazing use authorization and management actions in each allotment are periodically evaluated, based on these data, and adjustments are made by agreement or decision in accordance with legislation, regulations, and policy to ensure that public land resources are maintained or improved for future commodity and noncommodity values. The current evaluation schedule is approximately every 5 years for I allotments and every 10 years for M allotments.

Animal Damage Control

Animal damage control is an activity of Wildlife Services under USDA-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 BLM and USDA-APHIS are specified under a national MOU between BLM and USDA-APHIS which was signed on March 21, 1995. According to this memorandum, USDA-APHIS has the responsibility for environmental analysis documents associated with their control actions on public land and 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 BLM on an annual basis.

Recreation

During 1997, an estimated 312,000 recreation visits were made on public land in the planning area (USDI-BLM 1997). Resource-dependent recreation use, including driving for pleasure, camping, picnicking, hiking, hunting, fishing, viewing scenery, nature study, rafting, boating, swimming, rockhounding, and driving off-road motorized vehicles, is increasing. Based on information from the 1994 "Oregon State Comprehensive Outdoor Recreation Plan", the average annual growth of recreation activities to collectively occur within the portion of Oregon which includes the planning area is estimated to be 3.8 percent. Respectively, the estimated increase over five years is 21 percent, and 110 percent over twenty years. With a low growth rate in the area, the average annual increase in outdoor recreation activities is estimated to be a lower 1.9 percent, and with a moderate growth rate within the region, it is an estimated 5.8 percent annual increase.

To manage recreation, public land is classified into special recreation management areas (SRMA's) and extensive recreation management areas (ERMA's). Recreation is one of the principal management objectives in SRMA's, which require special or more intensive recreation management and investment (such as facilities, supervision). An ERMA is an area with dispersed, less intensively managed recreation. Significant public recreation issues or management concerns are limited in ERMA's and minimal management suffices. ERMA's cover all public land exclusive of SRMA's. Developed recreation facilities and SMA's such as WSA's and NWSR's may be within both SRMA's and ERMA's.

Existing SRMA's were established in 1988 and include the Owyhee River complex within JRA and MRA, and the Oregon National Historic Trail within MRA (see Map REC-2). The

350,000-acre Owyhee River Complex SRMA received approximately 46,500 visitors in 1997, and includes recreation sites such as Rome Launch site, Three Forks, Birch Creek, and Slocum Creek/Leslie Gulch. The 2,412-acre Oregon National Historic Trail received approximately 13,450 visitors in 1997, and includes Keeney Pass, Birch Creek, and Alkali Spring recreation sites.

Many recreation sites are staging areas for dispersed uses such as hunting, hiking, wildlife/nature study, and floatboating. Other existing recreation sites are destination points. See Table 2-22 and Map REC-2 for existing recreation sites (developed and some of the undeveloped) within each resource area. Recreation is managed using a variety of tools and methods such as the recreation opportunity spectrum (ROS) (Appendix H), limits of acceptable change, visitor education and resource interpretation, site development, and regulations. Refer to Table 2-23 and Map REC-1M and -1J in the Draft SEORMP/EIS for ROS classes by resource area.

The BLM manages organized, commercial, and competitive recreation activities on public lands and related waters with special recreation permits (SRP's). As a management tool, SRP's reduce recreation users and resource conflicts, mitigate adverse impacts to resources, provide for monitoring activities, the enhancement of visitor use experience opportunities, and, with user fee requirements, allow for a fair return for these types of public land uses. Issuance of an SRP is discretionary, with proposed activities subject to "National Environmental Policy Act" (NEPA) compliance and determined mitigation requirements established specific to a proposed activity. BLM may deny a permit request if assessment indicates unacceptable impacts, if an approved moratorium or restricted allocation system exists for the proposed activity, location, or time-frame, if there are serious health and safety concerns, or if past performance by an applicant has been deemed unacceptable and problematic. BLM may require an applicant to possess appropriate insurance, bonding, certifications of training, and State permits/licenses to protect resource values, the served public and the Federal government. Permits issued for various activities in 1999 are shown in Table 2-24.

The two existing SRMA's provide a diverse range of recreation opportunities. The Owyhee River complex (which includes the Main, West Little, and North Fork Owyhee NWSR's, Rome Valley, Leslie Gulch and Honeycombs ACEC's, and the Honeycombs, Upper Leslie Gulch, Slocum Creek, Blue Canyon, Owyhee Breaks, Lower Owyhee Canyon, and Owyhee Canyon WSA's) has outstanding river canyon scenery, unique cultural sites, high-quality fishery, whitewater boating, hiking, camping, and sightseeing opportunities. The Oregon National Historic Trail provides opportunities to view wagon ruts and scenery along the trail and has interpretive facilities and trail markers.

Other areas, currently in ERMA's, also provide unique recreation opportunities and require various levels of management. The Trout Creek/Oregon Canyon Mountains has outstanding scenery, a threatened fish species, cultural resources, camping, backpacking, hiking, sightseeing, and nature study, and associated interpretive opportunities. Castle Rock is noted as a significant regional landmark visible up to 40 miles. The surrounding area of Castle Rock, which includes Hunter Spring and Castle Rock recreation sites, receives some of the highest dispersed recreational use in MRA, mostly associated with hunting. Jordan Craters has unique geologic and botanic resources and outstanding scenery, providing unique opportunities for hiking, wildlife viewing, nature study, sightseeing and associated interpretation. Owyhee Below the Dam provides for high-quality scenery, driving and walking/hiking for pleasure, varied wildlife and historic resource viewing, photography, camping, hunting, fishing, and water play. A linear tract along the deepest portion of the scenic Succor Creek Canyon provides high-quality scenery, driving and walking/hiking for pleasure, wildlife viewing, rockhounding, photography, camping, and hunting. A county road traverses Succor Creek State Recreation Area, which has a partially developed, State-managed campground.

Table 2-22.—*Existing recreation sites*

Site	Acres [1]	1997 Visitors [2]	Description
Malheur Resource Area			
Chukar Park	30	5,400	18 camp/picnic units on North Fork Malheur River which includes toilets, potable water, camping fee
Slocum Creek/Leslie Gulch	400	15,150	Partially developed campground, 3 trailheads, improved boat ramp, parking, toilets, overlook wayside
Twin Springs	11	1,400	Partially developed campground, toilets, potable water
Snively Hot Springs	120	8,200	Partially developed day use and camp area, toilet, Owyhee River below the Dam
Riverside	35	150	Partially developed campground with toilet located on Malheur River
Castle Rock	24	225	Undeveloped camp/picnic sites, toilet
Oasis	3	400	Primitive boat ramp and camp area on uppermost Brownlee Reservoir
Hunter Spring	6	200	Undeveloped camp exclosure
Lower Owyhee River Watchable Wildlife and Gateway Interpretive Site	7	9,600	Interpretive site on Owyhee River below the Dam which includes 2 picnic tables and a toilet
Trenkel Hill Interpretive Overlook	3	4,800	Treasure Valley scenic overlook and interpretive panels. Partnership with Malheur County
Oregon National Historic Trail Sites:			
Keeney Pass	74	8,500	Trail ruts, interpretive panels, hiking trail, and overlook
Birch Creek	30	4,250	Trail view and interpretive panels
Alkali Springs	10	700	Historic “nooning” site with interpretive panels
Jordan Resource Area			
Antelope Reservoir	2,500	1,725	4 camp units, large picnic area, toilets, and primitive boat ramp along reservoir
Cow Lakes	1,500	1,450	10 camp units, toilets, and boat ramp at upper lake
Willow Creek Hot Spring	2	3,125	4 semiprimitive camp units, toilet
Rome	4	10,902	River ranger station, floatboat launch ramp, toilets, picnic area, 5 camp/picnic sites along Owyhee River
Three Forks	40	4,080	Semiprimitive camp sites, toilet, primitive floatboat put-in/take-out on Owyhee River
Hwy 95 Interpretive Site	0.5	8,125	Wayside with interpretive panels
Anderson Crossing	5	575	Undeveloped camp area, no facilities, West Little Owyhee River
Jeff’s Reservoir	5	175	Undeveloped camp area, no facilities, West Little Owyhee River
Historic Birch Creek	600	4,161	Historic ranch which includes undeveloped camp/picnic ranch sites, floatboat take-out, toilet
Owyhee Spring	3	250	Camp/picnic site, firering, table, historic structures
The-Hole-in-The-Ground	160	282	Old ranch remains, undeveloped camp area on Owyhee River
Owyhee Overlook	1	925	Scenic overlook of Owyhee River Canyon, no facilities
Soldier Creek Watchable Wildlife Loop Road	N/A [3]	N/A	Self-guided travel route
Coffee Pot Crater	10	750	Trailhead at Jordan Craters, no facilities
Petrified Wood Site	<1	150	Petrified wood gathering area, no facilities
Mud Springs	1	250	Hunter camp in the Trout Creek/Oregon Canyon Mountains, no facilities
Cottonwood Creek	5	175	Hunter camp in the Trout Creek/Oregon Canyon Mountains, no facilities
Oregon Canyon	1	155	Hunter camp in the Trout Creek/Oregon Canyon Mountains, no facilities
Minehole Creek (Log Spring)	<1	N/A	Hunter camp in the Trout Creek/Oregon Canyon Mountains, no facilities

[1] Acres are approximate.
[2] Number of visitors is approximate (source: RMIS 1997).
[3] N/A means not available.

Table 2-23. —*Public land in each resource area in various recreation opportunity spectrum classes*

Recreation opportunity spectrum class	Acres / percentage inventoried [1] MRA	JRA
Primitive	2,325	51,645
	<1	2
Semiprimitive		
Nonmotorized	549,468	976,592
	27	37
Motorized	1,349,527	1,452,838
	67	56
Roaded natural	117,579	130,060
	6	5
Rural/urban	3,610	5,419
	<1	<1
TOTALS	2,022,509	2,616,554

[1] Acreage includes FERC withdrawals.

Table 2-24.—*Special recreation permits issued during 1999*

Type	Use	Number of SRP's
Malheur Resource Area		
Commercial	Hunting/fishing	4
Private	Organized equestrian rides	2
Private	Organized rockhounding, other activities	2
Jordan Resource Area		
Commercial	Whitewater boating	36
Commercial	Hunting/fishing	3
Commercial	Whitewater boating and backpacking	2
TOTAL		49

Off-Highway Vehicles

OHV 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 in regard to vehicle use. In an open area, all types of vehicle use are permitted at all times. In a limited area, vehicle use is restricted at certain times, in certain areas, to designated routes, to existing routes, or to certain vehicular uses. In a closed area, motorized vehicle use is

prohibited. Appendix I provides further definition of OHV use terms and lists *Federal Register* notices which depict current OHV use designations within the planning area. Table 2-25 shows the number of acres of each existing OHV use designation in each resource area (see Map OHV-2 in the Draft SEORMP/EIS).

Most of the motorized vehicular use occurs on existing roads, and undeveloped, unmaintained "jeep trails." However, off-road (cross-country) vehicle use also occurs in intensive use areas and as isolated tracks dispersed throughout the planning area. On and off-road vehicle use occurs within special management areas (SMA's) and critical or important wildlife habitats, cultural sites, plant sites, and fragile soil locations subject to accelerated erosion. Some of this use is inappropriate or damaging to these special/sensitive areas and resource values. Locations where more intensive OHV use occurs include: Graveyard Point, Succor Creek, Lytle Boulevard, Lowe Reservoir, and South Alkali in MRA; Rome Hills and McDermitt in JRA. In WSA's, unless otherwise designated, the use of motorized and mechanized vehicles is limited to designated routes (WSA inventoried roads and vehicular ways still in existence).

Visual Resources

Public land has been evaluated and assigned visual resource inventory classes according to the relative value of the visual resources. Decisions of this plan will determine the visual resource management (VRM) classes under which public land will be managed. Thus, the VRM class specified for management may differ from the class indicated by inventory. See Table 2-26 for existing VRM classes.

To help maintain the management objective of a VRM class, the BLM's visual contrast rating system is employed for proposed individual projects and activities to help analyze and mitigate 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 major features of the existing landscape. See Appendix J for a detailed description of VRM classification.

Table 2-25.—*Existing OHV use designations (acres)*

Resource area	Open	Limited	Closed	TOTAL
Malheur	1,254,986	729,162	34,595	2,018,743
Jordan	1,405,169	1,210,753	598	2,616,520
TOTALS	2,660,155	1,939,915	35,193	4,635,263

Table 2-26. —*Existing VRM classes (acres)* [1]

Resource area	Class I	Class II	Class III	Class IV
Malheur	6,055	420,842	198,272	1,393,529
Jordan	74,001	995,820	440,730	1,105,253

[1] Includes FERC acres.

Special Management Areas

SMA's include ACEC's, NWSR's, research natural areas (RNA's), WSA's, and caves.

Areas of Critical Environmental Concern

ACEC's are parcels of public land that require special management attention to protect special features or values (see Map ACEC 1A, 1J, 1M in the Draft SEORMP/EIS). ACEC's may be established to protect important historic, cultural, or scenic values; fish, wildlife, or other natural resources; or human life and safety. Designation as an ACEC may limit the types of land use that can occur within the area.

The planning area currently contains 8 ACEC's encompassing 104,475 acres. RNA's are a specific type of ACEC and as such are always ACEC's. RNA's are areas that contain natural resource values of scientific interest that are managed primarily for research and educational purposes. These areas may represent units of particular ecological uniqueness, including plant and animal species richness, or may encompass especially fine representations of specific, more common ecological types. Table 2-27 lists the existing ACEC's, including the ACEC/RNA's, and shows the primary resource values associated with each.

Table 2-27.—*Existing areas of critical environmental concern*

ACEC	Primary resource value/description
Malheur Resource Area	
Honeycombs ACEC/RNA 12,469 acres	Vegetation community types, including big sagebrush/needleandthread grass on cinders; special status plants; special status bighorn sheep and habitat; scenic geology
Leslie Gulch ACEC 11,673 acres	Scenic geology; special status plants; special status bighorn sheep and habitat
Mahogany Ridge ACEC/RNA 317 acres	Neotropical migratory bird habitat; vegetation community type of mountain mahogany-big sagebrush; special status plant
Stockade Mountain ACEC/RNA 653 acres	Vegetation community type of western juniper/big sagebrush plus potential low sagebrush/Sandberg bluegrass type; wildlife habitat
Jordan Resource Area	
Jordan Craters ACEC/RNA 29,785 acres	Historic, cultural, and scenic values; special status plants; vegetation community type of big sagebrush/bluebunch wheatgrass; outstanding geologic features of recent lava flows; relict vegetation sites; wildlife habitat including high-quality riparian areas; natural hazards from collapsed lava pits and contraction cracks
Owyhee River ACEC 41,505 acres	Cultural and historic values; special status plants; scenic geology; wildlife habitat
Saddle Butte ACEC 6,096 acres	Special status western big-eared bats and habitat; high-quality lava tube caves; hazardous conditions due to cave instability
Whitehorse Basin ACEC 1,977 acres	Federally listed Lahontan cutthroat trout and habitat

An interdisciplinary team reviewed existing ACEC's to determine whether or not they continue to meet relevant and important value criteria in BLM Manual 1613.1, and to determine if ACEC designation remained appropriate. As a result of this review, the BLM has proposed boundary modifications for some of these areas, and several of the existing ACEC's are being considered for elimination. Through public participation and assessments by BLM staff, an additional 28 areas were nominated to become ACEC's. These areas were examined through an interdisciplinary process to determine whether or not they met the criteria for relevant and important values.

Representation of plant community cells as described in the ONHP (Oregon Natural Heritage Program) (1998) were evaluated during the review process. These vegetative cells encompass prime examples of either common or rare community types within the Owyhee Uplands and Basin and Range Physiographic Provinces, and would become ecological reference areas for the specific vegetative type.

Table 2-28 summarizes the assessments for the nominated ACEC's. See Chapter 3 for detailed, site-specific descriptions of relevant and important values, screening results, recommendations, and rationale for each of the existing and potential ACEC's. The 22 areas that meet criteria for relevant and important values are carried forward as potential ACEC's.

Wild and Scenic Rivers

Congress established the National Wild and Scenic River System (NWSRS) in 1968, through Public Law 90-542, to preserve and protect selected free-flowing rivers that have ORV's. The NWSR Act defines a river as "a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, creeks, runs, kills, rills, and small lakes." The Act also defines free-flowing as "existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion . . . shall not automatically bar its consideration for such inclusion." ORV's as listed in the Act are "scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values."

Three river areas within the planning area have been designated by Congress as NWSR's (Table 2-29; Maps WSR-1J and -1M), and are currently managed according to an approved management plan. Additionally, Congress mandated 14.8 miles of the North Fork Malheur River to be studied for potential inclusion into the NWSRS.

The "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan" (1993) established desired future conditions, objectives, and a comprehensive set of actions to direct and guide future management of these three designated rivers. Management actions included those that could be implemented at the time the plan was signed (such as livestock trailing restrictions, special rules on boater registration, toilets, and firepans) and those that are based on adaptive management (such as monitor grazing use, evaluate data, adjust use if necessary to meet objectives). An "Order of Modified Injunction" was filed in the District Court of Oregon on April 28, 2000. The order directed that certain fences and water developments (wells, pipelines and troughs) may be constructed by the grazing permittees to facilitate the elimination of grazing at "areas of concern" identified in the 1993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan". The District Court of Oregon retains jurisdiction over the case until a court ordered EIS is completed, unless its ruling is overturned on appeal by a higher court. The new EIS, which will require much data collection to support impact predictions, is projected to be completed in the year 2006. The 1993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan" remains in effect, as modified by the court's order, until it is replaced upon completion of the EIS with a new or modified plan.

Table 2-28.—*Primary resource values of areas nominated for ACEC designation and interdisciplinary assessment of whether each area meets criteria for relevance and importance*

Area	Primary resource value/description	Meets relevance and importance criteria?
Malheur Resource Area		
Black Canyon ACEC/RNA 2,795 acres	Vegetation plant cells with communities of stiff sagebrush/ Sandberg bluegrass, western juniper/sagebrush/bluebunch wheatgrass and riparian communities	Yes
Castle Rock ACEC 22,799 acres	Cultural, historic, and scenic values; wildlife habitat as transition zone between montane and sagebrush environments	Yes
Coal Mine Basin ACEC/RNA 755 acres	Special status plants on Succor Creek ash habitat; paleontological resources; biological diversity	Yes
Dry Creek Gorge ACEC 16,402 acres	Special status redband trout and habitat; candidate Columbia spotted frogs and habitat; scenic and geologic values	Yes
Hammond Hill Sand Hills ACEC/RNA 3,712 acres	Vegetation plant cell of big sagebrush-antelope bitterbrush/Indian ricegrass community on sandy soil	Yes
Hog Creek Ridge ACEC/RNA 900 acres	Vegetation plant cell with community of stiff sagebrush/Sandberg bluegrass	No
Juniper Gulch ACEC/RNA 1,600 acres	Partial representation of several vegetation cells	No
Lake Ridge ACEC/RNA 5,502 acres	Special status sage grouse and habitat; vegetation plant cells of low sagebrush/bluebunch wheatgrass and low sagebrush/Idaho fescue	Yes
North Fork Malheur River ACEC 1,810 acres	Federally listed bull trout and habitat; special status redband trout and habitat; candidate Columbia spotted frog and habitat; wildlife habitat; scenic values in a riverine setting	Yes
North Ridge Bully Creek ACEC/RNA 2,257 acres	Special status sage grouse and habitat; vegetation plant cells, which include a series of threetip sagebrush communities	Yes
Oregon Trail ACEC 9,200 acres	Historic and cultural values as part of the original Oregon Trail; scenic values, special status plant	Yes
Ott Mountain ACEC/RNA 1,407 acres	Old growth ponderosa pine; wildlife habitat; vegetation plant cell of ponderosa pine-western juniper/sagebrush-antelope bitterbrush mosaic	Yes
Owyhee River Below the Dam ACEC 11,239 acres	Scenic values; special status plant and wildlife species; prime wildlife habitat values with black cottonwood gallery on riverine system	Yes
Owyhee Views ACEC 86,973 acres	Scenic values for outstanding geologic features and vistas; historic and cultural values; special status plants; special status bighorn sheep and habitat	Yes
Sheep Mountain ACEC/RNA 1,920 acres	Vegetation plant cell of ponderosa pine-western juniper/sagebrush-antelope bitterbrush mosaic; partial representations of other communities	No
South Alkali Sand Hills ACEC 5,552 acres	Two special status plant species with especially good representation on sand hills habitat	Yes
South Bull Canyon ACEC/RNA 1,364 acres	Vegetation plant cell of big sagebrush-antelope bitterbrush/Idaho fescue	Yes

Table 2-28.—*Primary resource values of areas nominated for ACEC designation and interdisciplinary assessment of whether each area meets criteria for relevance and importance (continued)*

Area	Primary resource value/description	Meets relevance and importance criteria?
South Ridge Bully Creek ACEC/RNA 1,965 acres	Special status sage grouse and habitat; vegetation plant cells, which include big sagebrush/Thurbers needlegrass and big sagebrush - squaw-apple/Idaho fescue; special status wildlife and habitat	Yes
Spring Mountain ACEC/RNA 1,501 acres	Three vegetation plant cells, including two upland cells and one riparian cell	Yes
Westfall Badlands ACEC 4,500 acres	Rare plants and plant diversity on chalk ash soils; scenic geology	No
Jordan Resource Area		
Crooked Creek ACEC/RNA 1,060 acres	Vegetation plant cell of shadscale saltbush-big sagebrush community mosaic	No
Dry Creek Bench ACEC/RNA 1,741 acres	Vegetation plant cells of mountain mahogany-common snowberry/ Idaho fescue and mountain mahogany-big sagebrush/Idaho fescue	Yes
Little Whitehorse Exclosure ACEC/RNA 783 acres	Riparian communities including mountain alder and creek dogwood, and Pacific willow/Woods' rose; Federally listed Lahontan cutthroat trout and habitat	Yes
Mendi Gore Playa ACEC/RNA 2,829 acres	Vegetation plant cells of black sagebrush/Sandberg bluegrass shrubland, sand dropseed grassland complex and winterfat community	Yes
Mud Flat ACEC/RNA 1,280 acres	Vegetation plant cell of silver sagebrush/bunchgrass	No
Palomino Playa ACEC/RNA 847 acres	Special status plant and plant cells of bare playa community and shadscale saltbush/bunchgrass, black greasewood/bunchgrass mosaic	Yes
Three Forks ACEC/RNA 579 acres	Vegetation plant cells of bitter cherry, sandbar willow, rose, fourth order or greater stream segment, and riparian community	Yes
Toppin Butte Creek ACEC/RNA 4,644 acres	Vegetation plant cells of low sagebrush/Idaho fescue and silver sagebrush/bunchgrasses; special status sage grouse and habitat; neotropical birds and habitat	Yes

2-29.—*Designated national wild and scenic rivers*

River	Total miles [1]	BLM acres	Outstandingly remarkable values
Main Owyhee River	120	35,240	Scenic canyon; exceptional whitewater float boating, primitive-type dispersed recreation; wildlife, geological, and cultural values.
West Little Owyhee River	58	12,520	Scenic canyon; primitive-type dispersed recreation (hiking, camping); wildlife and cultural values.
North Fork Owyhee River	10	1,247	Scenic canyon, expert whitewater kayaking; wildlife values.

[1] All river miles classified as wild (in contrast to scenic or recreational).

In January 1995, a "full force and effect" decision was issued to exclude livestock use within a portion of the Owyhee River corridor known as the Deary Pasture area, in order to protect and enhance ORV's and other resource values. To date, no agreement has been reached on livestock grazing that would allow for protection and enhancement of ORV's. The "Order of Modified Injunction" excluded cattle from the Deary Pasture area, subject to findings of an EIS.

Given the physical nature of the Deary Pasture and the history of grazing that is specific to it, BLM believes grazing cannot reasonably occur on the area without degrading ORV's. Therefore, the Deary Pasture issue is being addressed in this plan. Also being addressed in this plan are the issues of whether or not Birch Creek Historic Ranch should be open to application for livestock grazing and if it should be leased to the public for overnight use or leased to a concessionaire. The 1993 river plan may be obtained from the Vale District Office.

Policy requires BLM to "identify and evaluate river segments within the resource management planning process to determine eligibility, tentative classification, protection requirements, and suitability under the NWSRA. The procedures by which the BLM determines eligibility and suitability and provides management direction are described in the USDI-USDA "Final Revised Guidelines for Eligibility, Classification, and Management of River Areas" (*Federal Register* Vol. 47, No. 173, September 7, 1982) and BLM Manual 8351.

After reviewing the "Nationwide Rivers Inventory List," the "Oregon Outstanding Rivers List," the "Oregon Statewide Comprehensive Outdoor Recreation Plan Potential Rivers Inventory," the 1987 "Recreational Values on Oregon Rivers Study," and additional information, the BLM developed a list of rivers or streams to inventory for eligibility. To be found eligible, identified river segments must be "free-flowing" and must possess at least one river-related value considered to be outstandingly remarkable. Eligibility and tentative classification are summarized in Table 2-30 and shown on Maps WSR-1J and -1M. Each eligible river segment is further evaluated in the SEORMP/EIS process to assess whether or not it would be suitable for inclusion in the NWSRS.

Wilderness Study Areas

FLPMA referenced and incorporated the goals and criteria of the "Wilderness Act" of 1964. As a consequence, the BLM was mandated in 1976 to review public land for possible wilderness designation and to offer recommendations by October 21, 1991 through the Secretary of the Interior, to the President. In November 1980, as part of this review, the BLM in Oregon designated 87 WSA's. A WSA is a parcel of public land determined through intensive inventories to possess certain characteristics described in the "Wilderness Act."

There are 32 WSA's, covering 1,264,184 acres of public land within the planning area, including portions of 3 WSA's which traverse the Vale District and Burns District administrative boundaries. Presently, there are no congressionally designated wilderness areas within the planning area. In December 1989, following 13 years of agency study, with extensive public review and comment, the BLM in Oregon completed the OWFEIS. This document analyzed proposed recommendations and alternatives for WSA's in Oregon.

On October 7, 1991, the President received the BLM's "Wilderness Study Report for Oregon,"(WSRO) a report summarizing and concluding wilderness recommendations. This report also identified specific parcels of BLM land and non-BLM land (if acquired) located adjacent to existing WSA's to be congressionally designated as wilderness. The report identified 3,280 acres of adjacent BLM land. Since BLM submitted the report, 860 acres of the identified non-BLM land has been acquired. The BLM recommended all or a portion of 21 WSA's for congressional designation covering 638,025 BLM-administered acres, and recommended 11 WSA's not be congressionally designated as wilderness (Table 2-31; Map WSA-1).

Table 2-30.—*Assessment of the eligibility of rivers and streams for potential designation as wild and scenic*

Inventory river on stream	Miles	Outstandingly remarkable values	Eligible miles	Tentative classification [1]
Malheur Resource Area				
Black Canyon Creek (M6) [2]	5.6	Plants	0.7	Wild
Camp Creek (M2)	5.1	None	0.0	Not Applicable
Canyon Creek (M9)	5.7	Fish	3.0	Wild
Clover Creek (M11)	4.1	None	0.0	Not Applicable
Cottonwood Creek (M1)	19.5	Fish	10.5	Scenic
Dry Creek (M15)	38.3	Geology, fish, hydrology, wildlife	17.6	Wild (L, M)
Gold Creek (M3)	5.4	None	0.0	Not Applicable
Hog Creek (M5)	10.2	None	0.0	Not Applicable
Hunter Creek (M10)	5.6	None	0.0	Not Applicable
Malheur R (M12)	19.0	Recreation, wildlife	13.7	Scenic
NF Malheur R (M17) [3]	14.8	Scenery, recreation, fish, wildlife	4.6	Wild (U), Recreational (L)
NF Squaw Creek (M4)	12.9	None	0.0	Not Applicable
Owyhee R (M16)	14.7	Scenery, recreation, geology, fish, wildlife, plants	14.7	Recreational
SF Indian Creek (M8)	2.0	Scenery	2.0	Wild
SF Carter Creek (M14)	3.2	Fish	2.5	Wild
Succor Creek (M13)	3.5	None	0.0	Not Applicable
WF Cottonwood Creek (M7)	4.8	None	0.0	Not Applicable
Jordan Resource Area				
Antelope Creek (J10)	9.2	Fish	9.2	Wild
Antelope Creek (J19)	43.1	Scenery, recreation, prehistoric cultural resources	8.6	Wild (L)
Cottonwood Creek (J13)	7.5	None	0.0	Not Applicable
Cottonwood Creek (J5)	7.4	Fish	5.8	Wild
Doolittle Creek (J2)	8.3	Fish, prehistoric cultural resources	8.3	Wild (L), Scenic (U)
Dry Creek (J12)	8.5	None	0.0	Not Applicable
EF Oregon Creek (J16)	4.9	None	0.0	Not Applicable
Fifteenmile Creek (J3)	11.5	None	0.0	Not Applicable
Indian Creek (J14)	10.4	Fish	2.7	Wild (U)
Jordan Creek (J18)	3.0	None	0.0	Not Applicable
Little Whitehorse Creek (J4)	16.6	Fish	11.7	Wild
McDermitt Creek (J7)	8.5	Scenery, historic cultural resources	8.1	Wild (U), Scenic (L)
NF McDermitt Creek (J8)	4.5	Scenery	4.5	Wild
Oregon Canyon Creek (J15)	13.0	Scenery, recreation	13.0	Wild
Rattlesnake Creek (J17)	21.8	Recreation	11.3	Wild (L)
Sage Creek (J9)	4.4	Fish	4.4	Wild
Twelvemile Creek (J11)	9.1	None	0.0	Not Applicable
Whitehorse Creek (J1)	15.2	Scenery, fish	15.2	Wild
Willow Creek (J6)	17.8	Recreation, fish, prehistoric and historic cultural resources, plants, hydrology	16.1	Wild (U), Scenic (M), Recreational (L)

[1] Abbreviations: L = lower, M = middle, U = upper.
[2] "M" and "J" numbers are inventory numbers.
[3] Congressionally mandated study river.

Table 2-31.—*Summary of wilderness recommendations*

Resource area	Number of WSA's being recommended for wilderness	Total BLM acres recommended for wilderness	Total BLM acres recommended released from further wilderness consideration
Malheur	9	116,901	155,199
Jordan	12	521,124	474,240
TOTALS	21	638,025	629,439

Source: "Wilderness Study Report" (1991).

In 1992, in accordance with FLPMA, the President submitted his wilderness recommendations to Congress, which has the authority to designate wilderness. The President's wilderness recommendations for Oregon were the same as the BLM's recommendations.

Until Congress acts on the wilderness recommendations or otherwise releases WSA's for other purposes, all WSA's are managed in accordance with BLM's IMPLWR and other applicable laws and policies.

Caves

The "Federal Cave Resources Protection Act" of 1988 requires agencies to identify and manage, to the extent practical, cave resources determined to be significant. Procedures for determining the significance of caves are found at 43 CFR Part 37. A cave is significant if it possesses biotic, cultural, geologic/mineralogic, hydrologic, recreational, or educational or scientific values, features, or characteristics. The Act defines a cave as any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge, including any cave resource therein, that is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Rock shelters formed by an overhang or cliffs are not considered caves.

A total of 85 caves have been nominated as potentially significant in the planning area: 16 in MRA and 69 in JRA. Each cave has been placed in one of three categories: (1) caves determined to be significant, (2) caves for which more information is needed to determine significance, and (3) caves found not to be significant. Table 2-32 displays the status of caves nominated for significance listing. The 10 caves which, to date, have been determined to meet the significant cave criteria, and thus are significant caves, are: Black Wall Cave (MRA), and Bogus, Burns, Coyote Trap, Fortymile, Owyhee River, Pit A, Pit B, Rattlesnake,

Table 2-32. —*Status of cave significance determinations*

Resource area	Significant caves	Caves needing more data	Caves determined not significant	Total caves nominated
Malheur	1	7	8	16
Jordan	9	46	14	69

and Tire Tubes caves (JRA). BLM has requested from nominators additional information for most of the remaining nominated caves needing a significance determination. Cave significance/nonsignificance will be determined as adequate information and data is compiled. For these nominated caves, the determination and listing of cave significance, and the specific prescribed management for the resultant listed significant caves, will be accomplished in concert with the development of GMA plans. A cave management plan for a specific cave or cave group can optionally be developed and implemented independently in response to unacceptable damage or serious threats caused by human activities to known significant cave values.

The listing of significant caves is an inventory process and does not imply specific protection commitments. Until caves are determined significant and management plans are prepared to provide specific management prescriptions, caves will be managed in accordance with the BLM's "Oregon and Washington Interim Cave Management Policy" (*Federal Register* Vol. 60, No. 72, April 14, 1995, pages 19077–19078). The policy provides protective management of all cave resource values, with required procedures for authorizing certain uses and restrictions or prohibition of specific human activities in caves until a management plan is developed for an individual or system of significant caves. As management plans for significant caves are developed, public input will be sought. Consequently, caves will not be addressed further in this document.

Human Uses and Values

The planning area consists primarily of Malheur County, whose county seat is in Vale. Although Malheur County is very large, its population is small. The ICBEMP Final EIS examined Malheur County generally and the communities of Adrian, Jordan Valley, Nyssa, Ontario, and Vale specifically. The smaller, unincorporated communities of Juntura, Riverside, Ironside, Brogan, and Willow Creek were not examined. The ICBEMP Final EIS concluded that Malheur County is located in the Boise trade center. In Malheur County, USFS- and BLM-administered lands were 0.1 percent and 72.8 percent of the land base, respectively. These public lands offer primarily roaded natural and primitive/semiprimitive recreational settings, but visitation was determined to be low (USDA-FS and USDI-BLM 1997).

The ICBEMP Final EIS concluded that Malheur County was an area of low economic and social resiliency. The importance of public land forage led to this conclusion. (USDA-FS and USDI-BLM 1997)

Table 2-33. —*Population of the planning area*

	1990 census	1999 estimate	2040 projection
Malheur County	26,038	30,700	44,750
Adrian	131	155	
Jordan Valley	364	340	
Nyssa	2,629	3,065	
Ontario	9,394	10,910	
Vale	1,491	1,655	
Unincorporated	12,029	14,575	

Sources: Wineburg (1997), 1990 data; Edmunston (1999), 1998 data; and McCool and Haynes (1996), *2040 projection.*

In a 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 Environmental Impact Statement", Adrian, Jordan Valley, Nyssa, Ontario, and Vale were analyzed. Adrian was determined to have very high agricultural an mining specialization. Jordan Valley was determined to have high agricultural specialization, very high mining specialization, and high local government specialization. Nyssa was determined to have medium agricultural specialization and very high agricultural services specialization. Ontario was determined to have medium agricultural specialization and high Federal government specialization. Vale was determined to have high agricultural specialization and very high agricultural services specialization (USDA-FS and USDI-BLM 1998).

Population

The population of Malheur County has increased rapidly in recent years, rising from about 26,000 in 1990 to an estimated 30,700 in 1999 (Table 2-33). Growth in nearby areas in Idaho—especially in Canyon, Ada, and Payette Counties—has increased demand for housing in the Ontario, Nyssa, and Vale areas. Population growth has also increased the diversity of businesses in the area.

Ethnic distribution within Malheur County, and Oregon, is displayed in Table 2-33a. The information is from the 1990 Census—updated information will become available following tabulation of the Census 2000 survey forms.

Personal Income

Personal income is one of the best indicators of the wealth of an area because all sources of income are included. Wages and salaries are a major component of personal income in most areas. Dividends, interest, and rent represent returns on accumulated capital held by individuals and are often major sources of income for retired people. Transfer payments—including Social Security payments, Aid to Families with Dependent Children, unemployment compensation, disability payments, and other government payments—are another major source of income for retirees and low-income people.

Data on the sources of personal income in Oregon and Malheur County for 1995 are shown in Table 2-34. Malheur County has relatively high levels of transfer payments, and a lower portion of income from earnings. Income trend information shows that nonearned income is increasing as a portion of total income faster in Malheur County than in Oregon. Table 2-35 displays information on per capita personal income. Per capita personal income is the quotient of total personal income divided by the total population. It does not represent the actual income of families or households in an area but is a standard measure used to compare

Table 2-33a.—*Ethnic distribution within the planning area*

	White	Black	Native American	Asian or Pacific Islander	Other	Hispanic (any race)
Oregon	92.8	1.6	1.4	2.4	1.9	4.0
Malheur	81.6	0.2	0.9	3.1	14.2	19.8

Table 2-34.—*Components of personal income in the planning area, 1995*

	Earnings (%)	Dividends, interest, and rent (%)	Transfer payments (%)
Oregon	65	18	17
Malheur County	57	18	25

Table 2-35.—*Per capita personal income*

	1990	1997	Percent change
United States	20,350	26,840	32
Oregon	17,423	23,920	37
Oregon Non-metro	15,099	19,928	32
Malheur County	14,005	17,106	22

Source: Bureau of Economic Analysis (1999).

relative wealth of areas. In Oregon, metropolitan areas have the largest per capita income and are the fastest growing. Nonmetropolitan areas have on average lower per capita income and a slower rate of per capita income growth. Malheur County has below average levels of per capita income and income growth. The data shows a widening of the income gap between the planning area and the remaining rural and metropolitan areas of Oregon. The estimated poverty rate in Oregon was 13.2 percent in 1993. In Malheur County, the poverty rate was 21.5 percent, significantly above the statewide rate.

No economically disadvantaged or minority groups have been identified who are either known to be economically dependent on BLM land or who have the potential to be economically dependent on BLM resources or programs.

Employment

The leading employment sectors in Malheur County during 1998 were services (2,410 jobs), trade (3,460 jobs), and government (3,220 jobs); total employment was 14,590. Employment in the services sector increased by 40 percent, from 1,720 in 1990 to 2,410 in 1998. During the same period government employment increased 45 percent, from 2,220 to 3,220. BLM employment in the area is significant. As of June 1999, the Vale District had 167 full-time employees and 16 seasonal employees. For more information on employment, see Appendix K.

A 1993 economic survey by Fredrick Obermiller, Ph.D., of Oregon State University found that agriculture and related industries were the largest sector of the Malheur County economy. When measured by the percentage of total sales, food crop procurement and processing (25 percent of total sales) was by far the largest industry, followed by crop production (11 percent), livestock production, procurement, and feeding (9 percent), and wholesale and retail trade (9 percent) (Obermiller et al. 1993).

The Obermiller report, prepared at the request of the Malheur County Court, also identified “multipliers” for each industrial sector and for households. A multiplier is a mathematical

function used to estimate the total economic activity generated within a specific region based on a known change in business activity, expenditures, or purchases. For example, an increase in purchases in the dining and lodging sector of $1,000 would lead to an increase in total economic activity of 2.5373 times the original increase in sales, or $2,537.30. The additional amount of economic activity results from cycles of respending within the local economy.

Sectors with the highest gross output multipliers in the Obermiller study were financial services (2.6287), other wholesale and retail trade services (2.5776), and lodging and dining establishments (2.5373). The primary reason for the high multipliers in these industries is the high percentage of inputs, including labor, that are purchased within the county by these businesses. Economic development activities focusing on the expansion of these sectors in Malheur County may be most effective in generating additional business activity in the area. For example, tourism promotion and increases in services for visitors may be effective in creating more demand for wholesale and retail trade services, as well as for lodging and dining establishments.

Livestock Grazing

Government-issued permits to graze livestock on public land are an important factor of production for sheep and cattle ranchers in the West. Approximately 22 percent of western cattle producers and 19 percent of western sheep producers hold Federal permits from the BLM or the USFS (BLM 1994). The permits are linked to privately-owned base property and enhance the productive capacity of private property by providing additional forage during certain seasons. This allows rest or production of hay or other forage on private property. A common practice is to produce alfalfa or grass hay on irrigated pastures during the summer when cattle are on public rangeland.

Ranch value and borrowing ability are usually based on cash flow. With additional productive capacity, holders of Federal permits often have increased ranch value and borrowing ability. These values often persist when the base property is sold or passed on to heirs. This is because, historically, permits are reissued to the new owner of the base property.

Although holding a Federal permit can create additional cash flow and wealth for individual ranchers, permits have no legally recognized value as private property. Terms and conditions of permits are commonly changed, especially at times of reissuance or renewal. Changes in the timing and amount of permitted grazing does affect individual ranchers.

Dependency on BLM forage has been recalculated for this PSEORMP/FEIS based on public comment and additional research into the source data. In the draft EIS, dependency was calculated based on published “Beef Cow Inventories for Harney and Malheur Counties.” This was in error because it failed to include replacement heifers, steers 500 pounds and over, and bulls 500 pounds and over as part of the inventory potentially grazing on BLM-administered land.

In this revision, the estimated calf inventory (steers, bulls, and heifers under 500 pounds) was deducted from the total inventory of cattle and calves. A proportion of 18 percent calves was estimated using 1993–97 Oregon-wide beef cattle and calves inventory data. Data on livestock inventory and sales in Malheur County in 1996 are displayed in Table 2-36.

The revised inventory estimate resulted in a reduction in calculated dependency. In Malheur County, dependency on BLM forage was calculated to be 23 percent, down from 50 percent as published in the Draft SEORMP/EIS. Dependency has been defined as the proportion of the total forage needs for livestock within the county or planning area that is provided by BLM grazing permits.

Table 2-36. —*Livestock production and sales, 1996*

	Malheur County	Statewide
Inventory (head)		
Cattle and calves	185,220	1,460,000
Sales ($)		
Cattle and calves	34,871,000	252,141,000
Average product value ($/cwt)		
Cattle		46.00
Calves		52.70

Sources: Oregon State University Extension Information Office. August 1997. "Commodity Data Sheet, Cattle," Oregon State University Extension Service.

Currently, BLM provides 420,584 AUM's for private use within the planning area through a permitting system. Grazing use of 232,818 AUM's were authorized in 1997 in MRA, and 187,766 AUM's in JRA. This level of permitted use generates an estimated $8,020,000 in cattle and calf sales in Malheur County. Direct personal income of $414,000 is generated with total personal income estimated at $634,000. An estimated 33.2 direct jobs and a total of 46.1 jobs are generated by this level of grazing authorization.

The BLM collects grazing fees under the "Taylor Grazing Act" of 1934. Section 3 permits are issued within designated grazing districts. Collections from these permits are distributed as follows: 50 percent to the Range Improvement Fund for appropriation in the following year, 12.5 percent to the State of Oregon for subsequent distribution to the country to be expended for range improvement projects on BLM lands, and 37.5 percent to the Federal Treasury. Grazing fee collections for fiscal years 1992–1997 are shown in Table 2-37. Because the grazing fee established each year covers March through February, two fee rates are represented in the figures for each fiscal year (which covers October through September).

Over the past 10 years, the BLM has spent $1,100,606 for new rangeland projects, improvements to existing projects, and fire rehabilitation in the planning area. Expenditures are: JRA, $611,821; and MRA, $488,785. Through cooperative agreements, BLM funding of rangeland improvements is augmented by financial and in-kind contributions from other government agencies and private individuals or organizations. Range improvement permits and cooperative agreements are authorized under the "Taylor Grazing Act," and allow permittees to install and maintain certain rangeland improvements associated with livestock management. Records of the non-BLM financial and in-kind contributions are incomplete.

Table 2-37.—*Grazing fee collections ($), 1992–1998*

Area	1992	1993	1994	1995	1996	1997	1998
Section 3 (within grazing districts)							
Malheur	606,478	494,992	663,183	554,218	500,966	512,906	511,227
Statewide	1,279,034	1,105,484	1,433,880	1,243,701	1,144,576	1,146,671	1,137,132

Source: USDI-BLM, Report FRD 196, various years.

Outdoor Recreation

Outdoor recreation is often seen as a service to local residents and as a means to generate economic growth in a region. To generate economic growth, recreation must lead people to spend money in the region that they would otherwise spend elsewhere. This is primarily done by drawing visitors from outside the region.

Two recent studies of the economic impact of outdoor recreation contain information pertaining to the planning area. A study prepared at Oregon State University for the Oregon Department of Parks and Recreation estimated the economic impacts of outdoor recreation in each region of the State. For southeastern Oregon (Harney, Malheur, and Lake Counties), the study estimated that there were 4,523,530 nonresident visitors (from outside southeastern Oregon) in 1993, including 715,747 visitors to BLM-administered land. Spending by visitors to BLM-administered land was estimated to generate personal income of $6,910,431 and 388 jobs within the three-county region. Total income across all ownerships was estimated to be $61,798,152, and the number of jobs created was estimated at 3,506 (Johnson et al. 1995).

The Oregon State University study estimated economic effects based on visitor expenditures. Daily expenditures for various activities were estimated by compiling data from a variety of publications (Table 2-38 and 2-39).

The Oregon Tourism Commission estimated that $46,390,000 was spent by visitors to Malheur County in 1997. This includes all visitors, recreation, business, and travelers to other destinations who pass through the county.

The BLM estimates visitation to lands it manages in the planning area to be 312,000.

Businesses used by visitors are located in the towns of Vale and Ontario, as well as a few smaller settlements, where visitors tend to limit their purchases to items such as daily food supplies, fuel, and some lodging.

Minerals and Mineral Materials

Although the mining industry contributes to economic diversity, current employment in the mining sector within Harney and Malheur Counties is small. Mining employment during

Table 2-38.—*Expenditures by activity category*

Activity category	Expenditure per person per day in 1993
Downhill skiing	$57.46
General day use	$37.08
Hunting	$33.22
Fishing	$26.80
Nature study/interpretive	$26.52
Water recreation	$25.30
Snowplay	$25.04
Motorized	$23.89
Camping	$15.95
Nonmotorized dispersed	$10.04

Source: Johnson et al. (1995).

1993 totaled 68 in Malheur County and less than 10 in Harney County. More recent statistics are not released by the Oregon Employment Division because of confidentiality reasons. This employment is from two commercial mining and processing operations and saleable minerals extraction (gravel pits). Additional employment in the construction industry is generated when rock is removed from public land for building public roads.

Teague Mineral Products operates three pits on public land in the Succor Creek Drainage and extracts approximately 10,000 tons of bentonite and 1,000 tons of zeolite annually. Eagle-Picher Industries operates a diatomite processing mill, which employs 35 people, on private land just west of Vale (City of Vale 1992). The diatomite is mined in Harney County outside of the planning area. Rockhounds remove a small amount of rock, including picture rock, thundereggs, and agate. This contributes to employment in local rock shops and businesses catering to recreationists. Exploration for precious metals, diatomite, and zeolite also contributes to mining employment.

The BLM provides for the extraction of saleable minerals, primarily gravels, rock aggregate, and decorative stone, through free use and sales. Free use of saleable minerals from community pits is permitted for projects that benefit the public, such as the construction and maintenance of public roads. From 1986 through 1995, about 35,000 tons plus 428,700 cubic yards of mineral material was extracted from the planning area under free-use permits; the total value of this material was roughly $500,000, or about $50,000 per year. During the same 10-year period, about 24,000 tons plus 3,800 cubic yards—worth roughly $22,000, or $2,200 per year—was sold for private use. These figures do not include saleable minerals removed by the ODOT under title 23 of the "Federal Highway Act."

Exploration for mineral and geothermal resources also contributes to employment. Although interest in the Grassy Mountain gold prospect and other gold prospects is currently low, mining companies have drilled more than 1,000 exploratory holes on public land in the past 10 years. Two exploratory geothermal wells have been drilled in the Vale KGRA in the past 10 years, but no development has resulted. Three exploratory geothermal wells have also been drilled in the Alvord KGRA in the same period, but no proposals to develop geothermal resources are currently being pursued. Existing commercial development of the Vale KGRA includes heat for the Oregon Trail Mushroom Company (140 employees).

The City of Vale has determined that nearby deposits of gravel can influence the amount and location of residential development. City officials desire continued availability of nearby deposits to achieve lower transportation and building costs (City of Vale 1992).

Table 2-39.—*Average expenditures per person per trip, nonresidents (1990 dollars)*

Activity	Expenditure
Developed camping	$32.54
Day use	$31.03
Auto touring	$29.88
Hunting and fishing	$20.31

Source: Ashley et al. (1993).

Forest Resources

The northern portion of MRA has the only sufficient timber resources to warrant commercial timber sales. Historically, sales have been relatively small and have occurred every 5 years on average. The two most recent sales have been commercial salvage sales. In the Powder Fire Salvage (1996), 363,000 board feet of primarily ponderosa pine was sold to a company in Baker City. In the Ironside Salvage Sale (1995), 643,000 board feet of mixed species, primarily Douglas fir and white fir, was purchased by a Prairie City firm. Prior to these salvage sales, 1981 was the most recent sale date. Since 1955, the total volume of sales has been 4 million board feet (harvested from 985 acres). This is equivalent to the wood products needed to build approximately 295 typical single family homes (Oregon Employment Department 1999).

Commercial and personal use of other forest products occurs throughout the planning area. The BLM issues permits for the collection of firewood, posts and western juniper boughs, and demand appears to be increasing. Some interest has been expressed in the collection of western juniper berries. There is potential for the development of interest in the collection of floral greens, native plants, and medicinal herbs.

Revenue Sharing With Local Governments

Although public land is not subject to State or local property tax, counties do receive revenue because this land is located within their boundaries. Payments in Lieu of Taxes (PILT) and revenue sharing from commodity uses provide revenue to county governments. The PILT program guarantees a county a minimum payment of $0.75 per acre for entitlement acres within the county to compensate for the nontaxable status of Federal land. There is a cap based on county population that is applied to Malheur County. The source of the revenue is a direct appropriation from the Federal treasury, which is reduced to $0.10 per acre as revenue generated by commodity use on Federal land that is shared with local counties offsets PILT payments. Commodity payments can be derived from entitlement acres managed by any Federal agency, including National Park Service, USFS, Army Corps of Engineers, USFWS, and BLM.

In Malheur County, PILT payments are the largest source of Federal revenue sharing (see Table 2-40).

Recent legislation (Public Law 103-397) amends the original PILT payment legislation and increases the guaranteed minimum payment levels. The $0.75 payment will increase to $1.65, and the $0.10 payment will increase to $0.22 by the year 2000. In the next century,

Table 2-40.—*Revenue sharing with Malheur County, FY 1995 ($)*

	Malheur County
Mineral leasing	221
Grazing leases	0
Payment in Lieu of Taxes	681,167
TOTAL	681,388

Source: USDI, Bureau of Land Management. Undated. "Payments in Lieu of Taxes (PILT) Fiscal Year 1995." Prepared by Budget and Finance Team (WO-880), Washington, DC.

annual increases will be based on the consumer price index. Actual payments are based on congressional appropriations and payments have not yet increased to the new levels in recent years.

Local Planning and Economic Development Activities

Malheur County has adopted a comprehensive land use plan in accordance with Oregon laws. This plan establishes areas for specific future uses. Areas for future residential and industrial growth are established to provide for the development and installation of infrastructure in an orderly and efficient manner. Some types of development are restricted on certain parcels; most common is industrial and residential development on agricultural lands. Malheur County also has a strategic plan to enhance the attractiveness of the area to new businesses or to encourage the expansion of existing businesses.

Malheur County, together with Baker County, has identified tourism and environmental services as industries to promote at a regional level. Investments in tourist attractions and activities, particularly those related to the Oregon Trail, have increased the region's visibility. It is hoped that the tourism industry will draw visitors who will later move their businesses to the region. Environmental services is seen as a growth industry of long-term importance. It offers employment in geothermal energy development, road removal on Federal land, riparian zone repair, and manufacture and installation of drip irrigation systems.

A cultural museum and regional arts center opened in Ontario, providing additional activities for residents and visitors.

Opening of the Snake River Correctional Institution in Ontario has generated significant new employment in the government sector and stimulated moderate population increases.

Social Values

The BLM has identified specific stakeholder groups that will be impacted or have an interest in BLM management decisions. For purposes of this discussion, stakeholder groups are defined as groups of people who, because of common location, values, occupation, or interest, will have similar beliefs, feelings, or responses to public land management actions. One person will likely belong to several stakeholder groups.

Many of the stakeholder groups currently use or benefit from BLM-managed lands. Consumptive user groups identified include rockhounds, hunters, fishermen, grazing permittees, timber companies and workers, mining companies and workers, local governments, and subsistence users, particularly American Indians.

Nonconsumptive stakeholder groups include most recreational users—OHV users, WSA visitors, motorized sightseers, hikers, horseback riders, campers, wildlife viewers, boaters and rafters, eco-tourists, and historical tourists. Commercial businesses that hold special recreation permits are also nonconsumptive stakeholders.

Many national, regional, and local stakeholder groups also have interests in BLM management direction. Members of national and regional groups (formal or informal) may or may not visit the planning area. These groups typically influence management decisions through legislative action, legal actions, and public perceptions. Groups include both advocates of specific management philosophy or approach (preservation, conservation, restoration, ecology, wise use, ecosystem-based) and groups with specific programmatic interests (NWSR's, wilderness, native plants, fisheries, watersheds, wild horses, livestock grazing,

timber, and mining). Some of these groups have specific geographic areas that are of concern to them. Examples include Castle Rock, Leslie Gulch, or the Owyhee River.

Local residents often have the most direct relationship with BLM-administered lands, and are most likely to have multiple interests in public lands. Local residents are frequently members of several stakeholder groups. Residents who have lived in the area for a long time are more likely to have experience and opinions regarding appropriate use and management of public lands. Frequently these residents derive their livelihood from traditional natural resource based industries like forestry, mining, and agriculture. For many livestock operators, grazing on public land is part of their family heritage and an important social and economic contributor to quality of life. Typically, livestock operators feel strongly that they are good stewards of the land. They point out their need to sustain the productivity of the land for continued ranching use by generations to come.

Whether or not local residents are employed in natural resource industries they almost certainly use public land for recreation. Activities such as hunting, fishing, hiking, wildlife viewing, watersports, horseback riding, and OHV use are common. The proximity of these opportunities to their homes contributes to quality of life.

None of the towns or communities in the planning area are considered urban. The basically rural and small-town atmosphere of the planning area is valued by current residents and is a major attraction for newcomers. Many people value rural lifestyles and choose to live in the area despite greater economic opportunities in urban areas.

Newcomers to the planning area often lack the established roots, social ties, customs, and beliefs that unify many long-term residents. They often moved to the area seeking values different from long-term residents. Rarely are they connected to public land through traditional natural resource industries. In communities similar to those in the planning area, sociologists have found that long-term residents are often threatened by newcomers who they believe are not connected to, or supportive of, traditional industries, customs, and beliefs.

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 is identifiable through field survey, historical documentation, or oral evidence. American Indian traditional use 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.

Prehistoric, or precontact cultural resources include lithic scatters, rock shelters, pithouses, petroglyphs, pictographs, hearths, and rock alignments. Historic cultural resources include buildings and building ruins, wagon roads, railroad grades, irrigation ditches and associated structures, dams, and archaeological deposits.

Almost all cultural resource inventories are project-specific, rather than initiated by the Cultural Resource program. Thus, the surveys are not necessarily in areas of high site potential; only 7 percent or less of the public land in southeastern Oregon has been inventoried for cultural resources. Earlier inventories and site records are sketchy and do not conform with more recently approved data bases of the State Historic Preservation Office or the BLM Cultural Resource Program. However, sites from earlier surveys have been tabulated for their condition at the time of recording, when the information was given.

Archaeological (Prehistoric/Historic) Resources

Archaeological evidence indicates southeastern Oregon has been inhabited by humans for at least 10,000 to 12,000 years. Tribal histories assert a presence since time immemorial. Occupation has been continuous, although population location and density have varied according to hot or cold and wet or dry climatic cycles. Small, nomadic groups of hunters and gatherers, rather than sedentary, fixed-place groups, were the norm. Such a highly mobile lifestyle was an adaptation to the scarce, scattered resources of the western high desert.

Identified prehistoric sites consist of hunting-related lithic scatters, multitask occupation sites, toolstone quarries, rock shelters, rock art, and rock structures such as cairns or blinds. These reflect American Indian use from at least 10,000 years ago to the recent past (Bright 1979). This area is the northernmost extension of the Great Basin and supports a wide variety of environments, ranging from true desert to alpine meadows. As such, it provides an excellent opportunity for archaeological investigations of the interface of the Columbia River Plateau, Great Basin, and Snake River Plains cultures. Additional study opportunities include Early Holocene use of lakes and marshes by PaleoIndian people and later use of arid land, wetland adaptations in an arid region, lithic quarrying practices, aboriginal trade networks, and rock art.

Fur trappers posed the first non-Indian presence in southeastern Oregon early in the 19th century. The main corridor of travel through the planning area was the Oregon Trail. The trail route entered Oregon at Nyssa and headed west before turning north through Keeney Pass (along Lytle Boulevard) into Vale. From Vale, the route headed north again past Alkali Springs and Tub Mountain on the way to Farewell Bend. MRA maintains three interpretive sites along the Oregon National Historic Trail (Keeney Pass, Alkali Springs, and Birch Creek). The Keeney Pass Historic District is listed on the National Register of Historic Places. Most of the immigrants continued on to the Willamette Valley or to California. Other identified historic sites include homesteads; abandoned dryland farms; wagon roads; a possible Bannock Indian War cavalry site; trash dumps; the late 19th century towns of Andrews, Vale, Malheur City, and Jordan Valley; and Birch Creek Ranch. They illustrate the use of the area from the 1860's through the Depression Era and represent a number of distinct themes important in the historical development of the area. The Bannock War, the early settlement of the region for livestock raising, and the dryland farming boom (and bust) of the early 20th century are of particular historical importance.

Since the late 1970's, a total of 1,013 cultural properties has been recorded (Table 2-41). Cultural resources have been degraded by natural processes such as erosion and by human actions such as construction and artifact collection. In recent decades Federal agencies have attempted to minimize damage to significant cultural resources.

Law requires 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 where existing data are insufficient to make an assessment. Sites are recorded during surveys. If significant sites cannot be avoided, the adverse effect of construction is mitigated by data recovery through excavation, surface collection, photography and recording, and analysis. Table 2-42 shows the condition of sites.

The density of scientifically significant prehistoric sites is high along major streams and rivers, along the margins of pluvial lakebeds, in some dunal areas, and near springs. Low site density is expected in large areas of the treeless, undifferentiated volcanic uplands and in the bottoms of former pluvial lake basins, where surface water and various life-sustaining resources are less prevalent.

2-41.—*Number of cultural sites in each resource area*

Resource area	Prehistoric sites	Historic sites	Total
Malheur	420	8	428
Jordan	538	47	585

Table 2-42.—*Condition of identified cultural sites in each resource area*

	No report	Excellent	Good	Fair	Poor	Destroyed	Total
Malheur							
Number of sites	122.0	44.0	87.0	110.0	56.0	9.0	428.0
Percentage	28.5	10.3	20.3	25.7	13.1	2.1	100.0
Jordan							
Number of sites	232.0	71.0	157.0	37.0	69.0	19.0	585.0
Percentage	39.7	12.1	26.8	6.3	11.8	3.3	100.0

Historic sites are dominated by wagon and military roads, evidence of old irrigation projects, the remains of failed farms and ranches, crumbling stage stations, and the occasional abandoned automobile and railroad grade. Parts of historic roads are often overlain by 2-track roads, crowned and ditched county roads, and paved highways. Nevertheless, much evidence of historic use remains and is protected to some degree. Few of these sites have been formally evaluated for significance, and appropriate context statements, research themes, and research questions have not been generated.

Historic sites lend themselves well to education and interpretation. Several have been formally nominated to the National Register of Historic Places, and other areas are eligible for nomination. Two sites are currently listed on the National Register, Oregon Trail Historic District, Keeney Pass (MRA), and Birch Creek Ranch Rural Historic Landscape (JRA) (Beckham 1995) (see Map REC-2).

American Indian Traditional Values and Resources

No American Indian subsistence areas have been identified. One religious use area is known to occur in MRA. Prior to non-Indian settlement, the 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. Traditionally used resources include edible roots such as biscuitroot, camas and onions; goosefoot and Indian ricegrass seeds; red osier dogwood; willow; quaking aspen posts for hide working; black lichens found in conifer forests; basketry grasses; chokecherries; currants; mountain mahogany; and obsidian, basalt, and cryptocrystalline silicate toolstone sources. Raw materials and the finished products of these traditional resources are still collected and exchanged among some tribal members as part of an informal tribal economy.

There may be sacred sites, significant landforms, and traditional resource sites of which the BLM is unaware.

Paleontological Resources

Paleontological resources are defined as the fossilized remains of plants and animals. Fossils are of Pliocene, Miocene, and Pleistocene age and are located in various volcanic tuff, sandstone/siltstone beds or Pleistocene gravels. Of particular interest are vertebrate fossils such as those of extinct camels, 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 they are widely dispersed, situated primarily along maintained county or BLM roads. Several localities are the subject of ongoing academic research.

Cultural Resources and Paleontological Management Status

Birch Creek Ranch is listed on the National Register of Historic Places, and care of the buildings will be based on a historic building report prepared by Heritage Research Associates. Interpretation of the historic ranch is a joint effort of the Cultural Resource and Recreation programs. The Vale District's "Oregon National Historic Trail Management Plan," (ONHTMP) completed in 1989, provides guidance for the BLM's management of the Oregon National Historic Trail, a property of national significance.

Causes of damage to archaeological sites include erosion, livestock grazing, road maintenance, recreation activities, and unauthorized excavation and collection of artifacts (Table 2-43). Paleontological resources are affected by weathering, livestock trampling, mineral development, and unauthorized collecting.

An interagency agreement for the management of paleontological resources is in effect between the BLM's Burns, Vale, and Prineville Districts, and the John Day Fossil Beds National Monument. This agreement provides for an exchange of technical expertise and other services.

Table 2-43.—*Number (and percentage) of instances of site damage related to specified agents in each resource area*

Agent of site damage	MRA		JRA	
Professional collection	3	(0.5)	12	(2.1)
Not reported	144	(26.4)	82	(14.1)
No damage	22	(4.0)	76	(13.1)
Erosion	129	(23.6)	118	(20.3)
Livestock trampling	69	(12.6)	62	(10.7)
Rangeland improvements	54	(9.9)	69	(11.9)
Agricultural trespass	0	(0)	5	(0.9)
Road construction	34	(6.2)	67	(11.5)
Powerline construction	1	(0.2)	1	(0.1)
Mining	7	(1.3)	1	(0.1)
Recreation activities	15	(2.8)	8	(1.4)
Western juniper cutting	0	(0)	0	(0)
Garbage dumping	0	(0)	0	(0)
Vandalism and looting	68	(12.5)	80	(13.8)
TOTALS	546	(100)	581	(100)

Land and Realty

Land Status

More than two-thirds of the planning area is under Federal ownership, and most of this Federal land is administered by the BLM (Table 1-1). Other Federal jurisdiction acreage includes areas withdrawn by agencies such as the Bureau of Indian Affairs (BIA), Federal Aviation Administration (FAA), Bureau of Reclamation (BOR), USFWS, and Federal Energy Regulatory Commission (FERC). The State of Oregon also owns a large amount of land. See Map GEN-2.

Access

Physical access to public land ranges from good to poor depending on location. As the demand for resources on public land grows, the need for legal public access to some areas will increase (see Map LAND-1 in the Draft SEORMP/EIS).

Acquisitions include easements which are normally acquired to facilitate meeting BLM administrative responsibilities, and provide public access.

Rights-of-way

Rights-of-way that have been granted are primarily small-scale electric distribution lines; buried major trunk and distribution fiber optic telephone cables, as well some overhead lines; residential and rural access roads; State highway material sites; irrigation ditches, canals, and reservoir sites; ranch dirt airstrips; and amendments to existing rights-of-way for U.S. Highways 95, 20, and 26, Interstate Highway 84, State Highways 78, 201, 205; and county rights-of-way for road and safety improvement projects.

Many types of rights-of-way, such as power lines and fiber optic buried telephone cables, parallel highway routes. Two large-scale transmission lines traverse JRA from north to south. Both provide electrical power service to the planning area, and one also provides service to a portion of northern Nevada. See Appendix L, Table L-1 for utility and transportation corridors. Several large transmission lines that traverse MRA serve agricultural users and cities in the valley and provide electrical power service to areas outside the planning area. A large 500-kV transmission line crosses this resource area from east to west and ties into the power grid network of the Pacific Northwest. A major utility corridor that parallels Interstate Highway 84 contains a major transcontinental natural gas transmission pipeline, a petroleum product transmission pipeline, and three major transcontinental fiber optic telephone cable lines.

Several large right-of-way corridors were designated in previous land use plans (see Map LAND-1 in the Draft SEORMP/EIS), and new facilities have been placed in these corridors since designation. One corridor was designated for a future east-to-west 500-kV electric transmission line, and the company involved still wants the route available for future use. It is listed in the 1993 “Western Regional Corridor Study,” (WRCS) as a future potential corridor route.

A deviation was made from the management framework plan (MFP) when the 500-kV Pacific Power and Light (PP&L) power line north route was constructed below the Owyhee Dam, and was later affirmed by the OWFEIS and depicted in the (WRCS). Originally, PP&L applied for a 500-kV power line (south) route through southern Malheur and Harney

Counties, which was denied by the Secretary of the Interior because of its numerous conflicts with SMA's. Therefore, the power line was constructed along the present (north) route. The portion of the electric power line corridor immediately downstream of the Owyhee Dam was not constructed in accordance to the proposed MFP recommended route, which detoured away from the dam to the north (see Map LAND-1 in the Draft SEORMP/EIS). However, prior to the signing of the record of decision (ROD) of the MFP, a separate decision had been made by Secretary of the Interior and representatives of the Department of the Interior to allow construction of the 500-kV PP&L power line along the proposed original north route selected by the company. Although the detour was considered very early in the route selection process, the route was not selected as described in the MFP and thus was not implemented. The OWFEIS acknowledged the existing 500-kV PP&L power line route as a primary recognized existing route for location of future power line entities (see Map 7 of the OWFEIS). This is the current route as depicted in the (WRCS).

Hundreds of miles of road have been constructed across public land, some of which may be authorized under Revised Statutes (RS) 2477. The BLM recognizes these valid and existing rights and State laws pertaining thereto. The Secretary of the Interior is currently considering proposed regulations under which assertions for road rights-of-way may be accepted under the authority of RS 2477.

Communication Sites

MRA and JRA are located in active communication corridors, and they contain many different types of communication sites (Appendix L, Table L-2).

In MRA and JRA, many of the communication sites are associated with major transportation routes, such as U.S. Highways 95, 20, 26, and Interstate 84. The communication sites are used mostly for two-way mobile radios; other uses include TV translators, cellular telephones, remote automated weather/lightning detection monitoring stations, radio telephones, and commercial and military aircraft guidance systems. As the communications market is deregulated, demands on existing communication sites will likely increase due to expanded use of cellular telephones and other wireless systems. New sites may also be developed as demand grows.

In JRA, there are 11 communication sites on public land with 19 users, three sites on private land with three users, and one site on State land with one user. The three sites with major developments are Blue Mountain and two FAA sites. A communication site management plan has been implemented for the Blue Mountain site, which has 10 users. The remainder of the sites are primarily single-use sites, with the exception of the Pharmacy Hill site in Jordan Valley, which has two users. The BLM operates remote automated weather stations at Rattlesnake and Grassy Butte. The National Oceanic and Atmospheric Administration operates a weather monitoring station located near the FAA facilities. All the sites are physically and legally accessible. Some have electric power, others rely on alternate sources of energy such as solar power.

In MRA, there are eight communication sites on public land with 20 users and nine sites on private land with 18 users. Major developments are found on Rhinehart Butte, which has nine users and an implemented communication site management plan. The Owyhee Ridge and Dry Peak (Cottonwood Mountain) communication sites have three users each. A communication site management plan has been implemented for Dry Peak (Cottonwood Mountain). The Monument Peak site has two users, the BLM and a State agency. The communication site management plan has been implemented for Monument Peak. The BLM operates remote automated weather stations located on Kelsey Butte, Owyhee Ridge, Red Butte, and Vines Hill; the BLM is the only user. The BLM leases a site on Mahogany Mountain from a private individual for radio communications along the Owyhee River. All

the sites are physically and legally accessible. Some have electric power, and others rely on alternate sources of energy, such as solar power and generators.

Leases and Permits

MRA and JRA have a number of authorized permits, pending permit applications for authorization and one lease for a variety of different land uses. The majority of the permits are for agricultural commodity production. Other permits are for either apiary sites or building structures, etc. There is one long-term lease for a tree shelterbelt. The majority of the permits are for authorization of former agricultural and occupancy trespass situations until either the lands are sold or exchanged.

In JRA, there are 13 authorized permits and 16 pending permit applications for authorization. The majority of the permits are for authorization of former agricultural and occupancy trespasses. There is one permit for an apiary site. There are no leases in the JRA.

In MRA, there are 11 authorized permits and 12 pending permit applications for authorization. The majority of the permits are for authorization of former agricultural and occupancy trespasses. There are two permits for apiary sites. There is one long-term lease for a tree shelterbelt.

Withdrawals and Classifications

For more than 100 years, numerous withdrawals have been made to close land to actions under various public land laws, including the mining laws, and to transfer jurisdiction of public land from the BLM to other Federal agencies. Examples of these withdrawals are BOR projects, military bases, Department of Energy (DOE) facilities, and Federal administrative sites. Land has been withdrawn by statutes, executive orders, and secretarial orders, both temporarily and permanently. Most withdrawals segregate specific parcels of land to be used for a particular purpose. Appendix L, Table L-3 lists existing withdrawals.

Withdrawals

BLM: Administrative site, airport surface zone protection, and public water reserves, NWSR corridors, Leslie Gulch ACEC mineral withdrawal, and “Steens Mountain Cooperative Management and Protection Act” of 2000 mineral withdrawal;

FERC: Power site reserves and power site project (Idaho Power Company–Brownlee Hydroelectric Power Project);

BIA: McDermitt Indian Grazing Reserve;

FAA: VORTAC aircraft guidance sites;

BOR: Beulah Reservoir, Warm Springs Reservoir, Bully Creek Reservoir, Owyhee Reservoir, and Vale Projects; and,

USFWS: Surveyed and unsurveyed islands in the Snake River (estimated 65 acres).

Classifications

Public land must be classified suitable for disposal under the “Recreation Public Purpose” and “Airport Grant” Acts before an application may be accepted. Land disposed under these acts are issued subject to a reversionary clause, exercised if the land is no longer used for the

intended purpose. The classifications on land returned to public ownership under such conditions must be lifted prior to opening to public land and mineral laws. The following public land has been so classified:

Recreation and Public Purposes (Patent, Lease, or Other)

Patent — McDermitt Community Fund (OR-013391, Patent 36690059)–McDermitt Rodeo Grounds.

Patent — Oregon Department of Parks and Recreation (OR-1111, Patent 36760012)–Proposed Crooked Creek State Park. The State of Oregon has not developed this site since it was patented in l976. An evaluation should be made to determine whether this patent should revert to the BLM because of lack of development by the State of Oregon.

Lease — Malheur County (OR-14737) – McDermitt sanitary landfill (site has been closed and reclaimed; lease expired and replaced with right-of-way (OR-52260)).

Lease — Malheur County School District No. 51 (OR-23468)–McDermitt Athletic Fields.

Patent — Oregon Department of Parks and Recreation (OR-016329, Patent 36660051 and OR-722, Patent 36700020)–Succor Creek State Park.

Lease — Snake River Sportsman (OR-37654)–shooting range (the club has applied for a patent).

Other — Jordan Craters (OR-011980)–protection of unique natural resource values.

The BLM established temporary Recreation and Public Purpose classification and withdrawal for the Jordan Craters. The classification and withdrawal were initiated prior to enactment of FLPMA for protection of land now included in three SMA's; therefore, they need to be terminated.

FAA Airport Grants

Lease — Oregon State Board of Aeronautics (OR-021037)–McDermitt Airport (north portion)

Withdrawal Review

Section 204(L) of FLPMA contains direction for the Secretary of the Interior to review certain withdrawals within 11 western states, including Oregon, that were in effect in 1976. The purpose of this review, which is still incomplete, is to determine whether land withdrawn by various Federal agencies prior to enactment of FLPMA is being used for the purposes for which it was set aside. If not, the need for these withdrawals should be reexamined. Agency withdrawals within the planning area not subject to the review mandated by FLPMA are: (1) McDermitt Indian grazing reserve (BIA), (2) Snake River Islands (USFWS), and (3) power site reserves (FERC). The NWSR Act has precluded power site development within the designated Owyhee NWSR corridor.

The withdrawal review in MRA and JRA primarily involves land withdrawn for the BOR for the Warm Springs (2,390 acres), Bully Creek (731 acres), and Owyhee (33,030 acres) projects. The BLM, BOR, and FAA are working to complete the withdrawal review, which will determine whether or not the withdrawals should be continued, modified, revoked, or

terminated. All withdrawn land determined not to be necessary will be returned to BLM administration. The amount of withdrawn land being returned to BLM administration for multiple use management is unknown at this time.

The BLM reviewed the agency withdrawals, public water reserves (BLM) and VORTAC airplane guidance sites (FAA). A reduction in size of some of these withdrawals has been recommended.

Land Tenure Adjustments

The land ownership pattern in the planning area is the result of a multitude of separate land tenure adjustment actions (exchanges, sales, purchases and donations) in the past. Chief among these are the exchanges associated with the Vale Project in the 1960's and the State of Oregon land exchanges in the late 1970's and early 1980's. Through these land tenure adjustment actions, BLM has acquired lands in SMA's and areas of critical riparian, endangered species, and wildlife habitats.

In addition to ongoing acquisition and conveyance programs, other situations may require land tenure adjustment actions in the future. A number of parcels have potential for disposal through land exchanges or land sales. An inventory in the late 1980's identified a number of BLM parcels on which unauthorized use was occurring in JRA and MRA. Many of these parcels were adjacent to private inholdings within or adjacent to large blocks of public land identified for retention in the current BLM land use plans. Approximately 50 percent of these cases have been resolved through either termination of the use, removal of improvements, authorization of the use through the granting of rights-of-way, FLPMA section 302 permits and leases, land sales, or land exchanges. Where agricultural development or capital improvements have been made, disposal of these parcels would benefit the county by allowing the developments and capital improvements to be transferred to private ownership and onto the county tax rolls.

Several parcels are within or adjacent to a path of anticipated community expansion or are within urban growth boundaries or around rural service centers. School districts looking to meet future expansion needs have expressed an interest in these parcels. There may be other community needs that these parcels could be used to meet. Land tenure adjustment criteria and legal requirements are shown in Appendix L.

Administrative Sites

Among the five administrative sites in JRA, four are actively occupied; these are at Jordan Valley, Burns Junction, Rome, and McDermitt. The unoccupied site is within the administrative site and airport surface zone protection withdrawal near the McDermitt-State of Oregon airport facility. The administrative sites are used for administrative purposes and fire suppression activities. The McDermitt and Burns Junction administrative sites and airport surface zone protection sites are covered by withdrawals. The Jordan Valley administrative site is located on acquired lands.

Two of the three administrative sites within MRA are occupied, the Juntura Fire Guard Station and the Vale Administrative complex. The unoccupied site is on Castle Rock and was used as a fire guard station until the Juntura station became operational. The Vale Administrative complex, located on acquired land, houses the Vale District Office consisting of the administrative building, warehouse complex, shop, and firefighting organization.

Roads

Roads provide public and administrative access to accommodate all users of public land, and provide access to private land. Most access across public land is accomplished informally as casual use. Reasonable access is made available to persons engaged in valid uses such as mining claims, mineral leases, livestock grazing, recreation, and other uses.

The BLM maintains 674 miles of roads in MRA, of which 47 miles are surfaced for all-weather use; and 897 miles in JRA, of which 21 miles are surfaced for all-weather use. Road system management has centered around maintaining major access roads, which are generally the ones receiving significant recreation traffic.

Priorities for preventive maintenance (see Glossary) are established as follows: (1) safety of all users, (2) BLM transportation plan roads, (3) roads covered by a reciprocal agreement with the county or road district, (4) resource protection, (5) high-use roads, (6) roads requiring preventive maintenance that are grouped together or that are more accessible and, therefore, less costly to maintain, and (7) all other roads.

Corrective maintenance (see Glossary) occurs as problems are identified and funds permit. An MOU with Malheur County and its individual road districts has enabled the BLM and the county to group roads to more economically maintain the road system.

Road construction has been limited to improving or upgrading segments of road to improve access or to alleviate maintenance or environmental problems.

For information concerning transportation management plan(s) to be developed, see Chapter 3, Land and Realty, Realty management actions that normally occur regardless of alternative.

Hazardous Materials

The following former dump sites are currently on the Federal Facilities Hazardous Waste Compliance Docket (these sites are also listed on CERCLIS): Lytle Boulevard dump site (OR1141190073); Slides dump site (OR7141190077); and Vale City dump site (OR6141190078). Preliminary assessments of these three dump sites were completed and submitted to the EPA in 1992. An EPA determination of no further remedial action was received for these sites.

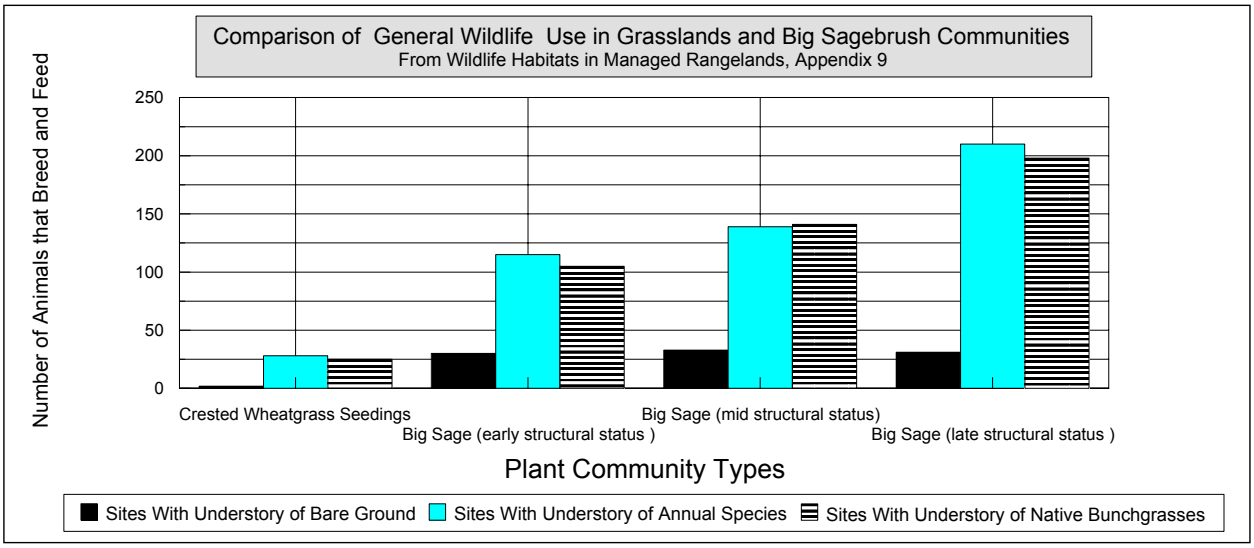
Under current BLM policy, no public land will be leased or permitted for the storage, treatment, or disposal of hazardous waste, and public land will not be leased for sanitary landfills. However, land may be sold or exchanged for these purposes under the appropriate land action. Many of the landfills that have closed or are closing will be subject to investigation and possible corrective action as more information about past hazardous material disposal becomes known.

All incidences of hazardous materials on public land are handled as outlined in the Vale District's contingency plan for hazardous materials incidents (1999). All actions related to land or minerals are reviewed both internally and externally (if appropriate) for compliance with Federal and State regulations. Special stipulations are also developed as part of the permit or lease to safeguard human health, prevent environmental damage, and limit BLM liability.

An inventory of potential hazardous waste sites in MRA and JRA was completed in 1993. This inventory covers mine sites, lease and permit sites, rights-of-way, and any other sites where hazardous materials may have been used.

The Hazardous Materials program will be managed in the same general manner in all alternatives in accordance with laws, policies, and regulations. Consequently, the hazardous materials program will not be addressed further.

Figure 2-1. ***Contrasted Levels of Wildlife Use in Monotype Crested Wheatgrass and Big Sagebrush Communities.***



Chapter 3
The Alternatives

Abbreviations and Acronyms

Reader note: *Refer to the list below for abbreviations or acronyms that may have been used in this chapter.*

ACEC ~ area of critical environmental concern
ADC ~ animal damage control
AML ~ appropriate management level
AMP ~ allotment management plan
AMR ~ appropriate management response
APHIS ~ Agricultural Plant and Animal Health Inspection Service
ARA ~ Andrews Resource Area
ATV ~ all-terrain vehicle
AUM ~ animal unit month
BA ~ biological assessment
BIA ~ Bureau of Indian Affairs
BLM ~ Bureau of Land Management
BMP ~ best management practice
BO ~ biological opinion
BOM ~ Bureau of Mines
BOR ~ Bureau of Reclamation
BPA ~ Bonneville Power Administration
CERCLIS ~ comprehensive environmental response, Compensation and Liability Information System
CEQ ~ Council on Environmental Quality
CFR ~ "Code of Federal Regulations"
CLCAS ~ "Canada Lynx Conservation Assessment and Strategy"
CRMP ~ "Cultural Resources Management Plan"
CWA ~ "Clean Water Act"
DLCD ~ Department of Land Conservation and Development
DOD ~ Department of Defense
DOE ~ Department of Energy
DOGAMI ~ Oregon Department of Geology and
Mineral Industries
DOI ~ Department of the Interior
DPC ~ desired plant community
DRFC ~ desired range of future conditions
EA ~ environmental assessment
EIS ~ environmental impact statement
EPA ~ Environmental Protection Agency
ER ~ entrenchment ratio
ERMA ~ extensive recreation management area ERU ~ ecological reporting unit
ESA ~ "Endangered Species Act"
ESI ~ ecological site inventory
E/EIS ~ "Eastside Environmental Impact Statement"
FAA ~ Federal Aviation Administration
FERC ~ Federal Energy Regulatory Commission
FLPMA ~ "Federal Land Policy and Management Act"
FMP ~ fire management plan
FWFMP ~ "Federal Wildland Fire Management Policy"
GIS ~ geographic information system
GMA ~ geographic management area
GTR ~ green tree replacement
HA ~ herd area
HMA ~ herd management area
HMP ~ habitat management plan
HUC ~ hydrologic unit code
ICBEMP ~ Interior Columbia Basin Ecosystem Management Project
IMP ~ "Interim Management Policy"
IMPLWR ~ "Interim Management Policy for Land under Wilderness Review"
INFISH ~ "Inland Native Fish Strategy"
JRA ~ Jordan Resource Area
KGRA ~ known geothermic resource area
LCDC ~ Land Conservation and Development Commission
LGMP ~ "Leslie Gulch ACEC Management Plan"
MFP ~ management framework plan
MOU ~ memorandum of understanding
MRA ~ Malheur Resource Area
NCA ~ national conservation area
NEPA ~ "National Environmental Policy Act"
NHOT ~ National Historic Oregon Trail
NHPA ~ "National Historic Preservation Act"
NL ~ no leasing
NOAA ~ National Oceanographic and Atmospheric Administration
NPS ~ National Park Service
NPSP ~ nonpoint source pollution
NRCS ~ Natural Resources Conservation Service
NRHP ~ National Register of Historic Places
NSO ~ no surface occupancy
NWSR ~ national wild and scenic river
NWSRA ~ "National Wild and Scenic River Act"
NWSRS ~ National Wild and Scenic River System
OAR ~ "Oregon Administrative Rules"
OBSMP ~ "Oregon's Bighorn Sheep Management Plan"
ODA ~ Oregon Department of Agriculture
ODEQ ~ Oregon Department of Environmental Quality
ODF ~ Oregon Department of Forestry
ODFW ~ Oregon Department of Fish and Wildlife
ODOT ~ Oregon Department of Transportation
ODPR ~ Oregon Department of Parks and Recreation
ODSL ~ Oregon Division of State Lands
OHV ~ off-highway vehicle
ONA ~ outstanding natural area
ONHP ~ Oregon Natural Heritage Program
ONHTMP ~ "Vale District Oregon National Historic Trail Management Plan"
ORS ~ "Oregon Revised Statute"
ORV ~ outstandingly remarkable value
OWFEIS ~ "Oregon Wilderness Final Environmental Impact Statement"
OWS ~ occupancy with stipulations
PFC ~ proper functioning condition
PILT ~ payments in lieu of taxes
PNC ~ potential natural community
PP&L ~ Pacific Power and Light
PSEORMP/FEIS ~ "Proposed Southeastern Oregon Resource Management Plan/ Final Environmental Impact Statement"
PRIA ~ "Public Rangelands Improvement Act"
PUC ~ Public Utilities Commission
RAIDS ~ riparian aquatic information data system
RAWS ~ remote automated weather station
RCA ~ riparian conservation area
RMO ~ riparian management objective
RMP ~ resource management plan
RNA ~ research natural area
ROD ~ record of decision
ROS ~ recreation opportunity spectrum
RPS ~ rangeland program summary
RS ~ "Revised Statutes"
R&PP ~ recreation and public purpose
SCORP ~ Oregon's "Statewide Comprehensive Outdoor Recreation Plan"
SEORAC ~ Southeastern Oregon Resource Advisory Council
SEORMP ~ "Southeastern Oregon Resource Management Plan"
SHPO ~ State Historic Preservation Office
SMA ~ special management area
SMCMPA ~ Steens Mountain Cooperative Management and Protective Area
SRMA ~ special recreation management area
SRP ~ special recreation permit
S&G's ~ "Standards of Rangeland Health and Guidelines for Livestock Grazing Management"
TGA ~ "The Taylor Grazing Act"
TMDL ~ total maximum daily load
TNC ~ The Nature Conservancy
TNR ~ temporary nonrenewable grazing
T&E ~ threatened and endangered
USDA ~ U.S. Department of Agriculture
USDI ~ U.S. Department of the Interior
USFS ~ U.S. Forest Service
USFWS ~ U.S. Fish and Wildlife Service
USGS ~ U.S. Geological Survey
VRM ~ visual resource management
WAFWA ~ Western Association of Fish and Wildlife Agencies
WFSA ~ wildland fire situation analysis
WRCS ~ "Western Regional Corridor Study"
WSA ~ wilderness study area
WSRO ~ "Wilderness Study Report, Oregon"
WQMP ~ "Water Quality Management Plan"
WQRP ~ water quality restoration plan

Major Changes from Draft SEORMP/EIS

Implementation through Adaptive Management

Geographic management areas (GMA's) explanation and tables were added to the Ecosystem-Based Management section. These areas were identified by the Bureau of Land Management (BLM) field offices and sent for public and agency review and comment after the Draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) was out for review.

Alternative D2

In general, Alternative D2 changes are for the commodity resources. Alternative E allows no commodity production; under Alternative D2, commodities are only eliminated in those areas identified as special management in Alternative D, with livestock removal from the following:

1) Selected habitat of Mulford's milkvetch, a special status plant species.

2) Habitat of fish and aquatic species listed under the "Endangered Species Act" (ESA) and redband trout/columbia spotted frog strongholds.

3) Selected habitat of sagebrush-dependent species, utilizing sage grouse as an indicator species.

4) Management corridors of three existing national wild and scenic rivers (NWSR's) and four administratively suitable for potential designation.

5) Selected areas of critical environmental concern (ACEC's).

6) Streams where proper functioning condition (PFC) ratings are functioning-at-risk with downward trend, or not properly functioning, until appropriate livestock management actions can be implemented and a condition of functioning at risk with an upward trend is attained.

The concept is for fences to remove livestock from those special areas listed above only if it would require a small amount of fence. However, if livestock cannot be removed with reasonable fencing, the entire pasture would not be grazed.

Air Resources

1) The 1998 "Interim Air Quality Policy on Wildland and Prescribed Fire" was added to the Rationale section.

2) An addition was made to reflect the equivalent *tons of fuel per year* that would be produced by the estimated acres that would be burned.

Energy and Mineral Resources

1) Changes between Alternative D and D2:

a) All special management areas (SMA's) were closed to leasing.
b) No leasing in ACEC's.
c) No mining in existing NWSR's and the three streams determined suitable as wild in Alternative C.

2) Changes from the preferred Alternative C to the Proposed RMP:

a) The acreage for no surface occupancy (NSO) acres was increased in the Proposed RMP alternative to protect special status species and special recreation management areas (SRMA's).
b) Acreage available for locatables increased in the Proposed RMP alternative due to ACEC changes.
c) Acreage available for saleables increased in the Proposed RMP alternative due to ACEC changes.
d) Congressional action withdrew 100,352 acres of public land within JRA associated with the Steens Mountain Cooperative Management and Protective Area to all mineral activity.

3) In Table 3-3, the controlled surface use stipulation for visual resources was discovered to be incorrect; consequently, the stipulation was dropped and an NSO stipulation was applied to those affected lands.

Fire

1) Changes from the preferred Alternative C to the Proposed RMP alternative:

a) Alternative C uses prescribed fire to meet management objectives**,** whereas the Proposed RMP used prescribed and wildland fire.

2) In Table 3-1, Objective 1, Alternative E was modified to include the protection of annual grasslands; Objective 2, Alternative E was modified to exclude use of prescribed fire.

Rangeland Vegetation

Based on public and internal comment, the sagebrush desired range of future conditions (DRFC's) was redefined by Appendix F (Wildlife Habitat Descriptions and Considerations), and Alternative E was changed to include management to control noxious weeds the same as all other alternatives.

Forest and Woodlands

1) Changes from the preferred Alternative C to the Proposed RMP alternative:

a) This section was amended to include that all management tools be available (including harvest) on all acres to achieve forest health, although intensive commercial harvest would be unlikely in ACEC's, WSA's and NWSR's.
b) For the management of western juniper and quaking aspen, all tools, including chemical control, cutting, burning, and other means, would be available.

Special Status Plants

1) Alternative D2:

a) Livestock grazing would be removed from selected Mulford's milkvetch sites.

Water Resources and Riparian/Wetland Areas

1) Common to all alternatives:

   a) Updated information on water quality management plans (WQMP's), total maximum daily loads (TMDL's), and water quality restoration plans (WQRP's) from the perspective of (BLM) policy of conducting WQRP's.

2) Alternative D2:

   a) Added narrative for Alternatives D2 and Proposed RMP for Objectives 1 and 2.
   b) Livestock grazing would be removed from streams where PFC ratings are functioning at risk with downward trend, or not properly functioning, until appropriate livestock management actions can be implemented and a condition of functioning at risk with an upward trend is attained.

3) Alternative E:

   a) Was edited to reflect changes in alternative emphasis.

4) Appendices:

   a) Modified as follows: the Riparian Management Objective (RMO) section of Appendix D, Riparian/Wetland Areas, was edited for reference to the 1996 "Inland Native Fish Strategy" (INFISH) and tables were updated to reflect data gathered from 1996–1999; the Total Maximum Daily Load section was changed to the Water Quality Restoration Plan heading to reflect new U.S. Forest Service (USFS) and BLM policy and to incorporate TMDL's and WQMP into WQRP concepts. Appendix O, Best Management Practices, was edited to reflect comments and moved the Wildlife Habitat and Protection section to Appendix F, Wildlife Habitat Descriptions and Considerations.

Fish and Aquatic Habitat

1) Alternative D2:

   a) Livestock would be removed from stream segments with Federally listed, proposed, or candidate species, and those with "strongholds" of Great Basin and inland redband trout and spotted frog.
   b) Livestock would be removed from stream segments where PFC ratings are functioning-at-risk with a downward trend, or not properly functioning until systems improve.

Wildlife and Wildlife Habitat

1) Alternative D2:

   a) Livestock grazing would be removed from selected habitat of sagebrush-dependant species, using sage grouse as an indicator species.

2) Appendix F, Wildlife Habitat Descriptions and Considerations:

   a) Changes were made to add wildlife DRFC, and to include additional information concerning management of sage grouse habitat.

Special Status Animal Species

1) Updated special status fish component of riparian tables.

2) Information was added for sage grouse management.

3) Alternative D2:

   a) Livestock grazing would be removed from selected habitat of sagebrush-dependant species, using sage grouse as an indicator species.

Wild Horses

1) Changes from preferred Alternative C to the Proposed RMP alternative:

   a) Adds emphasis on ensuring availability of water during drought.

2) Alternative E:

   a) Modified to continue management of wild horses within herd management areas (HMA's).

Rangeland/Grazing Use Management

1) Alternative D2:

   a) Changes were made in both resource areas to place areas not allocated for livestock grazing outside of allotment boundaries (see Map LVST-1M and -1J).
   b) No livestock management action would be implemented including projects that would increase grazing use within portions of a pasture in late to potential natural community (PNC) ecological status, unless the action would result in a net benefit toward attaining management objectives.
   c) No grazing in the following (see Table 3-8):

      1. Selected habitat of Mulford's milkvetch, a special status plant species.
      2. Habitat of fish and aquatic species listed under ESA and redband trout/columbia spotted frog strongholds.
      3. Selected habitat of sage grouse dependent species, utilizing sage grouse as an indicator species.
      4. Management corridors of three existing NWSR's and four administratively suitable for potential designation.
      5. Selected ACEC's.
      6. Livestock grazing would be removed from streams where PFC ratings are functioning-at-risk with downward trend, or not properly functioning, until appropriate livestock management actions can be implemented and a condition of functioning at risk with an upward trend is attained.

2) Changes between preferred Alternative C and Proposed RMP allotment boundaries:

   a) Areas not attached to livestock grazing, including portions of allotments adjacent to Owyhee NWSR, were placed outside of allotment boundaries (see Map LVST-1M and -1J).
   b) A number of allotment boundaries adjacent to Owyhee NWSR were changed.
   c) No livestock management action would be implemented, including projects that would increase grazing use within portions of pastures in late to PNC ecological status, unless the action would result in a net benefit toward attaining management objectives.

d) Revised to recognize current livestock use of Lava Butte Lower Lava Field within Jordan Resource Area (JRA).

3) Appendix E, Allotment Summaries:

a) Baseline data were added to identify vegetation condition and trend and riparian PFC by pasture.
b) Pastures were listed with acreage, percent public land, and pasture management objectives.

4) Appendix T, Areas Removed from Livestock Grazing:

a) Created to clarify reference to exclusion areas in Chapter 2 and to track management of parcels with resources potentially impacted by livestock through the alternatives (this appendix contains excluded and not allocated areas).

5) Appendix R, Effect of Intensity and Season of Grazing:

a) Revised to include additional citations of grazing impacts to vegetation resources.

Recreation

1) Changes between preferred Alternative C and the Proposed RMP:

a) A mathematical error in projected short- and long-term recreation use was corrected.
b) Succor Creek SRMA was included in the Proposed RMP (from Alternative A).

2) Alternative E:

a) No road maintenance, was changed to allow for limited road maintenance for the management of wild horses, weeds, congressionally designated SMA's, and for wildland fire suppression activities.

3) Appendix G, Projected Recreation Use Patterns:

a) This appendix was dropped from the final document.

4) Appendix U, Potential and Existing Recreation Sites.

a) This appendix was edited to include all those recreation sites described in text of the draft.

Off-Highway Vehicles

1) Table 3-10:

a) Updated to reflect current land ownership status.

2) Alternative D2:

a) The landing of aircraft within WSA's would be limited to the existing inventoried vehicular ways and would require prior BLM authorization. NWSR's would be closed to the landing of aircraft, consistent with the approved 1993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan." the exception would be when conducting aerial search and/or rescue activities with BLM approval within WSA's and designated NWSR corridors.

3) Changes between the preferred Alternative C and the Proposed RMP.

a) Proposed RMP clarifies that, unless otherwise posted, within areas with a limited to existing road OHV use designation, motorized-vehicle supported camping activities may occur up to 150 traveled-feet from the existing road.
b) Certain locations changed from an open to a limited to existing routes OHV use designation to protect resource values.
c) The landing of aircraft within WSA's would be limited to the existing inventoried vehicular ways and would require prior BLM authorization. NWSR's would be closed to the landing of aircraft, consistent with the approved 1993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan." the exception would be when conducting aerial search and/or rescue activities with BLM approval within WSA's and designated NWSR corridors.

Visual Resources

1) Changes between the preferred Alternative C and the Proposed RMP.

a) Class II lands of the Owyhee Views ACEC were changed to Visual Resource Management (VRM) Class I.
b) WSA's are changed from VRM II to VRM I, as per recent policy direction (WO-IM 2000-096); if Congress releases them from WSA status they would then be managed as VRM II.

Areas of Critical Environmental Concern

1) Alternative D2:

a) No mineral leasing in ACEC's.

2) Changes between the preferred Alternative C and the Proposed RMP:

a) Owyhee Views ACEC was decreased from 86,973 to 52,506 acres;
b) Ott Mountain ACEC/RNA was dropped for designation;
c) Castle Rock ACEC increased from 14,599 to 22,799 acres;
d) South Bull Canyon ACEC/RNA decreased from 1,364 to 792 acres;
e) Stockade Mountain ACEC/RNA increased from 1,118 to 1,767 acres; and
f) South Ridge Bully Creek ACEC/RNA decreased from 841 to 620 acres.

Wild and Scenic Rivers

1) Alternative D2:

a) Prescribed management for the Main, West, Little, and North Fork Oyhee NWSR's would be the same as described under Alternative A, except that the NWSR's would not be allocated to livestock grazing and Birch Creek R anch historic buildings would be managed as under Alternative D.

2) Changes between the preferred Alternative C and the Proposed RMP:

a) Updated to describe the current status in management direction of the three Owyhee NWSR's in light of the April 28, 2000, Oregon District Court Judge's modified order of injunction barring livestock grazing within those "areas of concern" identified in the rivers' 1993 management plan.

Land and Realty

1) Definitions for *high resource values*, *public resource values*, and *acquired lands* were developed for clarification.

2) In Objective 2, *utility and transportation* corridor routes was changed to *right-of-way* corridor routes.

3) Land Tenure Adjustment narrative sections were clarified by emphasizing the preferred methods of consolidation of landownership in land exchanges. Changes in Appendix L were made to emphasize that land exchange is the preferred method for consolidating land ownership.

Introduction

Development of management alternatives for the Proposed Southeastern Oregon Resource Management Plan/Final Environmental Impact Statement (PSEORMP/FEIS) was guided by the "National Environmental Policy Act" (NEPA), BLM resource management planning regulations, and comments from the public that were received on the Draft SEORMP/EIS. The basic goal for developing alternatives was to prepare different combinations of resource uses to address identified issues and management concerns and to resolve conflicts among uses. A range of resource management actions and allocations was developed for resources related to identified issues, and comments received from the public.

New alternatives, Alternatives D2 and Proposed RMP, were developed for the final plan. These alternatives were analyzed based on the effects/impacts from the management actions under each of the alternatives. Although the new alternatives were developed and Alternative E modified, these changes do not require a supplemental draft for public comment because they are within the overall scope of the Draft SEORMP/EIS alternatives, constitute alternative refinements or improvements, or blend elements of previous alternatives in response to public and staff concerns.

The PSEORMP/FEIS has the following goals:

1) sustain, and where necessary, restore the health of forest, rangeland, aquatic, and riparian ecosystems;

2) provide a predictable, sustained flow of economic benefits within the capability of the ecosystem;

3) provide diverse recreational and educational opportunities within the capability of the ecosystem;

4) contribute to recovery and delisting of threatened and endangered species; and

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

Each alternative in the PSEORMP/FEIS addresses these goals to some degree and in varying amounts of time; not all would meet the goals equally. Each alternative meets criteria outlined in BLM's land use planning regulations, which require that each alternative be a complete resource management plan for the public land. In addition, alternatives must:

- be reasonable;
- provide for a mix of resource protection, management use, and development;
- be responsive to the issues (each issue must be addressed in at least one alternative); and
- meet BLM specific program requirements for the range of alternatives.

Alternative E, which has been revised for the PSEORMP/FEIS, is recognized as being outside the planning criteria. This includes potentially being outside existing laws, regulations, and policy—such as the "Federal Land Policy and Management Act" (FLPMA), which establishes a multiple use philosophy for public land; the "Taylor Grazing Act" (TGA) which

directs the use of public land to "stabilize" the livestock industry; and the mining laws for production of minerals. Nonetheless, this alternative responds to many issues and concerns and provides for a full range of analysis.

Every decision proposed through the planning process is actually a string of components. Primary among these components are objectives and management actions. Associated with the decision components are support components such as rationale and monitoring needs. The PSEORMP/FEIS, as presented in Chapter 3, is composed in such a way that the reader will be able to readily track objectives, rationale, management actions, and monitoring needs. The following material defines and expands upon these various components:

Objectives— an expression of the desired result of management efforts. Objectives are based on law and regulation, reflecting the direction that management of these lands is projected to follow in the future. Objectives may not be completely met over the life of the land use plan (20 years or more). Funding and staffing levels will affect rates of implementation depending on the cost of prescribed management activities.

Rationale— an expression of the primary reasoning behind why it is important to pursue the stated objective.

Management actions— measures that are to be undertaken in order to attain or achieve the stated objective.

Monitoring needs— information/data collected relevant to determining whether identified resource objectives are being accomplished.

A monitoring plan for each resource area would be developed during the implementation of the land use plan, and would include a monitoring and evaluation schedule. Monitoring has been or will be designed in conjunction with the activity plans, or as needed to monitor specific objectives.

In addition to guidance provided by resource management actions and allocations identified in the alternatives of the SEORMP, the following major processes and steps are needed to implement any proposed site-specific management action which is identified in the plan and/or is consistent with the plan:

- Additional planning/environmental assessment or NEPA adequacy documentation would be completed to identify additional analysis needed to put the decision into effect.
- Manualized procedures would be noted and cited where implementation of a management action is governed by specific procedures defined in manual or an approved handbook.
- Required consultation, coordination, and cooperation with affected parties associated with the allocation or proposed management action would be completed.

Tracking of the plan's implementation will be accomplished primarily through the regular publication of planning updates detailing progress being made in both implementing actions and in accomplishment of objectives. Also, specific tracking mechanisms such as rangeland program summary (RPS), include changes in the Allotment Summary (Appendix E). Updates will be utilized and provide a means of keeping the interested public informed of actions and evaluations.

Desired Range of Future Conditions

The DRFC's described below apply to all alternatives. The DRFC portrays the land, resource, or social and economic conditions that are expected in 50 to 100 years, or more, provided management objectives are achieved. This is a vision of the long-term condition of the ecosystem, and serves as a guide on how the public land will be managed.

- Social and economic systems continue to adjust to population growth. Public land provides commodity and natural resource values that contribute to the local economy and quality of life. Public resources have become increasingly valuable, and management focuses on maintaining important values into the future. This has resulted in changes in the location, amount, and distribution of commodity outputs across the landscape. Traditional industries contribute to local economic activity, as do rapidly growing businesses related to outdoor recreation, high technology, agricultural processing, service, construction, and other nontraditional products and services.

- The area provides a wide variety of recreational opportunities for a growing demand, as the population increases and urban dwellers exhibit a greater desire 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.

- SMA's, such as wilderness, NWSR's, and ACEC's, preserve the integrity of special or unique values over the long term.

- Rangeland vegetation includes a mosaic of multiple-aged shrubs, forbs, and native and desirable nonnative perennial grasses. Shrub overstories are present in a variety of spatial arrangements and scales across the landscape level, including some large contiguous blocks, islands, and corridors. Shrub overstories are present in predominantly mature, late structural status. Plant communities not meeting DRFC's 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 are stable or continue to improve in vigor and distribution.

- 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.

- Western juniper dominance is limited to rock outcrops, ridges, mesas, or other sites where wildfire frequency is limited by site productivity. Western juniper generally occurs in low densities in association with vigorous shrub, grass, and forb species, consistent with site potential. Historic western juniper sites retain old growth characteristics. Quaking aspen communities occupy their historic range and are stable or improving in vigor.

- Wildland and prescribed fire play an active role in defining the composition of vegetation and limit the dominance of woody species.

- Forested land is producing healthy stands of appropriate forest species. Dominant dry forest tree species are Douglas fir, ponderosa pine, and western larch. Stands are predominantly open and are resilient to low-intensity fire; they have only normally

expected levels of disease and insects. Examples of relict stands are retained for research and maintenance of biodiversity.

- 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.

- 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 significantly 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. Stream channels are narrower, water depth and channel meanders are increasing, and developing floodplains are making significant progress in dissipating energy at high-water flows and depositing sediment. Riparian/wetland vegetation is increasing in herbaceous ground cover, 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 which are inconsistent with the physical and biological processes described above have been reduced, and soils and vegetation recover naturally.

- 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 baseflow during late summer and winter.

- Large portions of the landscape have a protective soil cover of deep-rooted plants and litter which supports proper hydrologic function.

- 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 significant 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 significant 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 exhibit the same characteristics that led to the evolution of the unique genetic fish stocks that currently exist. These habitats also support populations of well-distributed native and desired nonnative plant, vertebrate, and invertebrate populations.

- Complex instream structure formed from woody debris, aquatic plants, roots, undercut banks, or boulders, serves as cover for all life cycle stages.

- Biologically diverse habitats are maintained to ensure the presence of organisms and processes necessary to sustain native aquatic communities over the long term. Adequate spatial distribution of these communities is maintained, avoiding habitat fragmentation and allowing for recolonization of populations after disturbance. A diversity of breeding habitats for aquatic species provides clean gravels, quiet backwaters, and emergent and submergent vegetation. Rearing habitats for larvae and fry are available in backwaters, shallow edges, and other protected sites.

Ecosystem-Based Management

Ecosystem-based management can be viewed as hierarchical and occurring at multiple levels. The basic planning levels are (1) the broad scale or regional perspective depicted by the Interior Columbia Basin Ecosystem Management Project (ICBEMP); (2) the mid scale which can be the size of a resource area or several resource areas and is the scale analyzed in the SEORMP/EIS, and (3) the fine scale which can be the size of pastures, allotments, watersheds, subwatersheds, subbasins, or other geographic subunits and is at the level of activity plans such as allotment management plans (AMP's), habitat management plans (HMP's), WQMP's, or other integrated activity plans for geographic units. At each level of planning, implementation is periodically adjusted as management is adapted to changing conditions, circumstances, and new information.

Monitoring and evaluations need to follow the same pattern, answering questions and measuring trends at the various levels. Certain issues and activities within the area can have effects at the broadest level, such as activities that affect air quality, noxious weeds, or wide-ranging species. Other issues or activities, such as forest health, western juniper encroachment, and species endemism, operate within smaller geographic areas. Still other issues or activities are mostly of local concern, such as access management and municipal watersheds. Monitoring strategies need to recognize this hierarchy and provide for data collection and evaluation at the appropriate levels.

Broad Scale

The ICBEMP scientific assessment is a regional level or broad-scale assessment. It covers public land in the RMP planning area of southeast Oregon as well as other lands in eastern Oregon, eastern Washington, Idaho, and parts of Montana. The scientific assessment was used as a context for land use and resource management analysis at lower levels of planning.

ICBEMP Final EIS has developed an ecosystem analysis process to characterize human and ecological features, conditions, process, and interactions within a geographic area. A

program would be developed that would allow information gathered locally to be compiled and analyzed to answer broad regional questions and use regional level assessments to better address broad-scale questions. The analysis would be intended to help estimate direct, indirect, and cumulative effects of management activities and guide the general type, location, and sequence of appropriate management activities within a regional area.

Mid Scale

The step-down from the ICBEMP scientific assessment is the SEORMP. The SEORMP is the mid-scale plan which links broad-scale scientific assessments with plan implementation at the activity level (fine-scale). It covers JRA and Malheur Resource Area (MRA) of the Vale BLM District. The PSEORMP/FEIS is consistent with those scientific and management philosophies developed in the ICBEMP Final EIS.

The record of decision (ROD) for each resource area would include management objectives and priorities for management. Implementation of the RMP would be monitored on a continual basis to allow up-to-date response to changing conditions. Management actions arising from activity plan decisions would be evaluated to ensure consistency with PSEORMP/FEIS objectives.

The SEORMP/EIS starts the step-down process by initiating (1) the collaboration and scoping process, (2) validation of the ICBEMP scientific assessment, (3) prioritization of fine-scale areas for review or assessment and evaluation, and (4) data gap identification. This process is designed to ensure that broad-scale analysis is viewed and validated within the context of local conditions, and it ensures that local decisions are made within the context of broad-scale goals and objectives. This is accomplished by using the best available information from multiple-scale assessments to provide a comprehensive basis for sustainable ecosystem-based management.

Fine Scale

The step-down from PSEORMP/FEIS to the fine scale is the GMA assessment, evaluation, and planning. The GMA's (Table 3-2; Map GMA-1) that would be assessed and evaluated vary in size depending upon watersheds, issues, concerns, dependent resources, resource potentials and capabilities that are reviewed by interdisciplinary teams in each resource area in consultation with the interested public and affected land users. GMA's and their priority for assessment and evaluation were derived primarily from a combination of subbasin and allotment boundaries based on a variety of issues including the following:

- legal mandates ("Clean Water Act"[CWA], ESA, and others);
- priorities established in existing land use plans;
- 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.

This preliminary prioritization and scoping process was presented to and approved by the Southeast Oregon Resource Advisory Council (SEORAC) before inclusion in the SEORMP. It was also sent to the interested public, local, state and Federal agencies, and tribes for comment.

Periodic validation of issues is an important part of fine-scale assessments and evaluations. The schedule for completion of GMA evaluations would be reviewed annually to determine if there have been any changes in resource issues, BLM policies, regulations, law or other

Table 3-2.—*Geographic management area descriptions and priorities by resource area*

Priority	Geographic management area	Allotments	Acres	Estimated stream miles	Issues
Malheur Resource Area					
1	Bully Creek	Cottonwood Creek (10140) Bully Creek (132) West Bench (20104) Allotment No. 2 (10201) Brian Creek (10215) Buckbrush (10218) Boston Horsecamp (113) Willow Basin (10222) Westfall (227) Rail Canyon (10205) Richie Flat (10214) Lava Ridge (10223) Allotment No. 3 (10202) West Clover Creek (10213) Clover Creek Individual (10210) Post Creek Individual (244) Cow Creek Individual (144) Ferriers Gulch (10141) Scratch Post Butte (228) Juniper Mountain (134) Bully Creek Reservoir (10224)	267,681	225	Upland watershed, water quality and quantity, vegetation composition/ structure/diversity/productivity, fisheries, riparian/wetlands, weeds, wildlife habitat, juniper encroachment, recreation, WSA, ACEC's, spotted frogs
2	North Fork Malheur	Whitley Canyon (10216) Chukar Park (225) Buelah Reservoir (10217) Agency Mountain (161) Dearmond/Murphy (10206) Castle Rock (10211) Cottonwood Creek (226) Butte Tree (10212) Malheur River (10219) Lockhart Mountain (224) Ring Butte (10208) Squaw Butte (233) Kivett (133) Bridge Creek West (109)	91,830	16	Upland watershed, bull trout, forestry, spotted frogs, administratively suitable study river, WSA, ACEC's, realty, tribal concerns, juniper encroachment, aspen, riparian, recreation

Table 3-2.—*Geographic management area descriptions and priorities by resource area (continued)*

Priority	Geographic management area	Allotments	Acres	Estimated stream miles	Issues
3	Dry Creek	Freezeout (10404) Chalk Butte (128) Mitchel Butte (10408) Nyssa (10403) Wallrock (405) Butte (308)	315,417	43	Upland watershed, redband trout, spotted frogs, special status plants, vegetation composition/structure/diversity/productivity, riparian, weeds, recreation, administratively suitable study river, ACEC's, WSA's
4	Succor Creek	Tunnel Canyon (10512) Gordon Gulch (513) Board Corrals (10507) Three Fingers (10503) Rockville (10508) Spring Mountain (10504)	271,808	50	Upland watershed, redband trout, spotted frogs, vegetation composition/structure/diversity/productivity, soils, administratively suitable study river, WSA's, ACEC's, riparian, weeds, special status plants, recreation, wild horses
5	Owyhee	Turnbull (303) Quartz Mountain (10406) Blackrocks (10503) Birch Creek (10506) Schnable Creek (10510) Mahogany Mountain (10509) Lodge (10901) McCain Springs (10505)	391,147	37	Upland watershed, recreation, NWSR, WSA's, ACEC's, special status plants, weeds, National Register Historic Properties (Birch Creek Ranch)
6	Sand Hills	Lower Owyhee River (10502) Blackjack (10501) North Harper (402) Vale Butte (413) Vale Butte North (409) South Alkali (20100) Wheel Gulch (149) Bridge Gulch (124) Wickiup Gulch (123) Dry Creek Individual (135) East Moores Hollow (116) King Field (136) Grove Road (10107) Butterfield Spring (150) Becker Creek (10117) Little Valley (10407) Radar Hill (10410)	112,517	7	Upland watershed, realty, fire/fire rehabilitation, soils, special status plants, vegetation composition/structure/diversity/productivity, OHV use, Oregon Trail Historic District, recreation, administratively suitable study river, ACEC's, weeds, deer winter range

Table 3-2.—*Geographic management area descriptions and priorities by resource area (continued)*

Priority	Geographic management area	Allotments	Acres	Estimated stream miles	Issues
7	Mainstem Malheur River	West Oregon Canal (230) Oregon Canal (10209) Allotment No. 4 (10203) Red Hills (10302) Harper (301) Jonesboro (306) Boney Basin (307) Bridge Creek (305) Black Butte (304) Allotment No. 6 (10204) Calf Creek (162) Road Gulch (229) Keeney Creek (10401)	354,447	114	Upland watershed, redband trout, spotted frogs, riparian, deer winter range, vegetation composition/structure/diversity/productivity, WSA's, ACEC's, weeds, wild horses
8	South Fork Malheur River/Stockades	Black Butte (304) South Star Mountain (309) North Star Mountain (310) McEwen (20603) Venator (10605)	273,144	40	Upland watershed, juniper encroachment, riparian, special status plant, ACEC, wild horses

Table 3-2.—*Geographic management area descriptions and priorities by resource area (continued)*

Priority	Geographic management area	Allotments	Acres	Estimated stream miles	Issues
9	Willow Creek	Willowcreek (20105) Canal (152) Cottonwood Mountain (20102) Sheep Corral Creek (122) Thorn Flat (127) Poall Creek (20103) Dry Gulch (129) Canyon Creek (151) Phipps Creek (125) Jamieson (10106) Phipps Creek East (137) Phipps Creek North (139) Alkali Spring (20101) Brogan Canyon (148) Boswell Spring (120) Amelia Butte (10155) Cow Valley (115) Lyman Creek (111) Reservoir Butte (110) Malheur Reservoir (118) Bridge Creek East (145) Shasta Butte (154) Malheur City (130) Golden Eagle Mine (108) Alder Creek (143) Baldy Mountain (131) Boulder Creek (138) Ironside School (10142) Middle Willow Creek (121) Lost Valley (119) Ring Butte (10208) South Willow Creek (153) Ironside Mountain (112)	98,798	40	Upland watershed, riparian, weeds, scattered realty tracts

Table 3-2.—*Geographic management area descriptions and priorities by resource area (Continued)*

Priority	Geographic management area	Allotments	Acres	Estimated stream miles	Issues
Jordan Resource Area					
1	Louse Canyon	Campbell (11306) Louse Canyon (01307) Anderson (01401) Star Valley (01402)	521,451	179.4	Upland watershed, NWSR, WSA's, ACEC, riparian, weeds
2	Trout Creek	15 Mile (01201) McCormick (01202) Zimmerman (01203) Whitehorse Butte (01206)	530,214	251.1	Upland watershed, riparian, T&E species (fish), WSA's, ACEC's, archeology, wildlife, weeds, recreation, wild horses
3	Saddle Butte	Saddle Butte (20805)	175,579	27.6	Upland watershed, NWSR, WSA's, ACEC's, weeds, wild horses, special status plants
4	Jackies Butte	Jackies Butte Summer (01101) Ambrose Maher (01102)	213,087	56.6	Upland watershed, NWSR, WSA's, weeds, wild horses, riparian, recreation
5	Soldier Creek	Wroten (11003) Willow Creek (11004) Whitehorse (11008) Rattlesnake Cave (21003) Parsnip Peak (11009) Cherry Creek (11014) Big Horn (11005) Arock (21001) Little Antelope (11015) Antelope (21002)	237,860	21.8	Upland watershed, NWSR, WSA's, weeds, wildlife, riparian, recreation
6	Rattlesnake	Eiguren (11305) Albisu-Alcorta (01304) Sherburn (11303) Echave (21302) Ten Mile (01308) Gilbert (21301)	203,593	83.1	Upland watershed, riparian, wildlife

Table 3-2.—*Geographic management area descriptions and priorities by resource area (continued)*

Priority	Geographic management area	Allotments	Acres	Estimated stream miles	Issues
7	Cow Creek	Antelope Individual (11011) Danner Individual (11013) East Cow Creek (10903) Eiguren Individual (11006) Miller Individual (11012) Oliver (10905) Rome Individual (11007) Skinner Individual (11010) Bogus Creek (10904) Morcum (10907) West Cow Creek (20902)	235,728	6.3	Upland watershed, NWSR, WSA's, weeds, wildlife, riparian, recreation, ACEC
8	Barren Valley	Bowden Hills (10803) Coyote Lake (10804) Barren Valley (10801) Black Hill (01309) Jackies Butte West (01103) Crooked Creek (10806) Sheepheads (10702)	433,312	0.9	Upland watershed, WSA's, noxious weeds, wild horses, riparian, recreation, wildlife

concerns that would warrant a change in the priorities for each resource area. It is anticipated that management actions implemented in each GMA would be evaluated at least once every ten years by an interdisciplinary team. Based on recommendations of those evaluations, current activity plans within each GMA would be revised or rewritten as necessary to ensure consistency with RMP objectives. Work would focus on higher priority areas; however, other areas may require interim attention to address site-specific needs.

Consultation and collaboration with interested public, affected land users, other agencies, counties, Tribes, and others is an important part of the process to help identify issues and to bring together all the existing information concerning a given area. Information assembled during the assessment would be evaluated to determine appropriate management actions at the fine scale. These evaluations would be done using an ecosystem analysis process that looks at human and ecological features, conditions, processes, and interactions. The evaluation process would also involve consultation and collaboration with affected parties. It is during this time that priorities for actions regarding restoration, conservation, or other management actions would be discussed.

The end result of the GMA evaluation process would be the development of recommendations for future actions affecting the management of resources and uses in the GMA. Recommendations on management changes may be implemented through activity plans, management agreements, or direct decisions and would depend on the complexity of issues.

Adaptive Management

The PSEORMP/FEIS is based on adaptive management, which is a continuing process of planning, implementation, monitoring, and evaluation, to adjust management strategies to meet goals and objectives of ecosystem-based management. The concept of adaptive management uses the latest scientific information, site-specific information/data, and professional judgment to select the management strategy most likely to meet goals and objectives. The concept also acknowledges the need to manage resources under varying degrees of uncertainty as well as the need to adjust to new information. Through continually adjusting management strategies as needed, supported by monitoring or additional information, adaptive management would result in attainment of short- and long-term trend toward meeting objectives. Adaptive management provides the capability to respond quickly to monitoring data with consideration given to past season monitoring or preseason conditions. It also allows changes needed to meet long-term objectives of the RMP including direction from the “Wild and Scenic Rivers Act” (WSRA), ESA, CWA, and “Standards of Rangeland Health and Guidelines for Livestock Grazing Management” (S&G’s).

Although there is widespread support for the adaptive management principle and process, many critics lack confidence in the Bureau’s ability to implement management based on this process. Thus, it is imperative that the each part of the cyclical process be implemented on schedule or as new data become available to ensure that appropriate management of public land resources is implemented. To ensure timely step-wise progression through the adaptive management process, GMA’s would be used to prioritize available funding. The detail, methodology, and intensity of studies chosen for a particular area would be determined by the nature and severity of the resource conflicts present in that area. As a result, a flexible monitoring plan is required to periodically change priorities and monitoring intensity, based on significant changes that indicate a need for more information.

The following briefly describes the four parts of adaptive management:

1) *Planning/Decision*—Plan development or revision is the process which includes decision-making. It starts with issue identification and goal development. The next step is to gather information necessary to develop alternatives for management direction that address the

issues and goals. The final stage of planning is to develop alternative management strategies to address issues and meet the management goals and objectives, analyze the consequences of the alternatives, and choose a management strategy and actions for implementation.

2) *Implementation*—Plan implementation is the process of putting decisions into effect. Objectives are defined as indicators used to measure progress toward attainment of goals. They address short- and long-term actions taken to meet goals and the DRFC. Unless otherwise stated, all objectives listed in the RMP are assumed to be implemented within the life of the plan.

3) *Monitoring*— Monitoring is the orderly collection, analysis, and interpretation of resource data utilized to evaluate progress in meeting management objectives. Inventories and surveys are integral parts of monitoring and would be initiated as need is defined. Information gathered in the inventory and survey process form a baseline from which trends can be measured.

Monitoring efforts provide information to: (1) determine if planned activities have been implemented; (2) detect magnitude and duration of change in conditions and trends; (3) increase understanding of cause and effect relationships; (4) predict impacts; and (5) assess whether S&G's are being met. If monitoring studies indicate that objectives are not being met, or that progress is not being made toward meeting the S&G's, management actions would be adjusted accordingly (see Appendix Q). The specific type and location of studies instituted would be more specifically identified within individual activity plans.

Methods of monitoring are briefly identified for each program in the narrative of Chapter 3 and expanded in Appendix W, Monitoring. Monitoring methods in some programs are not expanded in the monitoring appendix since they are not key components of rangeland health assessments. At times, data pertinent to these programs are essential on a site-specific basis (such as cultural, mining, social/economic values) and can be a part of the evaluation based on the situation. Methodology and intensity of studies that are chosen for a particular area or scale would be determined by the nature and severity of the resource conflicts that are present.

For monitoring data to be meaningful and useful over time, there must be consistency in the kinds and manner in which data are collected. However, a need for changes in sampling may occasionally arise when problems are detected. This could be during a review of the data collected, when analyzing and interpreting the data, or when conducting an assessment or evaluation.

4) *Evaluation/Assessment*— Analysis and interpretation of inventory and monitoring data are central to identifying progress in meeting resource management objectives outlined in the RMP and activity plans. There are three aspects of evaluation/assessment. The first is evaluation of whether planned actions have been implemented. The second is evaluation of the resource-specific information/data to determine whether identified management objectives are being accomplished. The third aspect is the evaluation of plans to determine whether identified management objectives and management actions remain appropriate to public desires or if plans need to be revised or amended.

The analysis and interpretation of inventory and monitoring data are critical in the evaluation of management actions in order to determine progress in meeting resource management objectives outlined in the plan. Since management adjustments may be needed periodically, a continual feedback loop based on new information would allow for mid-course corrections at time intervals appropriate to the systems, processes, and functions analyzed.

The final stage of evaluation is the development of recommendations for changing current management actions, as needed, to meet objectives and ecosystem-based management goals. Adjustments should be related to implementation of activity plan objectives, standards and

guidelines, and monitoring needs. Recommendations should be used to modify land use plans, if needed, thus continuing the adaptive management cycle. The "Annual Planning Update," or its equivalent, will keep the interested public informed of actions and evaluations.

Overview of the Alternatives

The Draft SEORMP/EIS described and analyzed five alternatives for management of public land in the planning area. In consideration of public comments received on the draft, and in response to internal and other agency recommendations and direction, the following changes were made.

In the draft, Alternative E was "To minimize intervention and maximize natural values." This basically was analyzed as not having any commodity production/extraction and minimal management of recreation, wild horses, etc. The concern expressed was that of having an alternative that removes livestock, not from all areas but from specific, special areas, and not to have Alternative E as an unrealistic or "straw" alternative. Therefore, Alternative D2 was developed to go a step between Alternatives D and E, and Alternative E modified to provide management of resources while removing commodity uses. The Proposed RMP alternative is primarily developed by modifying or adapting the preferred alternative (Alternative C) from the draft.

Seven alternatives are described and analyzed in detail in this PSEORMP/FEIS. Each alternative consists of four general elements. The first element is the overall theme, ranging from emphasis on commodity production to emphasis on natural values and systems. The second consists of each of the individual resources or resource programs (such as air, water, soil, recreation, vegetation). The third consists of the individual management objectives within each of the resource programs. The fourth is the collection of management actions necessary to achieve the individual management objectives of each resource program. Each of the resource-specific management actions is considered in combination with all other objectives and actions to arrive at a desired future condition. The overall themes thus determine the types of management actions that would be applied.

Alternatives, with the exception of Alternative E, will generally meet the objectives that have been identified for all resources. However, there are differences between alternatives. These differences have to do with how fast the objective is being met, the degree to which the objective is being met, the priorities within the objective, the emphasis placed on different management activities, and identifying what society is willing to forego. Some areas can be improved with additional funding, some with management changes, and some with a combination of both.

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

The management objectives associated with the alternatives may not be completely met over the life of the plan (up to 20 years). Funding and staffing levels will affect rates of implementation, and projected implementation rates may vary from alternative to alternative, depending on the cost of prescribed management activities.

Alternatives Considered

Alternative A

This alternative emphasizes commodity production or extraction. Under this alternative, constraints on commodity production for the protection of sensitive resources would be the least restrictive possible within the limits defined by law, regulation, and BLM policy. Potential impacts to sensitive resource values would be mitigated on a case-by-case basis.

Alternative B

This alternative represents current management, or the no action alternative required by NEPA regulations. It is based on implementation of the Malheur and Jordan Management Framework Plans (MFP's), as amended. It incorporates the livestock grazing program decisions in the Ironside and Southern Malheur Grazing Management EIS's, as well as associated rangeland program summaries and updates. Resource values or sensitive habitats would receive management emphasis at present levels.

Alternative C

This alternative was developed by the Vale District interdisciplinary planning team and was the agency's preferred alternative in the draft. It identified management actions for a high level of natural resource protection and improvement in ecological conditions while providing commodity production. Additional constraints to commodity production would be implemented to protect sensitive resources, but such management generally would be of a lesser degree than under Alternative D.

Alternative D

This alternative emphasizes natural values and the functioning of natural systems. Commodity production would be substantially constrained to protect sensitive resources or accelerate improvement in their condition.

Alternative D2

This alternative would exclude commodities and certain other public uses from areas with sensitive resource values, while emphasizing the functioning of natural systems.

Alternative E

This alternative would exclude commodity uses and limit other public uses, while emphasizing the functioning of natural systems. In contrast to Alternative D and D2, this alternative would authorize no commodity production and would include only those actions necessary to maintain natural values. *Note: Alternative E differs from other alternatives in that road maintenance is limited to corrective maintenance to meet management objectives for noxious weeds, fire (protection of human life and property), congressional designations, and wild horses.*

Proposed RMP

This alternative is the agency proposed alternative—Proposed Resource Management Plan (referred to throughout the narratives as Proposed RMP, and abbreviated in the tables as PRMP). It was primarily developed by modifying or adapting the Draft SEORMP/EIS preferred alternative following review and consideration of public, staff, and interagency comments received on the Draft SEORMP/EIS, and consideration of all alternatives in the PSEORMP/FEIS. This alternative allows for a high level of natural resource protection and improvement in ecological conditions while providing for commodity production.

Resource Management Alternatives

Table 3-1 briefly outlines the major features of each alternative, organized by resource or resource program. The narrative following the table states the objective and rationale for each objective, and, where necessary, provides a more detailed description of management actions by alternative. The effects of these management actions by alternative result in the projected environmental consequences analyzed in Chapter 4.

Reader note: *For most programs, Table 3-1 is only a summary of resource management alternatives—for additional detail, refer to the Resource Management Alternatives section following this table.*

Table 3-1.—*Objectives and management directives by alternative*

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
AIR RESOURCES						
Objective: Meet or exceed the "National Ambient Air Quality Standards" and the "Prevention of Significant Deterioration" with all authorized actions.						
Limit prescribed burning in rangeland areas to 30,000 acres per year and forested areas to 300 acres per year or the equivalent of 337,500 tons of fuel per year.	Limit prescribed burning in rangelands to 4,000 acres per year and forested areas to 150 acres per year or the equivalent of 49,200 tons of fuel per year.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Allow natural fire processes to operate in the ecosystem.	Use prescribed burning to treat rangeland areas to 30,000 acres per year and forested areas to 300 acres per year or the equivalent of 337,500 tons of fuel per year.
ENERGY AND MINERAL RESOURCES						
Objective 1: Provide opportunities for exploration and development of leasable energy and mineral resources while protecting other sensitive resources. *Designated national wild and scenic rivers (NWSR's), the Steens Mountain Cooperative Management and Protective Area (SMCMPA) mineral withdrawal, and wilderness study areas (WSA's) are closed by congressional action for 1,346,026 acres. These acres are not displayed or analyzed, except those portions of special management areas (SMA's) that would be closed if Congress released that area from wilderness consideration.*						
1. Keep the planning area open to energy and mineral leasing, except in ACEC's listed as no lease (see), and additions to WSA's. Approximately 3,280 acres would be closed to energy and mineral leasing.	1. Keep the planning area open to energy and mineral leasing, except in ACEC's listed as no lease (see Table 3-12) and streams administratively suitable for designation as wild under the national wild and scenic river system (NWSRS) (see Table 3-13). A total of 58,439 acres would be closed to energy and mineral leasing.	1. Keep the planning area open to energy and mineral leasing, except in ACEC's listed as no lease (see Table 3-12), streams administratively suitable for designation as wild under the NWSRS (see Table 3-13), and additions to WSA's. Approximately 11,068 acres would be closed to energy and mineral leasing.	1. Keep the planning area open to mineral leasing, except in ACEC's listed for no lease (see Table 3-12), streams administratively suitable for designation as wild under the NWSRS (see Table 3-13), additions to WSA's. Approximately 47,954 acres would be closed to energy and mineral leasing.	1. Keep the planning area to mineral leasing, except in ACEC's (see Table 3-12), streams administratively suitable for designation as wild under the NWSRS as described in Alternative C (see Table 3-13), and additions to WSA's. Approximately 269,444 acres would be closed to energy and mineral leasing.	1. Close the entire planning area to energy and mineral leasing.	1. Keep the planning area open to energy and mineral leasing, except in ACEC's listed as no lease (see Table 3-12), streams administratively suitable for designation as wild under the NWSRS (see Table 3-13), and additions to WSA's. Approximately 11,068 acres would be closed to energy and mineral leasing.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
2. Apply a no surface occupancy (NSO) stipulation to ACEC's specified for NSO in Alternative A (see Table 3-12), to streams administratively suitable for designation as scenic or recreational under the NWSRS in Alternative A (see Table 3-13), and within the Succor Creek Special Recreation Management Area (SRMA). The NSO stipulation would be applied on approximately 45,587 acres	2. Areas where an NSO stipulation is to be applied would be identified prior to leasing in order to protect sensitive areas, including the ACEC's specified for NSO under Alternative B (see Table 3-12), and the Oregon Trail (1,032 acres) (see Table 3-3). The NSO stipulation would be applied on 2,022 acres unless site-specific analysis indicates otherwise.	2. Apply an NSO stipulation to ACEC's specified for NSO in Alternative C (see Table 3-12), to streams administratively suitable for designation as scenic or recreational under the NWSRS in Alternative C (see Table 3-13), and selected special status plant sites near Harper. The NSO stipulation would be applied on approximately 224,756 acres.	2. Apply an NSO stipulation to ACEC's specified for NSO (see Table 3-12), to streams administratively suitable for designation as scenic or recreational under the NWSRS in Alternative D (see Table 3-13), within the Succor Creek SRMA, and within selected special status plant sites near Harper. The NSO stipulation would be applied on approximately 272,770 acres.	2. Apply an NSO stipulation to streams, administratively suitable for designation as scenic or recreational under the NWSRS as described in Alternative C (see Table 3-13), within the Succor Creek SRMA, and within selected special status plant sites near Harper. The NSO stipulation would be applied on approximately 15,524 acres.	2. Close the entire planning area to energy and mineral leasing.	2. Apply an NSO stipulation to ACEC's specified for NSO (see Table 3-12), to streams administratively suitable for designation as scenic or recreational NWSR's in Alternative D (see Table 3-13), and within selected special status plant sites near Harper, and the Succor Creek SRMA. The NSO stipulation would be applied on approximately 179,916 acres.
3. Apply a seasonal and/or other special stipulations (such as controlled surface use) to ACEC's listed as open with special (OWS) stipulations under Alternative A (see Table 3-12), within 0.5-mile of identified sage grouse leks, big game winter range (elk, mule deer, pronghorn antelope, and California bighorn sheep), areas of special status species and their habitats, and riparian conservation areas (RCA's). Seasonal and/or special stipulations would be applied on approximately 2,286,205 acres (see Tables 3-3a and 3-3b).	3. Areas where a seasonal and/or other special stipulation would be applied would be identified prior to leasing.	3. Apply a seasonal and/or other special stipulations (such as controlled surface use) to ACEC's listed as OWS under Alternative C (see Table 3-12), within 0.5-mile of identified sage grouse leks, big game winter range (elk, mule deer, pronghorn antelope, and California bighorn sheep), areas of special status plant and animals species and their essential habitats, and RCA's. A seasonal and/or other special stipulation would be applied on approximately 2,150,350 acres (see Tables 3-3a and 3-3b).	3. Apply a seasonal and/or other special stipulations (such as controlled surface use) to ACEC's listed as OWS under Alternative D (see Table 3-12), within 0.5-mile of identified sage grouse leks, big game winter range (elk, mule deer, pronghorn antelope, and California bighorn sheep), areas of special status plant and animal species and their essential habitats, and RCA's. A seasonal and/or other special stipulation would be applied on approximately 2,089,723 acres (see Tables 3-3a and 3-3b).	3. Apply a seasonal and/or other special stipulations (such as controlled surface use) in big game winter range (elk, mule deer, pronghorn antelope, and California bighorn sheep), within 0.5-mile of identified sage grouse leks, in areas of special status plant and animal species and their essential habitats, and RCA's. A seasonal and/or other special stipulation would be applied on approximately 2,035,246 acres (see Tables 3-3a and 3-3b).	3. Close the entire planning area to energy and mineral leasing.	3. Apply a seasonal and/or other special stipulations (such as controlled surface use) to ACEC's listed as OWS (see Table 3-12), within 0.5-mile of identified sage grouse leks, big game winter range (elk, mule deer, pronghorn antelope, and California bighorn sheep), areas of special status plant and animals species and their essential habitats, and RCA's. A seasonal and/or other special stipulation would be applied on approximately 2,109,014 acres (see Tables 3-3a and 3-3b).

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Objective 2: Provide opportunities for exploration and development of locatable mineral resources while protecting other sensitive resources. *Designated wild segments of national wild and scenic rivers (NWSR's) and the Steens Mountain Cooperative Management and Protective Area (SMCMPA) mineral withdrawal are closed to mineral location by congressional action for 149,359 acres. No surface-disturbing mineral activity requiring reclamation is authorized in wilderness study areas (WSA's) (1,277,464 acres) unless the operation has "grandfathered" or "valid existing" rights. These acres are not analyzed, except those portions of special management areas (SMA's) that would be withdrawn if Congress released the area from wilderness consideration.*						
Keep the planning area open to mineral location and development, except withdrawal would be pursued for ACEC's listed as withdrawal (see Table 3-12), for developed BLM administrative and recreation sites (see Table 3-4), and for proposed BLM recreation sites when development is approved. Surface-disturbing activities requiring reclamation would not be allowed on additions to WSA's unless grandfathered or valid existing rights are established. Approximately 40,064acres would be unavailable for mineral development unless site-specific analysis indicated otherwise.	Keep the planning area open to mineral location and development, except withdrawal would be pursued in streams administratively suitable for designation as wild under the NWSRS (see Table 3-13). A total of 996 acres would be unavailable for mineral development.	Keep the planning area open to mineral location and development, except withdrawal would be pursued for ACEC's listed as withdrawal (see Table 3-12), for streams administratively suitable for designation as wild under the NWSRS (see Table 3-13), developed BLM recreation and administrative sites (see Table 3-4), for proposed BLM recreation sites when development is approved, and for special status plant sites near Harper. Surface-disturbing activities requiring reclamation would not be allowed on additions to WSA's unless grandfathered or valid existing rights are established. Approximately 161,565 acres would be unavailable for mineral development unless site-specific analysis indicated otherwise.	Keep the planning area open to mineral location and development, except withdrawal would be pursued for ACEC's listed as withdrawal (see Table 3-12), for streams administratively suitable for designation as wild under the NWSRS (see Table 3-13), for developed BLM recreation and administrative sites (see Table 3-4), for proposed BLM recreation sites when development is approved, for the Succor Creek SRMA, and special status plant sites near Harper. Surface-disturbing activities requiring reclamation would not be allowed on additions to WSA's unless grandfathered or valid existing rights are established. Approximately 269,747 acres would be unavailable for mineral development unless site-specific analysis indicated otherwise.	Keep the planning area open to mineral location and development, except withdrawal would be pursued for ACEC's (see Table 3-12), for streams administratively suitable as wild under the NWSRS (see Table 3-13), for developed BLM recreation and administrative sites (see Table 3-4), for proposed BLM recreation sites when development is approved, for the Succor Creek SRMA, and special status plant sites near Harper. Surface-disturbing activities requiring reclamation would not be allowed on additions to WSA's unless grandfathered uses or valid existing rights are established. Approximately 282,805 acres would be unavailable for mineral development unless site-specific analysis indicated otherwise.	Withdraw the entire planning area from mineral location.	Keep the planning area open to mineral location and development, except withdrawal would be pursued for ACEC's listed as withdrawal (see Table 3-12), for streams administratively suitable for designation as wild under the NWSRS (see Table 3-13), developed BLM recreation and administrative sites (see Table 3-4), for proposed BLM recreation sites when development is approved, and for special status plant sites near Harper. Surface-disturbing activities requiring reclamation would not be allowed on additions to WSA's unless grandfathered or valid existing rights are established. Approximately 127,419 acres would be unavailable for mineral development unless site-specific analysis indicated otherwise.

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Objective 3: Provide for public demand for saleable minerals from public land while protecting sensitive resources. *The Steens Mountain Cooperative Management and Protective Area (SMCMPA) mineral withdrrawal (100,352 acres) is closed to saleable mineral disposal by congressional action. Wilderness study areas (WSA's) and designated national wild and scenic rivers NWSR's are closed to saleable mineral disposal by Bureau of Land Management (BLM) policy for 1,280,504 acres. These acres are not analyzed, except for special management areas (SMA's) that would be closed if Congress released the area from wilderness consideration.*						
Keep the planning area open to saleable mineral development except in areas where unacceptable conflicts exist, as determined by interdisciplinary site-specific review. Saleable minerals would not be permitted in ACEC's listed as closed to saleable mineral development in Alternative A (see Table 3-12), in streams administratively suitable for inclusion in the NWSRS, in additions to WSA's, in Harper and other special status plant sites, in significant cultural sites, in BLM administrative sites, in developed and potential BLM recreation sites, in RCA's, and within the Succor Creek SRMA. Approximately 98,996 acres would be closed to saleable mineral development.	Keep the planning area open to saleable mineral development except in areas where unacceptable conflicts exist, as determined by interdisciplinary site-specific review. Saleable minerals would not be permitted in ACEC's listed as closed to saleable mineral development in Alternative B (see Table 3-12), and in streams administratively suitable for inclusion in the NWSRS. Approximately 62,201 acres would be closed to saleable mineral development.	Keep the planning area open to saleable mineral development except in areas where unacceptable conflicts exist, as determined by interdisciplinary site-specific review. Saleable minerals would not be permitted in ACEC's listed as closed to saleable mineral development in Alternative C (see Table 3-12), in streams administratively suitable for inclusion in the NWSRS, in additions to WSA's, in Harper and other special status plant sites, in significant cultural sites, in RCA's, in BLM administrative sites and developed and potential BLM recreation sites. Approximately 230,081 acres would be closed to saleable mineral development.	Keep the planning area open to saleable mineral development except in areas where unacceptable conflicts exist, as determined by interdisciplinary site-specific review. Saleable minerals would not be permitted in ACEC's listed as closed to saleable mineral development in Alternative D (see Table 3-12), in streams administratively suitable for inclusion in the NWSRS, in additions to WSA's, in Harper and other special status plant sites, in significant cultural sites, in BLM administrative sites, in developed and potential BLM recreation sites, in RCA's, and in Succor Creek SRMA. Approximately 312,871 acres would be closed to saleable mineral development.	Same as Alternative D, except that approximately 291,777 acres would be closed to saleable mineral development.	Close the planning area to saleable mineral development.	Keep the planning area open to saleable mineral development except in areas where unacceptable conflicts exist, as determined by interdisciplinary site-specific review. Saleable minerals would not be permitted in ACEC's listed as closed to saleable mineral development in Alternative C (see Table 3-12), in streams administratively suitable for inclusion in the NWSRS, in additions to WSA's, in Harper and other special status plant sites, in significant cultural sites, in BLM administrative sites and developed and potential BLM recreation sites, in RCA's, and in Succor Creek SRMA. Approximately 194,413 acres would be closed to saleable mineral development.

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FIRE						
Objective 1: Provide an appropriate management response (AMR) on all wildfires, with emphasis on minimizing suppression costs, considering fire fighter and public safety, benefits, and values to be protected consistent with resource objectives.						
Provide an AMR of aggressive initial attack, full suppression on all natural or human-caused fire ignitions.	Provide an AMR of initial attack, full suppression on all fires, ensuring that fire and resource standards and objectives, as identified in the current fire management plan (FMP), would be met.	Provide AMR on all fires. Response to be based on preplanned fire criteria and resource objectives (Appendix M).	Provide AMR based on criteria identified in Appendix M, emphasizing only the protection of sensitive resource values, human life, and private , State, and other Federal property.	Provide AMR on all fires. Response to be based on preplanned fire criteria and resource objectives with emphasis only on the protection of sensitive resource values, human life, and other Federal, State, and private property (Appendix M).	Provide AMR with emphasis on suppressing fires only to protect human life and other Federal, State, and private property, and in annual grasslands.	Provide AMR on all fires. Response to be based on preplanned fire criteria and resource objectives (Appendix M).
Objective 2: Recognize fire as a critical natural process and use it to protect, maintain, and enhance resources.						
Emphasize the use of prescribed fire to optimize the forage base and meet resource objectives.	Use prescribed fire as needed to meet resource objectives.	Where determined appropriate, use prescribed fire to meet resource objectives.	Emphasize use of wildland fire. Provide for limited use of prescribed fire to meet resource objectives.	Emphasize use of wildland fire. Provide for limited use of prescribed fire to meet resource objectives.	No prescribed fire.	Where determined appropriate, use prescribed or wildland fire to meet resource objectives.
RANGELAND VEGETATION						
Objective 1: 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.						
1. Optimize forage production from vegetation communities within the constraints of other resource management objectives.	1. Improve ecological condition and increase forage production through the development and implementation of economically feasible grazing systems and range improvements.	1. Maintain or restore natural values while providing for forage production.	1. Emphasize natural values associated with the diverse composition and structure of vegetation.	1. Same as Alternative D.	1. Allow natural processes to define vegetation composition across the landscape.	1. Maintain or restore natural values while providing for forage production.
2. Restore health and vigor to existing nonnative seedings in poor or fair condition. Maintain the vegetative composition of healthy rangeland to ensure continued forage production consistent with other management objectives of Alternative A.	2. Maintain vegetative composition of nonnative seedings to ensure continued forage production for the purpose established.	2. Implement actions to diversify structure and composition of nonnative seedings. Provide for and maintain forage production consistent with other resource objectives.	2. Same as Alternative C with emphasis on natural values and forage production as consistent with meeting all management objectives.	2. Same as Alternative D.	2. Allow natural processes to define vegetation composition.	2.Provide for and maintain forage production as consistent with resource objectives. Implement actions to diversify structure and composition of nonnative seedings and to convert nonnative seedings to a greater dominance by native species as consistent with management objectives.

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3. Rehabilitate and establish plant communities that are held in a condition not meeting DRFC's due to dominance by annual, weedy, or woody species. Emphasize the rehabilitation of at-risk rangeland following wildfire or prescribed fire to direct vegetation diversity, structure, and composition toward DRFC's whenever natural recovery would not lead toward desired conditions within 10 years. Seed mixes would emphasize forage-producing perennials that support livestock production and other commodity values.	3. Implement vegetation manipulation projects consistent with existing management objectives in the three resource areas. Rehabilitate or revegetate areas burned by wildfire to protect soil, water, and vegetation resources or to prevent unacceptable on- or off-site damages. Rehabilitate areas burned by prescribed fire to meet objectives of the burn.	3. Same as Alternative A with a preference for use of adapted perennial species based on a need for a high probability of seeding success, risk associated with poor establishment, and watershed stabilization potential. Configure treatments to maintain natural values and provide for commodity production as consistent with other management objectives.	3. Same as Alternative A with species mixes for seedings limited to native perennial species only. Configure treatments to enhance visual resources and emphasize natural values as consistent with other management objectives.	3. Same as Alternative D.	3. Allow natural processes to define vegetation composition within all plant communities. No vegetation rehabilitation would be implemented following wildland fire except to protect life and private property values.	3. Rehabilitate and establish plant communities that are held in a condition not meeting DRFC's due to dominance by annual, weedy, or woody species. Emphasize the rehabilitation of at-risk rangeland following wildfire or prescribed fire to direct vegetation diversity, structure, and composition toward DRFC's whenever natural recovery would not lead toward desired conditions within 10 years. Preferred seed mixes would be for use of adapted perennial native or nonnative species based on a need for a reasonable probability of seeding success, risk associated with poor establishment, and watershed stabilization potential. Configure treatments to maintain natural values and provide for commodity production as consistent with other management objectives.

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4. Defer use during the growing season for 2 years minimum following wildfire or prescribed fire or until monitoring data or professional judgment indicates that desired vegetation and litter accumulation have recovered to levels that would be adequate to support and protect upland functions. Provide for appropriate grazing use of healthy perennial vegetation communities or areas dominated by annuals prior to the two growing season limit as consistent with objectives.	4. Following fire, rehabilitated areas would be closed to grazing for at least two growing seasons. Exceptions may be justified on a case-by-case basis.	4. Rest burned areas for one full year and through a second growing season, at a minimum, or until monitoring data or professional judgment indicates that desired vegetation has recovered to levels that would be adequate to support and protect upland functions. Healthy nonnative perennial communities or communities dominated by annuals may be grazed prior to two growing seasons only if that action would enhance attainment of management objectives.	4. Rest burned areas at least one full year and through a second growing season, and until monitoring data indicate that desired vegetation has recovered to levels that would be adequate to support and protect upland functions.	4. Same as Alternative D.	4. No livestock grazing would be authorized.	4. Rest burned areas for one full year and through a second growing season, at a minimum, and until monitoring data or professional judgement indicates that desired vegetation has recovered to levels that would be adequate to support and protect upland functions. Healthy nonnative perennial communities or communities dominated by annuals may be grazed prior to two growing seasons only if that action would enhance attainment of management objectives.
5. Restore the frequency, distribution, and ecological integrity of native stands of mountain shrubs where consistent with commodity production and other management objectives.	5. Maintain or improve deer/antelope winter range.	5. Restore the frequency, distribution, and ecological integrity of native stands of mountain shrubs where site potential would support these species consistent with attainment of DRFC and management objectives.	5. Same as Alternative C.	5. Same as Alternative C.	5. Allow natural processes to define vegetation composition within sites with the potential to support mountain shrubs and quaking aspen.	5. Restore the frequency, distribution, and ecological integrity of native stands of mountain shrubs where site potential would support these species, consistent with attainment of DRFC and management objectives.
6. Same as Alternative B.	6. Establish appropriate firebreaks to protect at-risk annual rangeland using nonnative perennial and native species. Use economical seed mixes and methods available for establishment of effective firebreaks.	6. Establish appropriate firebreaks to protect at-risk annual rangeland from frequent fire using adapted perennial native and nonnative species. Emphasize project configurations and seeding methods that maintain natural values.	6. Establish appropriate firebreaks to protect at-risk annual rangeland from frequent fire using only native species. Emphasize project configurations and seeding methods that enhance natural values.	6. Same as Alternative D.	6. Establish no unnatural firebreaks except to protect life and private property values.	6. Establish appropriate firebreaks to protect at-risk annual rangeland from frequent fire using adapted perennial native or nonnative species. Emphasize project configurations and seeding methods that maintain and/or enhance natural values.

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Objective 2: Manage big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife.						
1. Reestablish big sagebrush habitat on native rangeland or seedings where game species would be present.	1. Determine variable desired conditions of big sagebrush cover on a case-by-case basis. Do so in cooperation with ODFW to provide mosaics of sagebrush cover on portions of big game habitat. Some limited emphasis on specifically providing habitat for nongame wildlife.	1. Manage big sagebrush habitat for shrub cover, structure, and forage values in most seedings and native range for the benefit of game and nongame wildlife (see Wildlife Habitat Descriptions and Considerations, Appendix F).	1. Same as Alternative C, except that DRFC's would apply to all native range or seeded areas in big sagebrush habitats throughout the planning area.	1. Same as Alternative D.	1. Future big sagebrush conditions would be variable and would be determined exclusively by natural processes.	1. Manage big sagebrush habitat for shrub cover, structure, and forage values in most seedings and native range for the benefit of game and nongame wildlife (see Wildlife Habitat Descriptions and Considerations, Appendix F).
Objective 3: Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.						
1. Same as Alternative B.	1. Apply approved noxious weed control methods in an integrated weed management program (including preventive management, as well as mechanical, biological, and chemical control techniques). Do so in cooperation with the State of Oregon, other adjacent states, Federal agencies, affected counties, adjoining private landowners, and other interests directly affected.	1. Same as Alternative B.	1. Same as Alternative B.	1. Same as Alternative B.	1. Same as Alternative B.	1. Apply approved noxious weed control methods in an integrated weed management program (including preventive management, as well as mechanical, biological, and chemical control techniques). Do so in cooperation with the State of Oregon, other adjacent states, Federal agencies, affected counties, adjoining private landowners, and other interests directly affected.

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FOREST AND WOODLANDS						
Objective 1: Manage forests 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 forest. Increase the dominance of ponderosa pine, Douglas fir, and western larch on appropriate sites in mature forests. Decrease the amount of Douglas fir, white fir, and grand fir where they were not historically maintained by the dominant fire regime. Manage forests for long-term, healthy habitat for animal and plant species. Provide for timber production where feasible and compatible with forest health.						
1. Use commercial production and other management techniques to achieve site-specific objectives, including timber production, forest health, and maintenance of wildlife habitat and biodiversity. Approximately 4,407 acres would be available for timber harvest.	1. Manage forested land outside of the Castle Rock Habitat Management Plan (HMP) area for an allowable sale quantity of 244,000 board feet per year on 1,057 acres. Within the Castle Rock area, timber harvest is allowed to enhance big game habitat.	1. Use commercial production and other management techniques to achieve site-specific objectives, including timber production, forest health, and maintenance of wildlife habitat and biodiversity. Approximately 2,644 acres would be available for timber harvest.	1. Use only nonharvest management techniques to achieve site-specific objectives, including forest health and maintenance of wildlife habitat and biodiversity.	1. Same as Alternative D.	1. Allow natural processes to operate in forested areas.	1. Use commercial production and other management techniques to achieve site-specific objectives for forest health and maintenance of wildlife habitat and biodiversity.
2. Manage approximately 588–1,175 acres of forested land to preserve existing old growth character. Commercial harvest and other methods would be considered in old growth as long as old growth character is preserved.	2. There is no existing guidance for old growth forest management in the planning area.	2. Manage approximately 1,175–2,351 acres of the forested land to preserve or create old growth character.	2. Manage all (approximately 5,877 acres) potential old growth forests to preserve or create old growth stands.	2. Same as Alternative D.	2. Allow natural processes to operate in areas of old growth.	2. Manage all potential old growth forests to preserve or create old growth stands. Commercial harvest and other methods would be considered in old growth as long as old growth character is preserved.
Objective 2: Restore productivity and biodiversity in western juniper and quaking aspen woodland areas. Manage western juniper areas where encroachment or increased density is threatening other resource values. Retain old growth characteristics in historic western juniper sites not prone to frequent fire. Manage quaking aspen to maintain diversity of age classes and to allow for species reestablishment.						
1. Design western juniper treatments to enhance commodity production by emphasizing treatments in grasslands, forested areas, and shrublands. A maximum of 124,500 acres would be treated to reduce western juniper dominance.	1. Base western juniper management on site potential to meet resource objectives. Approximately 41,500 acres of western juniper would be treated to reduce western juniper dominance.	1. Design western juniper treatments to enhance resource values and maintain commodity production by emphasizing treatments in riparian/wetland areas, quaking aspen stands, grasslands, forested areas and shrublands where loss of diversity is likely. A maximum of 124,500 acres would be treated to reduce western juniper dominance.	1. Implement western juniper management for the protection and enhancement of resource values. A maximum of 83,000 acres would be treated to reduce western juniper dominance.	1. Same as Alternative D.	1. Allow natural processes to operate in western juniper areas.	1. Design western juniper treatments to enhance resource values and maintain commodity production by emphasizing treatments in riparian/wetland areas, quaking aspen stands, grasslands, forested areas and shrublands where loss of diversity is likely. A maximum of 124,500 acres would be treated to reduce western juniper dominance.

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2. Same as Alternative B.	2. Preserve old growth western juniper stands.	2. Same as Alternative B.	2. Same as Alternative B.	2. Same as Alternative B.	2. Allow natural processes to operate in western juniper areas.	2. Preserve old growth western juniper stands.
3. Allow uses that would maintain existing quaking aspen stands.	3. Continue to manage quaking aspen to meet resource objectives.	3. Manage uses and treatments in quaking aspen to maintain or enhance regeneration and sustainability.	3. Same as Alternative C.	3. Same as Alternative C.	3. Allow natural processes to operate in quaking aspen areas.	3. Manage uses and treatments in quaking aspen to maintain or enhance regeneration and sustainability.

SPECIAL STATUS PLANT SPECIES

Objective: 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.

1. Same as Alternative B.	1. Ensure that management actions do not contribute to the decline of special status species.	1. Manage for DRFC's by using a mix of protection, restoration, and enhancement measures for special status species. Manage these species so that BLM actions do not contribute to the need to list any species as threatened or endangered.	1. Same as Alternative C except that protection of habitats or populations would only be considered where there would be no opportunities for restoration or enhancement.	1. Same as Alternative D, except that livestock grazing would be excluded from selected Mulford's milk-vetch sites (Appendix Q).	1. Allow natural processes to operate, except for Federally listed species as specified in recovery plans.	1. Manage for DRFC's by using a mix of protection, restoration, and enhancement measures for special status species. Manage these species so that BLM actions do not contribute to the need to list any species as threatened or endangered.
2. Same as Alternative B.	2. Emphasize management that is driven by the requirements of individual species.	2. Emphasize land management that fosters overall community health, habitat integrity, and landscape-level issue resolution, as well as meeting the requirements of individual species.	2. Same as Alternative C.	2. Same as Alternative C.	2. Allow natural processes to operate.	2. Emphasize land management that fosters overall community health, habitat integrity, and landscape-level issue resolution, as well as meeting the requirements of individual species.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
WATER RESOURCES AND RIPARIAN/WETLAND AREAS						
Objective 1: 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 Oregon Department of Environmental Quality (ODEQ).						
Focus specifically on uses and activities occurring in surface waters and their associated RCA's. Where State water quality standards are not being met due to management on BLM-administered land, management activities and uses could occur if they allow progress toward attainment of State water quality standards. For streams with water quality limited segments, management activities would be implemented with the intent to restore water quality to acceptable levels.	Maintain or improve water quality where needed, as previously identified in land use plans. Continue to manage for water quality improvement. Coordinate with and implement Oregon's water quality management plan for activities within water quality limited segments (impaired waters) as defined by section 303(d) of the CWA.	Consider uses and activities occurring in surface waters and their entire associated watersheds. Where State water quality standards are not being met due to management on BLM-administered land, management activities and uses could occur in the associated watershed if they allow progress toward the attainment of State water quality standards. For streams with water quality limited segments, management activities would be implemented with the intent to restore water quality to acceptable levels.	Consider uses and activities occurring in surface waters and their entire associated watersheds. Where State water quality standards are not being met due to management on BLM-administered land, management activities and uses would be allowed in the associated watershed only if they allow progress toward the attainment of State water quality standards at the same or greater rate than if the use or activity were absent. For streams with water quality limited segments, management activities would be implemented with the intent to restore water quality to acceptable levels.	Consider uses and activities occurring in surface waters and their entire associated watersheds. Where State water quality standards are not being met due to management on BLM-administered land, management activities and uses would be allowed in the associated watershed only if they allow progress toward the attainment of State water quality standards at the same or greater rate than if the use or activity were absent. For streams with water quality limited segments, management activities would be implemented with the intent to restore water quality to acceptable levels. Livestock grazing would be excluded in those streams where proper functioning condition (PFC) ratings are functioning at risk with a downward trend or nonfunctioning until systems have been determined able to support livestock grazing uses and activities.	Commodity production would be excluded from all public lands. Considers all noncommodity uses and activities occurring in surface waters and their entire associated watersheds. Where State water quality standards are not being met due to management on BLM-administered land, management activities and uses would be allowed in the associated watershed only if they allow progress toward the attainment of State water quality standards at the same or greater rate than if the use or activity were absent.	Consider uses and activities occurring in surface waters and their entire associated watersheds. Where State water quality standards are not being met due to management on BLM-administered land, management activities and uses could occur in the associated watershed if they allow progress toward the attainment of State water quality standards. For streams with water quality limited segments, management activities would be implemented with the intent to restore water quality to acceptable levels.

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Objective 2: Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.						
Focus specifically on uses and activities occurring in riparian/wetland areas. For any riparian/wetland area, which is an RCA, uses or activities could occur if they allow progress toward the attainment of PFC and riparian management objectives (RMO's) (see Appendix D3).	Manage for current riparian/wetland objectives as outlined in land use plans. Maintain or improve all existing riparian/wetland exclosures and pastures designated or identified for improvement. For any riparian or wetland area, uses or activities could occur in the watershed if they allow progress toward the attainment of riparian PFC.	Consider uses and activities occurring in riparian/wetland areas (RCA's) and their entire associated watersheds. For any riparian/wetland area, uses or activities could occur in the watershed if they allow progress toward the attainment of PFC and RMO's (see Appendix D3).	Consider uses and activities occurring in riparian/wetland areas (RCA's) and their entire associated watersheds. For any riparian/wetland area, uses or activities would be allowed in the associated watershed if they have no effect on riparian/wetland areas, or if they promote progress toward the attainment of PFC and RMO's (see Appendix D3). Restoration projects would be implemented in those areas where conditions are not naturally recovering.	Consider uses and activities occurring in riparian/wetland areas (RCA's) and their entire associated watersheds. For any riparian/wetland area, uses or activities would be allowed in its associated watershed if they have no effect on riparian/wetland areas, or if they promote progress toward the attainment of PFC and RMO's (see Appendix D3). Restoration projects would be implemented in those areas where conditions are not naturally recovering. Livestock grazing would be excluded in those streams where PFC ratings are functioning at risk with a downward trend or nonfunctioning until systems have been determined able to support livestock grazing uses and activities.	Commodity production would be excluded from all public lands. Considers all noncommodity uses and activities occurring in riparian/wetland areas (RCA's) and their entire associated watersheds. For any riparian/wetland area, uses or activities would be allowed in the associated watershed if they have no effect on riparian/wetland areas, or if they promote progress toward the attainment of PFC and RMO's (see Appendix D3).	Consider uses and activities occurring in riparian/wetland areas (RCA's) and their entire associated watersheds. For any riparian/wetland area, uses or activities could occur in the watershed if they allow progress toward the attainment of PFC and RMO's (see Appendix D3).
FISH AND AQUATIC HABITAT						
Objective: Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.						
1. Emphasis would be on providing habitat for fish and other aquatic organisms important to commodity uses, but not at the risk of causing extinction of any native species within its range.	1. Follow current objectives for fish and aquatic habitat, as outlined in current land use plans.	1. Emphasis would be on providing habitat for fish and other aquatic organisms to maintain the distribution of primarily native species among subwatersheds while providing opportunities for commodity uses.	1. Emphasis would be on providing habitat for fish and other aquatic organisms that maintain the distribution of native species among subwatersheds and supports all native species needed for self-sustaining aquatic communities.	1. Same as Alternative D.	1. Natural processes would determine instream processes and habitat diversity, water quality, riparian condition, and species diversity and distribution.	1. Emphasis would be on providing habitat for fish and other aquatic organisms to maintain the distribution of primarily native species among subwatersheds while providing opportunities for commodity uses.

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2. For any surface water that provides aquatic habitat, uses or activities could occur in riparian/wetland, or surface water areas if they allow progress toward attainment of instream processes and habitat diversity; State water quality standards for fish or other aquatic beneficial uses; PFC; and RMO's.	2. Maintain or improve all existing riparian/wetland exclosures and pastures designated or identified for improvement.	2. For any surface water that provides aquatic habitat, uses or activities would be allowed in its associated watershed if they allow progress toward attainment of instream processes and habitat diversity; State water quality standards for fish or other aquatic beneficial uses; riparian PFC; and RMO's.	2. For any surface water that provides aquatic habitat, uses or activities would be allowed in its associated watershed if they have no affect on aquatic habitat or if they promote progress toward attainment of instream processes and habitat diversity; State water quality standards for fish or other aquatic beneficial uses; riparian PFC; and RMO's.	2. Same as Alternative D, except remove grazing from those stream segments where PFC ratings are functioning at risk with a downward trend or nonfunctioning until systems have been determined able to support grazing. Remove grazing from those stream segments that provide habitat for Federal listed, proposed, or candidate aquatic species, or for stronghold populations of redband trout.	2. Allow natural processes to determine aquatic habitat condition.	2. For any surface water that provides aquatic habitat, uses or activities would be allowed in its associated watershed if they allow progress toward attainment of instream processes and habitat diversity; State water quality standards for fish or other aquatic beneficial uses; riparian PFC; and RMO's.
WILDLIFE AND WILDLIFE HABITAT						
Objective 1: Maintain, restore, or enhance riparian areas and wetlands so they provide diverse and healthy habitat conditions for wildlife.						
Manage for desired future habitat conditions that emphasize structure, forage, or other riparian habitat elements important to game species of wildlife.	Manage for desired future habitat conditions that emphasize structure, forage, or other riparian habitat elements important to game and nongame species of wildlife.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B, but with prescriptions identified in Rangeland/Grazing Use, Alternative D2.	Natural processes would determine future conditions.	Manage for desired future habitat conditions that emphasize structure, forage, or other riparian habitat elements important to game and nongame species of wildlife.

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Objective 2: Manage upland habitats in forest, woodland, and rangeland vegetation types so that the forage, water, cover, structure, and security necessary for wildlife are available on the public land.						
1. Manage habitat conditions which emphasize the requirements of game species.	1. Same as Alternative A but with some limited local emphasis on the habitat requirements of nongame species.	1. Manage for habitat conditions which equally emphasize the requirements of game and nongame species in most areas.	1. Same as Alternative C except that emphasis would be placed in all areas where there would be opportunities for improvement.	1. Same as Alternative D, except identified areas (Table 3-7) would not be allocated to livestock grazing based on the following criteria: 1) selected habitat of Mulford's milkvetch, a special status plant species which is vulnerable to livestock impacts; 2) habitat of fish and aquatic species listed under ESA and redband trout/Columbia spotted frog strongholds; 3) selected habitat of sagebrush-dependent species, utilizing sage grouse as an indicator species; 4) management corridors of four river segments congressionally designated as NWSR's and four additional river segments found administratively suitable for potential designation by Congress as NWSR's within Alternative C; and 5) selected ACEC's	Manage for habitats and populations that are determined by the outcome of natural processes.	1. Manage for habitat conditions which equally emphasize the requirements of game and nongame species in most areas.
2. Emphasize habitat management that highlights the requirements of individual species.	2. Same as Alternative A.	2. Emphasize habitat management that highlights the requirements of communities of game and nongame species.	2. Same as Alternative C.	2. Same as Alternative C.		2. Emphasize habitat management that highlights the requirements of communities of game and nongame species.

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SPECIAL STATUS ANIMAL SPECIES						
Objective 1: 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.						
1. Manage special status species habitats using a mix of maintenance, restoration, or enhancement measures. Management priority would emphasize special status game species before nongame species.	1. Manage special status species using a mix of maintenance, restoration, or enhancement measures with equal emphasis on game and nongame species.	1. Same as Alternative B.	1. Same as Alternative B, except that maintenance of habitats or populations would only be considered where there would be no opportunities for restoration or enhancement.	1. Same as Alternative D, but with prescriptions identified in Rangeland/Grazing Use, Alternative D2.	1. Allow natural processes to operate.	1. Manage special status species using a mix of maintenance, restoration, or enhancement measures with equal emphasis on game and nongame species.
2. Same as Alternative B.	2. Emphasize management that is driven by the requirements of individual species.	2. Emphasize management that fosters plant/animal community health, habitat integrity, and landscape-level issue resolution rather than emphasizing the requirements of individual species.	2. Same as Alternative C.	2. Emphasize management that fosters plant/animal community health, habitat integrity, and landscape level issue resolution rather than emphasizing the requirements of individual species.	2. Allow natural processes to operate.	2. Emphasize management that fosters plant/animal community health, habitat integrity, and landscape level issue resolution rather than emphasizing the requirements of individual species.
Objective 2: Facilitate the maintenance, restoration, and enhancement of bighorn sheep populations and habitat on public land. Pursue management in accordance with the 1997 "Oregon's Bighorn Sheep Management Plan" (OBSMP) in a manner consistent with the principles of multiple use management.						
1. Emphasize bighorn sheep maintenance, restoration, and enhancement within about 2,888,000 acres as identified on Map WLDF-2.	1. Bighorn sheep would be managed within approximately 800,000 acres as identified in existing HMP's.	1. Same as Alternative A.	1. Same as Alternative A.	1. Same as Alternative A (see Rangeland/Grazing Use, Alternative D2).	1. Allow bighorn sheep to occupy areas based on natural dispersal and population growth.	1. Emphasize bighorn sheep maintenance, restoration, and enhancement within about 2,888,000 acres as identified on Map WLDF-2.
2. Same as Alternative B.	2. Require that reasonable buffers (based on local conditions) be maintained on public land between domestic sheep and bighorn sheep to avoid disease transmission.	2. Same as Alternative B.	2. Same as Alternative B.	2. Same as Alternative B.	2. There would not be buffers between domestic sheep and bighorn sheep.	2. Require that reasonable buffers (based on local conditions) be maintained on public land between domestic sheep and bighorn sheep to avoid disease transmission.
3. Same as Alternative B.	3. Bighorn sheep management would not result in the displacement of any existing domestic sheep grazing permittees.	3. Same as Alternative B.	3. Bighorn sheep management would result in the displacement of one or more existing domestic sheep grazing permittees.	3. Same as Alternative D.	3. No domestic sheep grazing would be authorized.	3. Bighorn sheep management would not result in the displacement of any existing domestic sheep grazing permittees.

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4. Bighorn sheep management would preclude new domestic sheep grazing permits within "bighorn sheep range" areas identified on Map WLDF-2.	4. BLM would consider allowing new domestic sheep grazing permits in Malheur County on a case-by-case basis.	4. Same as Alternative A.	4. Same as Alternative A.	4. Same as Alternative A.	4. No domestic sheep grazing would be authorized.	4. Bighorn sheep management would preclude new domestic sheep grazing permits within "bighorn sheep range" areas identified on Map WLDF-2.
5. Bighorn sheep that pioneer outside of range shown in Map WLDF-2 would be harvested or captured and released to another approved area.	5. Bighorn sheep would be allowed to pioneer outside of area shown in Map WLDF-2 and increase as long as conflicts would be minor.	5. Same as Alternative B.	5. Same as Alternative B.	5. Same as Alternative B.	5. No limitations on pioneering bighorn sheep.	5. Bighorn sheep would be allowed to pioneer outside of area shown in Map WLDF-2 and increase as long as conflicts would be minor.

WILD HORSES

Objective: Maintain and manage wild horse herds in established herd management areas (HMA's) at appropriate management levels (AML's) to ensure 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.

1. Same as Alternative B except Heath Creek-Sheepshead HMA in Burns District and Sheepshead HMA would be combined for management purposes. Manage all herds to produce adoptable horses.	1. Maintain established boundaries of Hog Creek, Cold Springs, Three Fingers, Jackies Butte, Sand Springs, Coyote Lake, and Sheepshead HMA's.	1. Same as Alternative A, except expand Coyote Lake HMA to include Red Mountain North Pasture.	1. Same as Alternative C.	1. Same as Alternative C.	1. Same as Alternative C.	1. Maintain established boundaries of Hog Creek, Cold Springs, Three Fingers, Jackies Butte, and Sand Springs HMA's. Heath Creek-Sheepshead HMA in Burns District and Sheepshead HMA would be combined for management purposes. Expand Coyote Lake HMA to include Red Mountain North Pasture.

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2. Manage wild horse populations in established HMA's within the limits of AML's. Periodically evaluate and adjust established AML's for each HMA based on monitoring data. This would ensure that wild horse populations would not be a detriment to a thriving, natural ecological balance. When monitoring data identify a need to reduce grazing impacts, emphasize reductions in wild horse AML's. When monitoring data identify additional available forage, emphasize increases in livestock authorized use.	2. Manage wild horse populations in current HMA's within the limits of established AMLs.	2. Same as Alternative A except when monitoring data identify a need to reduce grazing impacts, decreases in wild horse AML's and livestock use would reflect each species' contribution to the failure to attain a thriving, natural ecological balance. When monitoring data identify additional available forage, proportionate increases in wild horse AML's and livestock use would be emphasized.	2. Same as Alternative C, except when monitoring data identify a need to reduce grazing impacts, emphasize reductions in livestock authorized use. When monitoring data identify additional available forage, emphasize increases in wild horse AML's.	2. Same as Alternative D.	2. Same as Alternative C, except in the absence of livestock grazing, wild horse numbers would be maintained in balance with available forage and other resource values.	2. Manage wild horse populations in established HMA's within the limits of AML's. Periodically evaluate and adjust established AML's for each HMA based on monitoring data. When monitoring data identify a need to reduce grazing impacts, decreases in wild horse AML's and livestock grazing use authorizations would reflect each species' contribution to the failure to attain a thriving, natural ecological balance. When monitoring data identify additional available forage, proportionate increases in wild horse AML and livestock use would be considered.
3. Same as Alternative B.	3. Limit any return of wild horses into an HMA to individuals exhibiting the special and unique characteristics designated for that HMA.	3. Same as Alternative B.	3. Same as Alternative B.	3. Same as Alternative B.	3. Same as Alternative B.	3. Limit any return of wild horses into an HMA to individuals exhibiting the special and unique characteristics designated for that HMA.
4. Maintain established water developments supporting current wild horse populations. Emphasize the construction of water developments to minimize forage competition between wild horses and livestock, and to ensure a reliable water supply during periods of drought.	4. Same as Alternative A, except water developments would be constructed to support established AML's.	4. Same as Alternative A.	4. Same as Alternative A, except new water developments would be considered to minimize horse impacts to other resource values.	4. Same as Alternative D, except new water developments would not be constructed if they would increase livestock use in selected areas currently unused or slightly used.	4. Same as Alternative D.	4. Maintain established water developments supporting current wild horse populations. Consider the construction of new water developments to minimize forage competition between wild horses and livestock, to minimize horse impacts to other resource values, and to assure a reliable water supply during periods of drought.

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RANGELAND/GRAZING USE						
Objective: Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.						
1. Emphasize livestock grazing use on public land suitable for grazing, while protecting resource values for multiple use and sustained yield, consistent with resource objectives. Public lands adjacent to Owyhee Reservoir State Park, Deary Pasture, and Luscher Pasture would not be allocated to livestock grazing. Authorize livestock grazing of properties of the Birch Creek Historic Ranch through permit application.	1. Continue the authorization of livestock grazing use consistent with multiple use and sustained yield objectives identified in existing land use and activity plans. Authorize livestock grazing of properties of the Birch Creek Historic Ranch through permit application.	1. Provide for a sustained yield of forage for livestock grazing, while maintaining resource values for long term multiple use consistent with resource objectives. Public lands adjacent to Owyhee Reservoir State Park, Deary Pasture, and Luscher Pasture would not be allocated to livestock grazing. Authorize grazing use on properties of the Birch Creek Historic Ranch on a nonrenewable basis for management purposes, administrative purposes, and interpretive needs.	1. Provide for a sustained yield of forage for livestock at a limited level while emphasizing resource values, consistent with resource objectives. Public lands adjacent to Owyhee Reservoir State Park, Deary Pasture, and Luscher Pasture would not be allocated to livestock grazing. Do not authorize grazing use on properties of the Birch Creek Historic Ranch.	1. Same as Alternative D, except identified areas (Table 3-7) would not be allocated to livestock grazing based on the following criteria: 1) selected habitat of Mulford's milkvetch, a special status plant species which is vulnerable to livestock impacts; 2) habitat of fish and aquatic species listed under ESA and redband trout/Columbia spotted frog strongholds; 3) selected habitat of sagebrush dependent species, utilizing sage grouse as an indicator species; 4) management corridors of four river segments congressionally designated as NWSR's and four additional river segments found administratively suitable for potential designation by Congress as NWSR's within Alternative C; 5) selected ACEC's. Exclude livestock from pastures containing riparian vegetation communities which, due to current livestock management actions are in functioning at risk with a downward trend or are not properly functioning, until appropriate livestock management actions can be implemented and a condition of functioning at risk with an upward trend is attained.	1. No grazing use authorized.	1. Provide for a sustained yield of forage for livestock grazing, while maintaining resource values for long term multiple use consistent with resource objectives. Approximately 58,800 acres as identified in Table 3-8, Appendix T, and Map LVST-1M and -1J would not be allocated to livestock grazing use and would be outside any livestock grazing allotment. Grazing of Historic Birch Creek Ranch may be authorized on a temporary basis for administrative and/or interpretive purposes.

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2. Emphasize rangeland projects as the preferred solution to meet resource management objectives. Plan and implement structural rangeland projects (primarily water developments and fencing) to access available forage and to mitigate livestock grazing impacts to other resources. Abandon and rehabilitate projects that do not function to meet management objectives.	2. Combine rangeland projects and administrative solutions to meet resource management objectives. Plan and implement rangeland projects to minimize unacceptable livestock grazing impacts to public land resources and to access available but underutilized forage. Abandon and rehabilitate projects that do not function to meet MFP and rangeland program summary (RPS) management objectives.	2. Use a combination of administrative solutions (such as season of use revisions, livestock exclusion, and stocking level adjustments) and rangeland projects to facilitate meeting resource objectives. Abandon projects and rehabilitate project sites that do not function to maintain resource values and meet management objectives.	2. Emphasize administrative solutions (season of use revisions and stock level adjustments; pasture exclusions) as the preferred solution to meet resource management objectives. Plan and implement rangeland projects only to meet resource objectives. Abandon projects and rehabilitate project sites that do not function to enhance resource values and meet management objectives.	2. Same as Alternative D, except no livestock management action would be implemented, including project construction, which would increase grazing use within portions of a pasture in late to PNC ecological status and currently unutilized or only slightly utilized by livestock.	2. No grazing would be authorized. No rangeland projects would be planned or implemented in support of livestock grazing. Abandon and rehabilitate all rangeland projects that support livestock grazing and do not contribute to meeting management objectives. Maintain remaining rangeland projects to design standards necessary to meet management objectives. Vacate all cooperative agreements with livestock operators.	2. Use a combination of administrative solutions (such as season of use revisions, livestock exclusion, and stocking level adjustments) and rangeland projects, to facilitate meeting resource objectives. Abandon projects and rehabilitate project sites that do not function to maintain resource values and meet management objectives. No livestock management action would be implemented, including project construction, which would increase grazing use within portions of a pasture in late to PNC ecological status and currently unutilized or only slightly utilized by livestock, unless implementation of that action would result in a net benefit toward attaining management objectives within the area of limited livestock use and adjoining areas.
3. Optimize authorization of temporary nonrenewable (TNR) grazing use of additional production in years of favorable growing conditions, consistent with meeting resource objectives.	3. Authorize TNR grazing use of additional forage production consistent with existing MFP and RPS management objectives.	3. TNR grazing use may be authorized to make available additional forage in years of favorable growing conditions, consistent with stated criteria and meeting resource objectives.	3. Authorize no TNR grazing use. Retain additional herbaceous production on site for values other than forage production.	3. Same as Alternative D.	3. No grazing use authorized.	3. TNR grazing use may be authorized to make available additional forage in years of favorable growing conditions, consistent with stated criteria and meeting resource objectives.

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RECREATION						
Objective: Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.						
1. Optimize designation and management of SRMA's to enhance tourism and recreation opportunities. Manage remaining public land as extensive recreation management areas (ERMA's). SRMA total acreage: 864,952 ERMA total acreage: 3,770,310	1. Continue management of existing SRMA's. Implement management plans as appropriate. Manage remaining public land as ERMA's. SRMA total acreage: 352,331 ERMA total acreage: 4,282,931	1. Designate and manage SRMA's to provide quality recreation opportunities while protecting resource values. Manage remaining public land as ERMA's. SRMA total acreage: 661,739 ERMA total acreage: 3,973,523	1. Designate and manage SRMA's with emphasis on undeveloped, dispersed recreation opportunities and protection of natural values while providing an associated level of support facilities. Manage remaining public land as ERMA's. SRMA total acreage: 673,094 ERMA total acreage: 3,962,168	1. Same as Alternative D.	1. Provide minimal recreation management. No SRMA's would exist. All public land would be treated as ERMA's. Congressionally designated areas such as NWSR's and the Oregon National Historic Trail would be subject to a minimal level of management. ERMA total acreage: 4,635,262	1. Designate and manage SRMA's to provide quality recreation opportunities while protecting resource values. Manage remaining public land as ERMA's. SRMA total acreage: 673,069 ERMA total acreage: 3,962,193
2. Expand management of existing developed and undeveloped recreation sites (including trails, wildlife viewing areas, back country byways, interpretive areas, and campgrounds). Develop all identified potential sites and other sites, as appropriate, where visitation commonly occurs. Optimize tourism opportunities.	2. Continue management of existing developed and undeveloped recreation sites and consider their expansion. Develop potential recreation sites to meet high public demand or to provide for public safety or resource protection. Develop tourism opportunities.	2. 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. Develop tourism opportunities when consistent with meeting other resource objectives.	2. Emphasize undeveloped types of recreation while assuring protection of natural and cultural values. Allow for development to protect and interpret natural and cultural values and provide for public safety. Allow for site rehabilitation or closure where resource values are being jeopardized beyond acceptable levels. De-emphasize tourism opportunities.	2. Same as Alternative D.	2. Emphasize undeveloped types of recreation while assuring protection of natural and cultural values. Allow for development to protect and interpret natural and cultural values and provide for public safety. Allow for site rehabilitation or closure where resource values are being jeopardized beyond acceptable levels. De-emphasize tourism opportunities.	2. 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. Develop tourism opportunities when consistent with meeting other resource objectives.
3. Implement some restrictions on recreation uses and use levels as needed. Emphasize special recreation permit (SRP) issuance for competitive and commercial recreation opportunities.	3. Restrict some recreation uses and use levels to protect resources and enhance recreation opportunities. Authorize SRP's while providing for protection of sensitive resource values.	3.Limit recreation use and use levels and/or authorize SRP's when needed to meet other resource objectives.	3. Emphasize the protection of natural values when restricting recreation uses and use levels and/or authorizing SRP's.	3. Same as Alternative D.	3. Do not issue SRP's.	3. Limit recreation use and use levels and/or authorize SRP's when needed to meet other resource objectives.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
OFF-HIGHWAY VEHICLES						
Objective: Manage off-highway vehicle (OHV) use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.						
l. Manage motorized vehicles in accordance with open, limited, and closed OHV use designations with emphasis on the open OHV use designation (see Map OHV-1 in the Draft SEORMP/EIS).	l. Manage motorized vehicles in accordance with current open, limited, and closed OHV use designations (see Map OHV-2 in the Draft SEORMP/EIS).	l. Manage motorized vehicle use under open, limited, and closed OHV use designations with protection of natural values (see Map OHV-3 in the Draft SEORMP/EIS).	l. Manage motorized vehicle use under open, limited, and closed OHV use designations, emphasizing the protection of natural values (see Map OHV-4 in the Draft SEORMP/EIS).	1. Same as Alternative D, with additional areas limited to existing routes as shown on Map OHV-PRMP. Within areas designated limited to existing routes, unless otherwise posted, motorized camping allowed up to 150 traveled feet from roads.	l. Manage motorized vehicle use under limited and closed OHV use designations, maximizing natural system functions.	1. Manage motorized vehicle use under open, limited, and closed OHV use designations, emphasizing the protection of natural values (see Map OHV-PRMP). Within areas designated limited to existing routes, unless otherwise posted, motorized camping allowed up to 150 traveled feet from roads.
2. Maximize opportunities for OHV organized events.	2. Allow for OHV organized events when consistent with protection of resource values.	2. Same as Alternative B.	2. Allow organized OHV events only on existing and/or designated roads and trails.	2. Same as Alternative D.	2. Do not provide for organized OHV events.	2. Allow for OHV organized events when consistent with protection of resource values.
3. Same as Alternative B.	3. In WSA's, all motorized and mechanical vehicles would be limited to designated routes.	3. Same as Alternative B.	3. Same as Alternative B.	3. Same as Alternative B.	3. Same as Alternative B.	3. In WSA's, all motorized and mechanical vehicles would be limited to designated routes.
VISUAL RESOURCES						
Objective: Manage public land actions and activities in a manner to be consistent with visual resource management (VRM) class objectives.						
1. Same as Alternative B.	1. Manage all WSA's as VRM Class II.	1. Same as Alternative B.	1. Manage all WSA's as VRM Class I.	1. Same as Alternative D. WSA's not congressionally designated as wilderness would be managed as VRM Class II.	1. Same as Alternative D.	1. Manage all WSA's as VRM Class I. WSA's not congressionally designated as wilderness would be managed as VRM Class II, unless otherwise inventoried as VRM Class I.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
2. Manage designated NWSR's classified as wild river areas as VRM Class I. Manage visual resources on administratively suitable NWSR's in accordance with their proposed classification and recognized outstandingly remarkable values (ORV's). Manage Succor Creek SRMA as VRM Class II.	2. Manage designated NWSR's classified as wild river areas as VRM Class I.	2. Same as Alternative A, except for Succor Creek SRMA, which would be classified as VRM inventoried.	2. Manage all designated NWSR's classified as wild river areas as VRM Class I. Manage visual resources on administratively suitable NWSR's in accordance with proposed classification and recognized ORV's. Manage Succor Creek SRMA and the Oregon Historic Trail as VRM Class II.	2. Same as Alternative D.	2. Manage all designated NWSR's classified as wild river areas as VRM Class I. Manage visual resources on administratively suitable NWSR's in accordance with proposed classification and recognized ORV's. The Oregon National Historic Trail would be managed as VRM Class II.	2. Manage designated NWSR's classified as wild river areas as VRM Class I. Manage visual resources on administratively suitable NWSR's in accordance with their proposed classification and recognized ORV's. Manage Succor Creek SRMA as VRM Class II.
3. Manage ACEC's according to VRM prescriptions under this alternative in Table 3-12.	3. Manage ACEC's as prescribed in the MFP or subsequent amendments to that plan.	3. Manage ACEC's according to VRM prescriptions under this alternative in Table 3-12.	3. Manage ACEC's according to VRM prescriptions under this alternative in Table 3-12.	3. Manage ACEC's according to VRM prescriptions under this alternative in Table 3-12.	3. Manage ACEC's according to VRM prescriptions under this alternative in Table 3-12.	3. Manage ACEC's according to VRM prescriptions under this alternative in Table 3-12.
4. Manage all other visual resources as reinventoried for this plan.	4. Maintain existing MFP VRM classifications in all other areas.	4. Same as Alternative A.	4. Same as Alternative A.	4. Same as Alternative A, except those changes of reinventoried lands included on Map VRM-PRMP.	4. For the remainder of the planning area, existing VRM would be removed; allow natural processes to determine visual quality.	4. For the remainder of the planning area, manage resources as depicted on Map VRM-PRMP.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Objective: Retain existing and designate new areas of critical environmental concern (ACEC's)/ research natural areas (RNA's) where relevance and importance criteria are met and special management is required to protect the values identified.

Same as Alternative B.	Manage designated ACEC's/RNA's with the special management actions identified in Table 3-12 and following text.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.	Manage designated ACEC's/RNA's with the special management actions identified in Table 3-12 and following text.
Malheur Resource Area						
1. Retain four existing ACEC's (three of which would be RNA's) for a total of 25,112 acres.	1. Retain four existing ACEC's (three of which would be RNA's) for a total of 25,112 acres.	1. Retain four existing ACEC's (three of which would be RNA's) with potential additions for a total of 29,320 acres.	1. Retain four existing ACEC's (three of which would be RNA's) and potential additions for a total of 32,131 acres.	1. Same as Alternative D.	1. Retain no ACEC's.	1. Retain four existing ACEC's (three of which would be RNA's) with potential additions for a total of 29,320 acres.

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2. Designate 14 potential ACEC's (9 of which would be RNA's) for a total of 32,567 acres.	2. Manage designated ACEC's/RNA's with the special management actions identified in Table 3-12 and following text.	2. Designate 16 potential ACEC's (9 of which would be RNA's) for a total of 160,421 acres.	2. Designate 16 potential ACEC's (9 of which would be RNA's) for a total of 174,275 acres.	2. Same as Alternative D.	2. Designate no ACEC's.	2. Designate 15 potential ACEC's (8 of which would be RNA's) for a total of 132,050 acres.
Jordan Resource Area						
1. Retain one existing ACEC (which is also an RNA) with potential deletions, for a total of 28,689 acres.	1. Retain four existing ACEC's (one of which is an RNA) for a total of 79,363 acres.	1. Retain two existing ACEC's (one of which is an RNA) with potential additions for a total of 38,426 acres.	1. Retain three existing ACEC's (one of which is an RNA) with potential additions for a total of 44,528 acres.	1. Same as Alternative D.	1. Retain no ACEC's.	1. Retain two existing ACEC's (one of which is an RNA) with potential additions for a total of 38,426 acres.
2. Designate five potential ACEC's (all of which would be RNA's) for a total of 5,002 acres.	2. Manage designated ACEC's/RNA's with the special management actions identified in Table 3-12 and following text.	2. Designate five potential ACEC's (all of which would be RNA's) for a total of 6,460 acres.	2. Designate six potential ACEC's (all of which would be RNA's) for a total of 13,423 acres.	2. Same as Alternative D.	2. Designate no ACEC's.	2. Designate five potential ACEC's (all of which would be RNA's) for a total of 6,460 acres.
3. Drop designation on three existing ACEC's for a total of 12,223 acres.	3. Manage designated ACEC's/RNA's with the special management actions identified in Table 3-12 and following text.	3. Drop designation on two existing ACEC's for a total of 43,482 acres.	3. Drop designation on one existing ACEC for a total of 41,505 acres.	3. Same as Alternative D.	3. Retain no ACEC's.	3. Drop designation on two existing ACEC's for a total of 43,482 acres.

WILD AND SCENIC RIVERS

Objective: Protect and enhance outstandingly remarkable values (ORV's) of designated national wild and scenic rivers (NWSR's), and provide interim protection of ORV's of rivers found suitable for inclusion in the national wild and scenic river system (NWSRS) until Congress acts.

1. Continue management as prescribed in the "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan" (1993), and implement specific actions for the Deary Pasture and Historic Birch Creek Ranch properties.	1. Continue management as prescribed in the "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan" (1993).	1. Same as Alternative A.	1. Same as Alternative A, except the Historic Birch Creek Ranch properties would additionally be closed to livestock grazing.	1. Same as Alternative A, except the Main, West Little, and North Fork Owyhee NWSR's would not be allocated to livestock grazing.	1. Continue management as prescribed in the "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan" (1993), and implement specific actions for the Historic Birch Creek Ranch, except that the NWSR would not be allocated to livestock grazing.	1. Continue management as prescribed in the "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan" (1993), compliant with the Oregon District Court's direction. Implement specific actions for the Deary Pasture and Historic Birch Creek Ranch properties.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
2. Emphasize scenic and recreational classifications for suitable recommendations. A total of 13.5 miles of Owyhee River Below the Dam (M16) would be administratively suitable for potential designation by Congress as an NWSR.	2. Manage eligible rivers under interim management guidance. A total of 3.6 miles of the North Fork Malheur River (M17) would be administratively suitable for potential designation by Congress as a NWSR (a suitability study was mandated by Congress for the North Fork Malheur River).	2. Approximately 42.5 miles would be administratively suitable for potential designation by Congress as NWSR's: North Fork Malheur River (M17), 3.6 miles; Dry Creek (M15), 16.8 miles; Owyhee River Below the Dam (M16), 13.5 miles; and Antelope Creek (J19), 8.6 miles.	2. Emphasize wild and scenic classifications. Approximately 188 miles would be administratively suitable for potential designation by Congress as NWSR's.	2. Same as Alternative C except the 42.5 miles of administratively suitable segments described under Alternative C would not be allocated to livestock grazing and other uses would be restricted or excluded in these suitable rivers where such uses are determined to degrade ORV's.	2. No eligible rivers would be administratively suitable for potential designation by Congress as NWSR's.	2. Approximately 42.5 miles would be administratively suitable for potential designation by Congress as NWSR's: North Fork Malheur River (M17), 3.6 miles; Dry Creek (M15), 16.8 miles; Owyhee River Below the Dam (M16), 13.5 miles; and Antelope Creek (J19), 8.6 miles. Uses within these suitable rivers would be restricted or excluded where such uses are determined to degrade ORV's.
LAND ADJACENT TO WILDERNESS STUDY AREAS						
Objective: BLM-administered land identified in the 1991 "Wilderness Study Report, Oregon" (WSRO) and determined to have wilderness values would be included in adjacent wilderness study areas (WSA's) and managed under the "Interim Management Policy for Land under Wilderness Review" (IMPLWR).						
Land identified in the WSRO as non-Federal land identified for possible acquisition (that has since been or may be acquired) or as adjacent Federal land recommended for wilderness would be added to existing WSA's and managed under IMPLWR guidance. Remaining non-Federal land identified for acquisition in the WSRO would be evaluated for wilderness characteristics during the assessment of a land acquisition action. If the land under consideration meets wilderness characteristics, then the acquired land would be included as part of adjacent WSA's and be managed under IMPLWR to protect their values.	Maintain existing situation. Land identified in the WSRO would not be added to existing WSA's.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Land identified in the WSRO as non-Federal land identified for possible acquisition (that has since been or may be acquired) or as adjacent Federal land recommended for wilderness would be added to existing WSA's and managed under IMPLWR guidance. Remaining non-Federal land identified for acquisition in the WSRO would be evaluated for wilderness characteristics during the assessment of a land acquisition action. If the land under consideration meets wilderness characteristics, then the acquired land would be included as part of adjacent WSA's and be managed under IMPLWR to protect their values.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
HUMAN USES AND VALUES						
Objective: Manage public land and pursue partnerships to provide social and economic benefits to local residents, businesses, visitors, and future generations.						
Emphasize natural resource opportunities that generate economic activity and income for local individuals and businesses.	Continue current management, resource allocations, and work cooperatively with private, community, and local government groups to continue to provide for customary uses consistent with other resource objectives.	Work cooperatively with private, community, and local government groups to continue to provide for customary uses, consistent with other resource objectives, and to diversify local economies and expand new industries.	Work cooperatively with private, community, and local government groups to diversify local economies and expand new industries based on natural values and non-consumptive uses of public land. Continue to provide for customary commodity uses when consistent with other resource objectives.	Same as Alternative D.	No commodity uses on public lands. Management activities to protect human health and safety, and private lands would continue. Work with private, community, and local government groups to minimize human impacts to public lands.	Work cooperatively with private, community, and local government groups to diversify local economies and expand new industries consistent with other resource objectives. Continue to provide for customary commodity uses when consistent with other resource objectives.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
CULTURAL RESOURCES						
Objective 1: Protect and conserve cultural and paleontological resources.						
Same as Alternative B, except develop a cultural resource monitoring plan to evaluate the success of cultural resource protection measures associated with BLM projects. Limit other uses as necessary to protect the integrity of culturally valuable sites.	Protect against illegal artifact collection, site excavation, and vandalism by patrolling the Oregon National Historic Trail and potential *National Register* eligible sites and subregions with established enforcement needs. Manage the Oregon National Historic Trail in accordance with the 1989 "Oregon National Historic Trail Management Plan" (ONHTMP). Maintain and restore historic structures at the Birch Creek Ranch as specified in the State Historic Preservation Office (SHPO)-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind. Coordinate with SHPO on resource protection measures associated with BLM projects.	Same as Alternative B, except develop a cultural resource monitoring plan to evaluate the success of cultural resource protection measures associated with BLM projects. Manage the Oregon National Historic Trail in accordance with the ONHTMP. Maintain and restore historic structures at the Birch Creek Ranch as specified in the SHPO-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.	Protect against illegal artifact collection, site excavation, and vandalism by patrolling the Oregon National Historic Trail and potential *National Register* eligible sites and subregions with established enforcement needs. Manage the Oregon National Historic Trail in accordance with the ONHTMP. Maintain and restore historic structures at the Birch Creek Ranch as specified in the SHPO-approved historic building report for that property.

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Objective 2: Increase the public's knowledge of, appreciation for, and sensitivity to cultural and paleontological resources.						
Through cost-share agreements or with university student volunteers, inventory areas with high potential for fossil resources and manage for scientific as well as public interest values.	Provide on- or off-site interpretation of the Oregon National Historic Trail and Birch Creek Historic Ranch.	Provide on- or off-site interpretation of appropriate sites, including the following: Oregon National Historic Trail; the Chico, California, to Silver City, Idaho, wagon road; the Birch Creek Historic Ranch; and Coffee Pot Crater (natural history). Through cost-share agreements or with university student volunteers, inventory areas with high potential for fossil resources and manage for scientific as well as public interest values.	Same as Alternative C.	Same as Alternative C.	Same as Alternative C.	Provide on- or off-site interpretation of appropriate sites, including the following: Oregon National Historic Trail; the Chico, California, to Silver City, Idaho, wagon road; the Birch Creek Historic Ranch; and Coffee Pot Crater (natural history). Manage areas with high potential for fossil resources and for scientific as well as public interest values.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
Objective 3: Consult and coordinate with American Indian groups to ensure their interests are considered and their traditional religious sites, landforms, and resources are taken into account.						
Consider American Indian requests to practice traditional activities on specific public land not identified in this plan, on a case-by-case basis. Where practicable, allow for traditional uses of such public land by American Indians. Develop activity plans for American Indian traditional use areas when identified, on a case-by-case basis, in consultation with the affected tribes.	Limit land treatments, the construction of short- or long-term livestock holding facilities, livestock salt grounds, livestock watering troughs, and the harvest of standing trees or portions of standing trees for posts, boughs, or fuelwood within identified American Indian root gathering areas. Manage American Indian traditional use areas identified on public land to allow for the continuation of such uses. Retain all such areas in Federal ownership. Consider American Indian requests to practice traditional activities on specific public land not identified in this plan, on a case-by-case basis. Where practicable, allow for traditional uses of such public land by American Indians. Develop activity plans for American Indian traditional use areas when identified, on a case-by-case basis, in consultation with the affected tribes.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.	Same as Alternative A.	Limit land treatments and surface-disturbing activities within identified American Indian root gathering areas. Protect American Indian traditional use areas identified on public land to allow for the continuation of such uses. Coordinate and consult with American Indian Tribes on protection and management of their identified traditional use areas. Develop activity plans for American Indian traditional use areas when identified, on a case-by-case basis, in consultation with the affected tribes. Consider American Indian requests to practice traditional activities on specific public land not identified in this plan and allow for traditional uses of such public land by American Indians where consistent with other resource objectives.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
LAND AND REALTY						
Objective 1: Retain public land with high and public resource values.[1] Consolidate public landholdings and acquire land[1] or interests in land with high and public resource values to ensure effective administration and improve resource management. Acquired land would be managed for the purposes for which it was acquired. Make available for disposal approximately 62,100 acres of public land within Zone 3 by State indemnity selection, private or State exchange, "Recreation and Public Purpose Act" (R&PP) lease or sale, public sale, or other authorized method (see Appendix L).						
1. Retain or increase public landholdings in Zone 1, with special emphasis on acquiring land that would facilitate commodity production.	1. Make land tenure adjustments consistent with existing planning documents with emphasis on acquiring land with high and public resource values.	1. Retain or increase public landholdings in Zone 1, with special emphasis on acquiring land with high and public resource values.	1. Same as Alternative C.	1. Same as Alternative C.	1. Same as Alternative C.	1. Retain or increase public landholdings in Zone 1, with special emphasis on acquiring land with high and public resource values.
2. Limited retention and consolidation of public land in Zone 2, with special emphasis on land exchanges that benefit commodity production.	2. Make land tenure adjustments consistent with existing planning documents with emphasis on acquiring land with high and public resource values.	2. Limited retention and consolidation of public land in Zone 2, with special emphasis on acquiring land with high and public resource values.	2. Same as Alternative C.	2. Same as Alternative C.	2. Same as Alternative C.	2. Limited retention and consolidation of public land in Zone 2, with special emphasis on acquiring land with high and public resource values.
3. Acquire other interests in land — including conservation and scenic easements — to assure efficient administration, improve resource management, and facilitate commodity production.	3. Acquire interests in land on a case-by-case basis as needed.	3. Acquire other interests in land, including conservation and scenic easements, to assure efficient administration and improve resource management. Emphasize acquisition of interests in areas with high and public resource values.	3. Same as Alternative C.	3. Same as Alternative C.	3. Acquire other interests in land, including conservation and scenic easements, for resource protection only.	3. Acquire other interests in land, including conservation and scenic easements, to assure efficient administration and improve resource management. Emphasize acquisition of interests in areas with high and public resource values.
4. Make available for sale or exchange land in Zone 3.	4. Make available for sale land specifically identified for disposal in the existing planning documents.	4. Same as Alternative A.	4. Same as Alternative A.	4. Same as Alternative A.	4. Same as Alternative A.	4. Make available for sale or exchange land in Zone 3.
5. Consolidate split-estate to improve resource management.	5. Determine management of acquired land on a case-by-case basis.	5. Consolidate split-estate where appropriate to improve resource management while protecting resource values.	5. Same as Alternative C.	5. Same as Alternative C.	5. Same as Alternative C.	5. Consolidate split-estate where appropriate to improve resource management while protecting resource values.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
Objective 2: Establish right-of-way corridor routes to the extent possible, taking into account avoidance areas, consistent with resource objectives.						
1. Designate new utility corridors and continue or eliminate the designation of existing corridors for transdistrict electric transmission lines identified by the 1993 "Western Regional Corridor Study" (WRCS), Federal and State highways, county or BLM roads, and railroads as described in Appendix L, Table L-2. Corridor width would vary 500 to 6,000 feet on each side of the centerline of existing facilities as identified on Map LAND-1 in the Draft SEORMP/EIS, except where the alignment forms the boundary of an SMA, and the corridor would be outside the area. General centerline corridor widths would be as follows: (a) 500 feet BLM and county roads, (b) 1,000 feet Federal and State highways, (c) 6,000 feet Interstate 84 corridor complex with multiple right-of-way users, (d) 1,500 feet large electric transmission interties (existing and proposed), (e) 1,000 feet smaller electrical transmission lines, (f) 1,000 feet large and small pipeline transmission lines, and (g) 1,000 feet railroads (see Appendix L, Table L-2 for existing and potential corridors).	1. Continue corridor designations on facilities identified in existing MFP's. Existing utility corridors are depicted on Map LAND-1 in the Draft SEORMP/EIS. With one exception, the location of these corridors is the result of decisions made in the MFP, 1989 "Oregon Wilderness Final Environmental Impact Statement" (OWFEIS), and the (WRCS). The exception is the portion of the electric power line corridor immediately downstream of the Owyhee Dam. The MFP recommended a route which avoided the area of the dam by detouring to the north (see Map LAND-1 in the Draft SEORMP/EIS). However, prior to the signing of the ROD of the MFP, a separate decision had already been made by Secretary of Interior and representatives of the Department of the Interior to allow construction of the 500-kV PP&L power line along the proposed original north route. Although the detour was considered very early in the route selection process, the route was not selected as described in the MFP and thus was not implemented. The OWFEIS (see Map 7 of the OWFEIS) recognized the existing constructed 500-kV PP&L power line route as a primary recognized existing route for location of future power line interties.	1. Same as Alternative A, except corridor designations would minimize impacts to natural values consistent with other resource values. Because of prior decisions and commitments explained under Alternative B, the location of PP&L 500-kV existing route below the Owyhee Dam would remain the same. Proposals for future interties through this area would be scrutinized very closely and some limitations or modifications of structures could be imposed in order to minimize impacts to natural resource values contained within the proposed ACEC below the Owyhee Dam.	1. Eliminate or restrict corridor designations to existing corridors and previously disturbed areas, except near Owyhee Dam. Utility corridors designated under this alternative are shown on Map LAND-1 in the Draft SEORMP/EIS. These are identical to those described under Alternative C, except for the crossing of the Owyhee River downstream of Owyhee Dam. At this location, the route would detour to the north to avoid the proposed Owyhee River Below the Dam ACEC (see Map LAND 1 in the Draft SEORMP/EIS). The proposed MFP existing route would still be located in the proposed Owyhee River Below the Dam ACEC.	1. Same as Alternative D.	1. Same as Alternative D.	1. Designate new utility corridors and continue or eliminate the designation of existing corridors for transdistrict electric transmission lines identified by the (WRCS), Federal and State highways, county or BLM roads, and railroads as described in Appendix L, Table L-2. Corridor width would vary 500 to 6,000 feet on each side of the centerline of existing facilities as identified on Map LAND-1 in the Draft SEORMP/EIS, except for the following: (1) where the alignment forms the boundary of an SMA, and the corridor would be outside the area, and (2) corridor designations would minimize impacts to natural values consistent with other resource values. Because of prior decisions and commitments made in the MFP, OWFEIS, and the (WRCS), the location of PP&L 500-kV existing route below the Owyhee Dam would remain the same. The MFP recommend a route which avoided the area of the dam by detouring to the north (see Map LAND-1 in the Draft SEORMP/EIS). However, prior to the signing of the ROD of the MFP, a separate decision had already been made by Secretary of Interior and representatives of the Department of the Interior to allow construction of the 500-kV PP&L power line along the proposed original north route.

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
						Although the detour was considered very early in the route selection process, the route was not selected as described in the MFP and thus was not implemented. The OWFEIS (see Map 7 of the OWFEIS) recognized the existing constructed 500-kV PP&L power line route as a primary recognized existing route for location of future power line interties. The WRCS used the existing constructed poweline route and information obtained in the OWFEIS document for its report and maps. Therefore, proposals for future interties through this area would be scrutinized very closely and some limitations or modifications of structures could be imposed in order to minimize impacts to natural resource values contained within the proposed ACEC and recommended NWSR below the Owyhee Dam. General centerline corridor widths would be as follows: (a) 500 feet BLM and county roads, (b) 1,000 feet Federal and State highways, (c) 6,000 feet Interstate 84 corridor complex with multiple right-of-way users, (d) 1,500 feet large electric transmission interties (existing and proposed), (e) 1,000 feet smaller electrical transmission lines, (f) 1,000 feet large and small pipeline transmission lines, and (g) 1,000 feet railroads (see Appendix L, Table L-2 for existing and potential corridors).

Alternative A: Emphasize commodity production	**Alternative B:** Continue present management	**Alternative C**: Protect and improve natural values while providing for commodity production	**Alternative D:** Emphasize natural values	**Alternative D2:** Exclude commodity and other uses from sensitive areas, emphasizing natural values	**Alternative E:** Exclude commodities and limit other uses, maximizing natural values	**Proposed RMP:** Protect and improve natural values while providing commodity production
2. Eliminate proposed PP&L power line (south route) right-of-way corridor as listed in the WRCS to protect natural values and avoid SMA conflicts.	2. Continue with the proposed right-of-way corridor as listed in the WRCS without modifications and as identified in existing MFP's.	2. Same as Alternative A.	2. Same as Alternative A.	2. Same as Alternative A.	2. Same as Alternative A.	2. Eliminate proposed PP&L power line (south route) right-of-way corridor as listed in the WRCS to protect natural values and avoid SMA conflicts.
3. Eliminate proposed right-of-way corridor for possible Bonneville Power Administration (BPA) Arctic Gas Pipeline Transmission route right-of-way corridor as listed in the WRCS. The Arctic Gas Pipeline Transmission application was withdrawn. To protect natural values and avoid SMA conflicts this right-of-way corridor would be eliminated.	3. Continue with the proposed right-of-way, as listed in the WRCS, without modifications as identified in existing MFP's.	3. Same as Alternative A.	3. Same as Alternative A.	3. Same as Alternative A.	3. Same as Alternative A.	3. Eliminate proposed right-of-way corridor for possible BPA/Arctic Gas Pipeline Transmission route right-of-way corridor as listed in the WRCS. The Arctic Gas Pipeline Transmission application was withdrawn. To protect natural values and avoid SMA conflicts this right-of-way corridor would be eliminated.
4. Eliminate proposed MFP alternate 500-kV route. The PP&L 500-kV power line (north route) was constructed further to the south below the Owyhee Dam. The MFP alternate 500-kV route would be replaced by the new proposed 500-kV dog leg route which would be located further to the north. Approximately 22 miles of public land rights-of-way corridor would be involved.	4. Continue with the proposed right-of-way as identified in existing MFP.	4. Same as Alternative A.	4. Same as Alternative A.	4. Same as Alternative A.	4. Same as Alternative A.	4. Eliminate proposed MFP alternate 500-kV route. The PP&L 500-kV power line (north route) was constructed further to the south below the Owyhee Dam. The MFP alternate 500-kV route would be replaced by the new proposed 500-kV dog leg route which would be located further to the north. Approximately 22 miles of public land rights-of-way corridor would be involved.

[1] In the glossary, "high resource values," "public resource values," and "acquired land" are defined as used relative to the Land and Realty section of this plan.

Air Resources

Objective: Meet or exceed the "National Ambient Air Quality Standards" and the "Prevention of Significant Deterioration" with all authorized actions.

Rationale: Section 118 of the "Clean Air Act" requires Federal agencies to comply with all Federal, State, and local air pollution requirements. Section 176(c) prohibits Federal agencies from taking any actions that contribute to a new violation of ambient air quality standards, increase the frequency or severity of an existing violation, or delay the attainment of a standard. It also requires Federal agencies to conform to State implementation plans.

The "Air Quality Policy on Wildland and Prescribed Fires" issued April 23, 1998, directs public land managers to protect public health and welfare by mitigating the impacts of air pollutant emissions on air quality and visibility for all wildland and prescribed fires managed to achieve resource values.

Monitoring: Fire prescriptions and mitigation measures would be reviewed and records of acreages/tonnages burned would be maintained. Additional smoke management mitigation measures, including the use of smoke modeling programs (such as simple approach smoke estimation models), would be done for large or long duration burns that have the potential to impact major population centers such as Boise, Idaho, and Baker City.

Management common to all alternatives: Prior to the actual ignition of any prescribed fire, an approved prescribed fire burn plan would be in place and adhered to throughout the project. The burn plan would include information and techniques used to reduce or alter smoke emission levels. Information (including resource objectives, acres to be burned, fuel types, fuel moisture, fuel loading, fuel continuity, topography, location of population centers and Class 1 air sheds) assists fire managers in determining what weather conditions, firing methods, and mop-up standards should be used to minimize impacts. All prescribed fire projects will be completed in accordance with the "Oregon Smoke Management Plan." The majority of fuel types in the planning area do not allow opportunities to reduce emissions; therefore, emissions would be managed by timing and atmospheric dispersal.

Alternative A

Limit prescribed burning in rangelands to a maximum of 30,000 acres (or the equivalent of 337,500 tons of fuels) per year, and forested areas to a maximum of 300 acres (or the equivalent of 9,600 tons of fuels) per year.

Alternative B

Limit prescribed burning in rangeland areas to a maximum of 4,000 acres (or the equivalent of 44,400 tons of fuels) per year, and forested areas to a maximum of 150 acres (or the equivalent of 4,800 tons of fuels) per year.

Alternative C

Same as Alternative A.

Alternative D

Same as Alternative A.

Alternative D2

Same as Alternative A.

Alternative E

Allow natural fire processes to operate in the ecosystem.

Proposed RMP

Use prescribed burning to treat rangeland areas to 30,000 acres per year and forested areas to 300 acres per year or the equivalent of 337,500 tons of fuel per year.

Energy and Mineral Resources

Objective 1: Provide opportunities for exploration and development of leasable energy and mineral resources while protecting other sensitive resources.

Rationale: The "Mineral Leasing Act" of 1920, as amended; the "Geothermal Steam Act" of 1970, as amended; and the "Mining and Mineral Policy Act" of 1970, declare 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 FLPMA directs that the public land will be managed in a manner which recognizes the Nation's need for domestic sources of 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.

Section 102 of FLPMA also states that public land will be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water and archaeological values. Refer to Appendix O for a list of best management practices (BMP's).

Congressional action has closed wild river segments of designated NWSR's, a portion of the southwestern corner of JRA (in Harney County), and WSAs's to energy and mineral leasing. Any WSA's, or portions thereof, that are not designated as wilderness and are released by Congress from WSA status will be open to leasing unless closed by other management actions.

Appendix P contains mineral development scenarios which are best estimates, given current information, as to the types and extent of mineral development possible over the next 20 years. These scenarios were developed for analysis purposes only.

Monitoring: Inspections would be conducted to determine compliance with applicable laws, regulations, conditions of leases, and the requirements of approved exploration plans. Where mineral production is occurring, inspections would ensure an accurate accounting of materials removed, proper compensation to the Federal government, protection of the environment, public health and safety, and identification and resolution of mineral trespass. Operations in sensitive areas or operations with a high potential for greater than usual impacts would be inspected more often.

Management common to all alternatives:

Closed to leasing: This restriction involves both nondiscretionary and discretionary closures. Nondiscretionary closures (such as WSA's and designated NWSR's), which are the result of congressional action and not affected by this plan, are not displayed or analyzed.

Discretionary closures are the result of management decisions arrived at through the planning process. They involve land where the resource values are considered so important that they outweigh any economic return that can be expected from mineral development, and environmental impacts resulting from lease operations could irreparably damage those resources. Less restrictive measures were considered in identifying these closures, but were considered inadequate to protect resource values contained on the parcel(s).

Special stipulations: These are specific operating conditions imposed at the time of lease issuance which modify the original terms and conditions of the lease (standard lease terms). In this planning area, these stipulations fall into three categories, described below.

1) No surface occupancy (NSO)—This stipulation is applied to land where the resource values (such as sensitive plant sites, or areas of high scenic values) are such that they cannot be adequately protected by the standard stipulations or less restrictive special stipulations such as timing limitations. In the development of this stipulation, less restrictive stipulations were evaluated and found to be inadequate to protect known and suspected values contained on the parcel. The no leasing alternative was also evaluated, but was considered unnecessary to protect the resources.

2) Timing limitation—This stipulation is applied to land where the resource values (such as raptor nesting, sage grouse leks, or big game winter range) cannot be adequately protected by the standard lease terms, but yet do not require a yearlong restriction on leasing operations. Less restrictive stipulations (such as controlled surface use or standard stipulations) were considered in developing this stipulation, but it was concluded that they would not afford sufficient protection to the known and suspected resources found on the parcel(s).

3) Other special stipulations—This stipulation does not fit the usually identified stipulation categories. It is applied in cases where a resource requires protection, but either covers a large geographic region (e.g, special status plants and animals, which are found throughout the planning area, but not all locations are known); or information pertaining to that resource may be incomplete (such as the size and location of RCA's) and is applied to all leases. The application of the standard lease terms was considered in developing this stipulation(s), but found to provide insufficient safeguards to resolve lease concerns.

Standard lease terms: These are the standard terms and conditions that are applied to all leases (sections 6 of Form 3110-11, "Offer to Lease and Lease for Oil and Gas," and Form 3200-4, "Offer to Lease and Lease for Geothermal Resources"). They are the only conditions applied to a lease where additional measures are not considered necessary to protect resource values. Standard lease terms have been superceded by other special stipulations and will not be applied in the planning area.

Geophysical operations would also be subject to the proposed lease restrictions identified above, except for certain types of activity requiring little or no surface disturbance, such as gravity and magnetic surveys.

Alternative A

The area would be open to energy and mineral leasing, except additions to WSA's to protect the special values identified.

There would be other areas that may be leased, but to protect special values would not be authorized for surface-disturbing activities. They would be classified as NSO. This restriction includes some ACEC's listed as NSO on Table 3-12; the Owyhee River section identified as administratively suitable for designation as "recreational" in the NWSRS; and the Succor Creek SRMA.

There would also be areas that would have seasonal and/or other special stipulations to protect values identified. These areas include some ACEC's listed as OWS in Table 3-12; areas within 0.5 mile of sage grouse leks; big game winter range, including elk, mule deer, pronghorn antelope, and bighorn sheep; areas of special status species; and riparian conservation areas (RCA's).

Alternative B

The area would be open to energy and mineral leasing, except in ACEC's listed in Table 3-12 as no lease and the North Fork Malheur River that is identified as administratively suitable for designation as wild in the NWSRS.

The NSO stipulation specifically covers portions of the Leslie Gulch ACEC and the Oregon Trail corridor; however, this stipulation would be placed on a lease (located elsewhere in the planning area) if analysis of the lease area indicates a need to protect sensitive resource areas.

Season or other special stipulations would also be applied to a lease as the need is identified.

Alternative C

The area would be open to energy and mineral leasing except in rivers identified as administratively suitable for designation as wild in the NWSRS, as identified on Table 3-13, and the 3,280 acres of proposed WSA.

The NSO stipulation would apply to ACEC's listed in Table 3-12 as NSO; streams identified as administratively suitable for designation as scenic or recreational in the NWSRS (Table 3-13); and within selected special status plant sites near Harper.

There would also be areas that would have seasonal or other special stipulations (applied) to protect identified resource values. These areas include (some) ACEC's (Table 3-12, OWS); a 0.5-mile buffer around sage grouse leks; big game winter areas; areas of special status plant and animal species and their essential habitat; and RCA's.

Alternative D

The area would be open to energy and mineral leasing, except in ACEC's listed as NL in Table 3-12; in rivers identified as administratively suitable for designation as wild in the NWSRS, (Table 3-13); and additions to WSA's.

The NSO stipulation would apply to ACEC's listed in Table 3-12 as NSO; to streams identified as administratively suitable for designation as scenic or recreational in the NWSRS (Table 3-13); and within selected special status plant sites near Harper.

There would also be areas that would have seasonal or other special stipulations to protect identified resource values. These areas include ACEC's listed as OWS in Table 3-12; a 0.5-mile buffer around sage grouse leks; big game winter ranges; special status plant and animal species and their essential habitat; and RCA's.

Alternative D2

The area would be open to energy and mineral leasing, except in ACEC's (Table 3-12); in rivers identified as administratively suitable for designation as wild in the NWSRS as described in Alternative C (Table 3-13); and additions to WSA's.

The NSO stipulation would apply to streams identified as administratively suitable for designation as scenic or recreational in the NWSRS as described in Alternative C (Table 3-13); within the Succor Creek SRMA; and within selected special status plant sites near Harper.

There also would be areas that would have seasonal or other special stipulations to protect identified resource values. These areas include a 0.5-mile buffer around sage grouse leks; big game winter ranges; special status plant and animal species and their essential habitat; and RCA's.

Alternative E

The area would be closed to all energy and mineral leasing.

Proposed RMP

The area would be open to energy and mineral leasing, except in rivers identified as administratively suitable for designation as wild in the NWSRS (Table 3-13), and the 3,280 acres of proposed WSA additions.

The NSO stipulation would be applied to specified ACEC's listed as NSO in Table 3-12; streams designated administratively suitable as scenic or recreational in the NWSRS (Table 3-13); and selected special status plant sites near Harper.

There would also be areas where a seasonal, or other special stipulation would be applied to protect values identified. These areas include some ACEC's (Table 3-12, OWS); a 0.5-mile buffer around sage grouse leks; big game winter ranges; areas of special status plant and animal species and their essential habitat; and RCA's.

Table 3-3a displays the proposed restrictions on mineral leasing in the planning area by alternative; Table 3-3b shows the total acres of leasable mineral restrictions imposed on each resource area by alternative. See also Map MIN-6 for the geographic locations of leasing restrictions for the Proposed RMP.

Objective 2: Provide opportunities for exploration and development of locatable mineral resources while protecting other sensitive resources.

Rationale: The "General Mining Law" of 1872 gives the public the basic right to locate and develop mining claims on Federally-owned land. The "Mining and Mineral 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 FLPMA directs that public land is to be managed in a manner which recognizes the Nation's need for domestic sources of minerals and other resources.

Section 102 also states that public land will be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archaeological values. Refer to Appendix O for a listing of BMP's.

Congressional action has closed wild segments of designatsed NWSR's to mineral location and a portion of the southwest corner of JRA (in Harney County) to mineral location due to designation of the Steens Mountain Cooperative Management and Protective Area, subject to

Table 3-3a.—*Mineral leasing management* [1]

Resource of concern	Applicable restricted area	Alter-native	Lease restriction MRA	Lease restriction JRA	Lease restriction Total	Acreages within WSA's[2] MRA	Acreages within WSA's[2] JRA	Acreages within WSA's[2] Total	Description
Closed to leasing									
ACEC values	Existing and proposed ACEC's (see Table 3-12).	A	0	0	0	0	0	0	**ACEC's**: No leasing is allowed within specific ACEC's unless the values for which the ACEC was designated to protect no longer exist and the ACEC designation is removed through an amendment to this plan.
		B	24,759	32,684	57,443	24,759	32,684	57,443	
		C	0	0	0	0	0	0	
		D	17,622	1,176	18,798	10,490	1,153	11,643	
		D2	204,013	60,653	264,666	111,974	51,772	163,746	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	0	0	0	0	0	0	
National wild and scenic rivers	Administratively suitable wild study rivers (see Table 313).	A	0	0	0	0	0	0	**Administratively suitable wild study rivers**: Upon designation, NWSR's are removed from availability for mineral leasing. To protect them from adverse impacts while in study status, no leasing would be authorized, pending congressional action on NWSR designation. Leasing may be allowed on rivers not designated as part of the NWSR system and released from study status.
		B	996	0	996	0	0	0	
		C	6,340	1,448	7,788	3,329	1,448	4,777	
		D	9,132	23,504	32,636	3,329	19,913	23,242	
		D2	6,340	1,448	7,788	3,329	1,448	4,777	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	6,340	1,448	7,788	3,329	1,448	4,777	

Table 3-3a.—*Mineral leasing management* [1] *(continued)*

Resource of concern	Applicable restricted area	Alter-native	Lease restriction MRA	Lease restriction JRA	Lease restriction Total	Acreages within WSA's[2] MRA	Acreages within WSA's[2] JRA	Acreages within WSA's[2] Total	Description
Wilderness study area additions	Public land recommended for wilderness and added to existing WSA's, as mapped on Map MIN-6.	A	2,200	1,080	3,280	0	0	0	**WSA additions**: This land has been recommended for wilderness designation and would be added to WSA's. As they would then come under IMPLWR criteria, no leasing would be allowed pending congressional action on wilderness designation. Leasing may be allowed on land not designated as wilderness and released from WSA status.
		B	0	0	0	0	0	0	
		C	2,200	1,080	3,280	0	0	0	
		D	2,200	1,080	3,380	0	0	0	
		D2	2,200	1,080	3,280	0	0	0	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	2,200	1,080	3,280	0	0	0	
No surface occupancy									
ACEC values	ACEC's (see Table 3-12).	A	31,221	58	31,279	25,816	58	25,874	**ACEC's**: These areas have significant resource values (such as special status plants and animals, remnant vegetation associations, high scenic values and American Indian religious concerns) which could be adversely impacted by lease operations. The application of an NSO stipulation would protect those values**.** **Exception**: None **Modification**: None **Waiver**: This stipulation may be removed if the significant resource values identified for protection through designation of the specific ACEC are determined to be no longer important and relevant.
		B	990	0	990	0	0	0	
		C	176,133	47,688	223,821	106,874	43,623	150,497	
		D	186,582	58,945	245,527	101,475	50,143	151,618	
		D2	0	0	0	0	0	0	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	136,506	30,806	167,312	74,789	27,921	102,710	

Table 3-3a.—*Mineral leasing management [1] (continued)*

Resource of concern	Applicable restricted area	Alter-native	Lease restriction MRA	Lease restriction JRA	Lease restriction Total	Acreages within WSA's[2] MRA	Acreages within WSA's[2] JRA	Acreages within WSA's[2] Total	Description
Scenic and recreational study rivers	Administratively suitable scenic and recreational study rivers (see Table 3-13).	A	2,953	0	2,953	0	0	0	**Scenic and recreational study rivers:** These rivers are being analyzed as suitable. If determined to be suitable, an NSO stipulation would be applied, pending congressional action on designation. **Exception**: None **Modification**: None **Waiver:** None
		B	0	0	0	0	0	0	
		C	2,953	0	2,953	0	0	0	
		D	9,484	9,761	19,245	2,445	6,218	8,663	
		D2	2,953	0	2,953	0	0	0	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	2,953	0	2,953	0	0	0	
Oregon Trail	0.25-mile wide corridor along a 4-mile segment of the trail near Keeney Pass.	A	0	0	0	0	0	0	**Oregon Trail**: To prevent surface disturbance within the corridor from destroying evidence of the trail or disrupt its historic setting, an NSO stipulation is applied within the corridor. **Exception**: None **Modification**: The authorized officer may modify the stipulation area if sitespecific environmental analysis shows that an activity would not adversely impact the trail or historic setting. **Waiver**: None
		B	1,032	0	1,032	0	0	0	
		C	0	0	0	0	0	0	
		D	0	0	0	0	0	0	
		D2	0	0	0	0	0	0	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	0	0	0	0	0	0	

Table 3-3a.—*Mineral leasing management [1] (continued)*

Resource of concern	Applicable restricted area	Alter-native	Lease restriction MRA	Lease restriction JRA	Lease restriction Total	Acreages within WSA's[2] MRA	Acreages within WSA's[2] JRA	Acreages within WSA's[2] Total	Description
Special status plants	Selected special status plant sites near Harper.	A	0	0	0	0	0	0	**Special status plant sites**: These sites have special status plant habitat which would be adversely impacted by surface disturbance. NSO stipulations would be applied within these areas to protect those values. **Exception**: None **Modification**: None **Waiver:** This stipulation may be waived by the authorized officer if the plant species is no longer classified as special status.
		B	0	0	0	0	0	0	
		C	903	0	903	0	0	0	
		D	903	0	903	0	0	0	
		D2	1,216	0	1,216	0	0	0	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	1,216	0	1,216	0	0	0	
Special recreation management areas	Succor Creek SRMA.	A	11,355	0	11,355	0	0	0	**Succor Creek SRMA**: The Succor Creek SRMA is situated within a relatively narrow canyon with outstanding scenic values and recreational opportunities. An NSO stipulation would be applied within the Succor Creek SRMA to protect those values. **Exception**: None **Modification**: None **Waiver**: None
		B	0	0	0	0	0	0	
		C	0	0	0	0	0	0	
		D	11,355	0	11,355	0	0	0	
		D2	11,355	0	11,355	0	0	0	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	11,355	0	11,355	0	0	0	

Table 3-3a.—*Mineral leasing management* [1] *(continued)*

Resource of concern	Applicable restricted area	Alter-native	Lease restriction MRA	Lease restriction JRA	Lease restriction Total	Acreages within WSA's[2] MRA	Acreages within WSA's[2] JRA	Acreages within WSA's[2] Total	Description
Operational timing limitations									
Big game winter range	Elk, mule deer, pronghorn antelope, and California bighorn sheep range, as mapped on Map MIN-6.	A	1,360,903	871,681	2,232,584	209,437	406,159	615,596	**Big game winter range**: Big game tolerance to exploration and development activities varies by species and is influenced by the intensity, duration and timing of human disturbance. Winter season disturbances can be particularly detrimental to big game that are already under normal thermal and dietary stresses. When added to winter environmental stress, human activity can result in fetal losses in pregnant does as well as mortality in adults. In areas with big game winter range, no development would be allowed from December–March 1 of each year. **Exception**: The authorized officer may grant an exception if site-specific environmental analysis indicates that an action would not interfere with habitat function or compromise animal condition. **Modification**: The authorized officer may modify the size and timeframes of the stipulation if monitoring indicates that current animal use patterns are inconsistent with dates established for animal occupation. **Waiver**: This stipulation may be waived by the authorized officer if monitoring determines that all or specific portions of the project area no longer satisfy this functional capacity.
		B	0	0	0	0	0	0	
		C	1,235,002	862,388	2,097,390	133,857	397,288	531,145	
		D	1,199,102	837,923	2,037,025	129,650	379,235	508,885	
		D2	1,207,285	775,002	1,982,287	132,095	361,028	493,123	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	1,261,124	784,570	2,045,694	165,986	370,346	536,332	

Table 3-3a.—*Mineral leasing management [1] (continued)*

Resource of concern	Applicable restricted area	Alter-native	Lease restriction MRA	Lease restriction JRA	Lease restriction Total	Acreages within WSA's[2] MRA	Acreages within WSA's[2] JRA	Acreages within WSA's[2] Total	Description
Sage grouse lek sites	Identified leks as shown on Map MIN-6.	A	38,693	49,704	88,397	3,107	12,503	15,610	**Sage grouse leks**: Sage grouse breeding activity could be disrupted by lease development activities during the strutting season. An NSO stipulation is applied within 0.5-mile of these sites between March 1–June 1 of each year. **Exception**: The authorized officer may grant an exception to the stipulation if sitespecific environmental analysis indicates that an action would not interfere with sage grouse strutting. **Modification**: The authorized officer may modify the size and timeframes of the stipulation, if monitoring indicates that current sage grouse use patterns are inconsistent with dates established for animal occupation. A modification may also be granted if the proposed action could be conditioned so as not to interfere with sage grouse strutting. **Waiver**: This stipulation may be waived if monitoring determines that all or specific portions of the lease area no longer satisfy this function capacity.
		B	0	0	0	0	0	0	
		C	37,293	49,204	86,497	2,677	12,002	14,679	
		D	36,018	48,912	84,974	2,635	11,724	14,359	
		D2	36,062	48,704	84,766	2,635	11,506	14,141	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	60,976	65,130	126,106	3,315	19,988	23,303	

Table 3-3a.—*Mineral leasing management [1] (continued)*

Resource of concern	Applicable restricted area	Alter-native	Lease restriction MRA	Lease restriction JRA	Lease restriction Total	Acreages within WSA's[2] MRA	Acreages within WSA's[2] JRA	Acreages within WSA's[2] Total	Description
ACEC values	Potential and existing ACEC's (see Table 3-12).	A	0	0	0	0	0	0	**ACEC's**: These areas contain values which could be adversely impacted by lease development activities. NSO stipulation is applied between March 1–June 1 of each year. **Exception**: None **Modification**: The authorized officer may modify the area of this stipulation if the ACEC designation is dropped and/or the values are no longer a concern. **Waiver**: None
		B	0	0	0	0	0	0	
		C	6,235	0	6,235	3,642	0	3,642	
		D	0	0	0	0	0	0	
		D2	0	0	0	0	0	0	
		E	Closed	Closed	Closed	Closed	Closed	Closed	
		PRMP	6,013	0	6,013	3,642	0	3,642	
Other special stipulations									
All State threatened and endangered, Federal candidate and Bureau sensitive plants and animals	Planning area wide.	A			All leases			NA	**Special status species:** Surfacedisturbing activities on all mineral leases are limited to existing roads until special status field surveys of the proposed area of disturbance are completed. These field surveys must be conducted at an appropriate time of year to enable the identification of special status plants and animals and their suitable habitat. If special status species or their habitats are found or known to be in the area, the authorized officer may determine to not allow or to modify activities as needed to ensure that actions are not likely to contribute to the need to Federally list the species. **Exception:** None **Modification:** None **Waiver:** None
		B			0			0	
		C			All leases			N/A	
		D			All leases			N/A	
		D2			All leases			N/A	
		E			Closed			Closed	
		PRMP			All leases			N/A	

Table 3-3a.—*Mineral leasing management* [1] *(continued)*

Resource of concern	Applicable restricted area	Alter-native	Lease restriction MRA	Lease restriction JRA	Lease restriction Total	Acreages within WSA's[2] MRA	Acreages within WSA's[2] JRA	Acreages within WSA's[2] Total	Description
Riparian conservation areas	Planning area wide.	A			All leases	N/A		N/A	**RCA's:** Surface-disturbing activities on all mineral leases are limited to areas outside of RCA's. This may require relocation of proposed surface-disturbing activities more than 200 meters. **Exception:** Surface occupancy within RCA's may be allowed if there are no practical alternatives, riparian management objectives can be obtained, and unavoidable adverse impacts to aquatic resources can be minimized. **Modification:** None **Waiver:** None
		B			0	0		0	
		C			All leases	N/A		N/A	
		D			All leases	N/A		N/A	
		D2			All leases	N/A		N/A	
		E			Closed	Closed		Closed	
		PRMP			All leases	N/A		N/A	

[1] Acreages in this table will not match acreages in Table 3-1 because of overlap of leasing restrictions.
[2] Acreages shown in these columns are closed to leasing by congressional action. Additional leasing restrictions would not be imposed on these lands unless they are not designated as wilderness and released from WSA status.

Table 3-3b.—*Mineral restrictions*

Mineral category and restrictions	Alternative	Acres of mineral restriction MRA	JRA	Total	Acres within WSA's MRA	JRA	Total
Leasables							
Closed to leasing	A	2,200	1,080	3,280	0	0	0
	B	25,755	32,684	58,439	24,759	32,684	57,443
	C	8,540	2,528	11,068	3,329	1,448	4,777
	D	22,243	25,711	47,954	10,501	19,960	30,461
	D2	206,263	63,181	269,444	111,976	53,220	165,196
	E	Closed	Closed	Closed	Closed	Closed	Closed
	PRMP	8,540	2,528	11,068	3,329	1,448	4,777
No surface occupancy	A	45,529	58	45,587	25,816	58	25,874
	B	2,022	0	2,022	0	0	0
	C	177,068	47,688	224,756	106,874	43,623	150,497
	D	205,335	67,435	272,770	103,920	55,269	159,189
	D2	15,524	0	15,524	0	0	0
	E	Closed	Closed	Closed	Closed	Closed	Closed
	PRMP	149,110	30,806	179,916	74,789	27,921	102,710
Operational timing limitations	A	1,378,764	907,441	2,286,205	209,621	413,381	623,002
	B	0	0	0	0	0	0
	C	1,252,702	897,648	2,150,350	133,880	404,011	537,891
	D	1,216,802	872,921	2,089,723	129,673	385,710	515,383
	D2	1,224,984	810,262	2,035,246	132,117	367,750	499,867
	E	Closed	Closed	Closed	Closed	Closed	Closed
	PRMP	1,279,342	829,672	2,109,014	166,009	380,521	546,530
Locatables [1]	A	38,271	1,793	40,054	25,579	58	25,637
	B	996	0	996	0	0	0
	C	154,076	7,489	161,565	102,399	5,498	107,897
	D	192,041	77,706	269,747	103,769	64,442	168,211
	D2	218,969	63,836	282,805	111,978	53,220	165,198
	E	Closed	Closed	Closed	Closed	Closed	Closed
	PRMP	124,178	3,241	127,419	73,046	59	73,104
Saleables							
Closed to disposal	A	60,787	38,209	98,996	31,267	30,467	61,734
	B	25,755	36,446	62,201	24,759	32,684	57,443
	C	174,763	55,317	230,081	110,203	45,071	155,274
	D	215,708	97,163	312,871	114,410	75,227	189,637
	D2	223,496	68,281	291,777	111,976	53,220	165,196
	E	Closed	Closed	Closed	Closed	Closed	Closed
	PRMP	148,410	46,003	194,413	77,821	41,079	121,900

[1] Includes both protective withdrawals and WSA additions (no surface disturbance requiring reclamation is allowed).

valid existing rights. BLM administrative actions have closed selected administrative and recreation sites to mineral location.

Although WSA's would be available for location of mining claims, activities on these claims would be limited in accordance with BLM's IMPLWR. Mining claims located in WSA's not designated as wilderness would be released from IMPLWR criteria. Appendix P contains mineral development scenarios which are a best estimate, given current information, as to the types and extent of mineral development possible over the next 20 years. These scenarios were developed for analysis purposes only.

Monitoring: Monitoring of activities on mining claims would be conducted to ensure compliance with the 43 CFR 3802/3809 regulations. These regulations provide for locatable mineral activities on public land while preventing unnecessary or undue degradation, and provide for reclamation of disturbed areas and coordination with State agencies. BLM policy establishes minimum inspection frequencies for mining operations as follows: quarterly inspections are required for all operations using cyanide, and biannual inspections for all other active operations. Operations in sensitive areas or operations with a high potential for greater than usual impacts would be inspected more often.

Alternative A

The planning area would be open to mineral location and development except in selected SMA's. Pursue protective withdrawals (subject to Secretarial approval and, for proposals greater than 5,000 acres, subject to congressional review) in ACEC's listed as withdrawal in Table 3-12, BLM administrative sites and developed recreation sites as listed in Table 3-4, and proposed BLM recreation sites when development is approved. These withdrawals would be for a maximum of 20 years and subject to review at the end of that period to determine the necessity of continuing the withdrawal.

While WSA additions would remain open to mineral location, mineral operations would become subject to IMPLWR criteria; therefore, no surface-disturbing activities requiring reclamation would be allowed unless the operation had established "grandfathered" uses or "valid existing" rights.

Table 3-4.—*Administrative and recreational locatable mineral withdrawals (Alternatives A, C, D, D2, and PRMP)*

Location	Type of site	Acres
Malheur Resource Area		
Juntura	Administrative	10
Chukar Park	Recreational	90
Riverside	Recreational	35
TOTAL		135
Jordan Resource Area		
McDermitt # 2	Administrative	4
Rome Launch Site	Administrative	80
Cow Lakes	Recreational	511
Antelope Campground	Recreational	60
TOTAL		655
GRAND TOTAL		790

Alternative B

The planning area would be open to mineral location and development except in selected SMA's. Pursue protective withdrawals (subject to Secretarial approval) in streams identified as administratively suitable for designation as wild under the NWSRS as listed in Table 3-13. These withdrawals would be for a maximum of 20 years and subject to review at the end of that period to determine the necessity of continuing the withdrawal.

Alternative C

The planning area would be open to mineral location an development except in selected SMA's. Pursue protective withdrawals (subject to Secretarial approval and, for proposals greater than 5,000 acres, subject to congressional review) in ACEC's listed as withdrawal in Table 3-12 (in streams identified as administratively suitable for designation as wild under the NWSRS as listed in Table 3-13); BLM administrative sites and developed recreation sites as listed in Table 3-4; proposed BLM recreation sites when development is approved; and special status plant sites near Harper (Malheur fiddleneck). These withdrawals would be for a maximum of 20 years and subject to review at the end of that period to determine the necessity of continuing the withdrawal.

While WSA additions would remain open to mineral location, mineral operations would become subject to IMPLWR criteria; therefore, no surface-disturbing activities requiring reclamation would be allowed unless the operation had established "grandfathered" uses or "valid existing" rights.

Alternative D

The planning area would be open to mineral location and development except in selected SMA's. Pursue protective withdrawals (subject to Secretarial approval and, for proposals greater than 5,000 acres, subject to congressional review) in ACEC's listed as withdrawal in Table 3-12; (in streams identified as administratively suitable for designation as wild under the NWSRS as listed in Table 3-13); BLM administrative sites and developed recreation sites as listed in Table 3-4, proposed BLM recreation sites when development is approved; Succor Creek SRMA, and special status plant sites near Harper (Malheur fiddleneck). These withdrawals would be for a maximum of 20 years and subject to review at the end of that period to determine the necessity of continuing the withdrawal.

While WSA additions would not be closed to mineral location, mineral operation would become subject to IMPLWR criteria; therefore, no surface-disturbing activities requiring reclamation would be allowed unless the operation had established "grandfathered" uses or "valid existing" rights.

Alternative D2

The planning area would be open to mineral location and development except in selected SMA's. Pursue protective withdrawals (subject to Secretarial approval and, for proposals greater than 5,000 acres, subject to congressional review) in ACEC's (Table 3-12); in streams identified as administratively suitable for designation as wild under the NWSRS as described in Alternative C (Table 3-13); BLM administrative sites and developed recreation sites as listed in Table 3-4, proposed BLM recreation sites when development is approved, Succor Creek SRMA, and special status plant sites near Harper (Malheur fiddleneck). These withdrawals would be for a maximum of 20 years and subject to review at the end of that period to determine the necessity of continuing the withdrawal.

While WSA additions would not be closed to mineral location, mineral operation would become subject to IMPLWR criteria; therefore, no surface-disturbing activities requiring reclamation would be allowed unless the operation had established "grandfathered" uses or "valid existing" rights.

Alternative E

Withdraw the entire planning area to mineral location (subject to Secretarial approval and congressional review).

Proposed RMP

The planning area would be open to mineral location and development except in selected SMA's. Pursue protective withdrawals (subject to Secretarial approval and, for proposals greater than 5,000 acres, subject to congressional review) in ACEC's listed as withdrawal in Table 3-12, in streams identified as administratively suitable for designation as wild under the NWSRS as listed in Table 3-13; BLM administrative sites and developed recreation sites as listed in Table 3-4, proposed BLM recreation sites when development is approved and special status plant sites near Harper (Malheur fiddleneck). These withdrawals would be for a maximum of 20 years and subject to review at the end of that period to determine the necessity of continuing the withdrawal.

While WSA additions would remain open to mineral location, mineral operations would become subject to IMPLWR criteria; therefore, no surface-disturbing activities requiring reclamation would be allowed unless the operation had established "grandfathered" uses or "valid existing" rights.

Table 3-3b displays the acreage of proposed mineral location restrictions by alternative in the planning area.

Objective 3: Provide for public demand for saleable minerals from public land while protecting sensitive resources.

Rationale: The "Material Act" of 1947, as amended, and the "Mining and Mineral Policy Act" of 1970 declare that it is the continuing policy of the Federal government to foster and encourage private enterprise in the development of domestic mineral resources. The FLPMA, section 102, directs that public land will be managed in a manner which recognizes the Nation's need for domestic sources or 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.

Section 102 of FLPMA also states that the public land will be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archaeological values. Refer to Appendix O for a list of BMP's.

A small portion of the southwest corner of JRA (in Harney County) has been closed to saleable mineral disposals by congressional action, except that material can be removed from existing community pits for road maintenance. Designated NWSR's and WSA's have been closed to saleable mineral disposals by BLM management actions. Any WSA's, or portions thereof, that would be not designated as wilderness would be open to mineral material disposal unless closed by other management actions.

Appendix P contains mineral development scenarios which would be a best estimate, given current information, as to the types and extent of mineral development possible over the next 20 years. These scenarios were developed for analysis purposes only.

Monitoring: Inspections of saleable mineral operations would be conducted in accordance with BLM policy contained in BLM Manual, section 3600. Inspections would be conducted to determine compliance with applicable laws, regulations, and the requirements of approved mining plans. Where mineral production is occurring, the goals of the saleable mineral

inspection and enforcement/production verification program would be: (1) an accurate accounting of material 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. Operations in sensitive areas or operations with a high potential for greater than usual impacts would be inspected more often.

Alternative A

The planning would be available for saleable mineral development except where unacceptable conflicts exist, as determined by interdisciplinary, site-specific review. Saleable mineral development would not be permitted in ACEC's listed in Table 3-12, in additions to WSA's, in streams administratively suitable for inclusion in the NWSRS, in Harper and other special status plant sites, in BLM administrative sites, in developed and potential BLM recreation sites, in RCA's, or within Succor Creek SRMA.

Alternative B

The planning area would remain open for saleable mineral development except where unacceptable conflicts exist, as determined by interdisciplinary, site-specific review. Saleable mineral development would not be permitted in ACEC's as specified in Table 3-12 or in streams administratively suitable for inclusion in the NWSRS, in Harper and other special status plant sites, and in developed and potential BLM recreation sites.

Alternative C

The planning area would be available for saleable mineral development except where unacceptable conflicts exist, as determined by interdisciplinary, site-specific review. Saleable mineral development would not be permitted in ACEC's as specified in Table 3-12, in streams administratively suitable for inclusion in the NWSRS, in additions to WSA's, in Harper and other special status plant sites, in BLM administrative sites, in developed and potential BLM recreation sites, and within RCA's or areas which may affect RCA's.

Alternative D

The planning area would be available for saleable mineral development except where unacceptable conflicts exist, as determined by interdisciplinary, site-specific review. Saleable mineral development would not be permitted in ACEC's as specified under Alternative D in Table 3-12, in streams administratively suitable for inclusion in the NWSRS, in WSA additions, in Succor Creek SRMA, in Harper and other special status plant sites, in BLM administrative sites, in developed and potential BLM recreation sites, and within RCA's or areas which may affect them.

Alternative D2

The planning area would be available for saleable mineral development except where unacceptable conflicts exist, as determined by interdisciplinary, site-specific review. Saleable mineral development would not be permitted in ACEC's as specified under Alternative D-2 in Table 3-12, in streams administratively suitable for inclusion in the NWSRS, in WSA additions, in Succor Creek SRMA, in Harper and other special status plant sites, in BLM administrative sites, in developed and potential BLM recreation sites, and within RCA's or areas which may affect them.

Alternative E

The planning area would be closed to saleable mineral development.

Proposed RMP

The planning area would be available for saleable mineral development except where unacceptable conflicts exist, as determined by interdisciplinary, site-specific review. Saleable mineral development would not be permitted in ACEC's as specified in Table 3-12, in streams administratively suitable for inclusion in the NWSRS, in additions to WSA's, in Harper and other special status plant sites, in the Succor Creek SRMA, in BLM administrative sites, in developed and potential BLM recreation sites as identified in Appendix U, and within RCA's or areas which may affect RCA's.

Table 3-3b displays the acres proposed for closure to saleable mineral disposal by alternative in the planning area.

Fire

Objective 1: Provide an appropriate management response (AMR) on all wildfires, with emphasis on minimizing suppression costs, considering fire fighter and public safety, benefits, and values to be protected consistent with resource objectives.

Rationale: "Fire, as a critical natural process, will be integrated into land and resource management plans and activities on a landscape scale, across agency boundaries, and will be based upon best available science. All use of fire for resource management requires a formal prescription. Management actions taken on wildland fires will be consistent with approved fire management plans" ("Federal Wildland Fire Management Policy and Program Review," December 18, 1995, and as amended by the January 2001, review and update).

Monitoring: Monitoring would include the establishment of photo and/or study plots to identify actual resource changes and to determine whether or not resource objectives are being met. It would require close coordination with periodic reviews and post fire critiques occurring between resource and fire management personnel. Real time fire monitoring, including weather, fire behavior, fire effects, etc., would be documented and analyzed.

Alternative A

Provide for an AMR which includes aggressive initial attack, full suppression action, including the use of earth-moving equipment, on all wildfires. Use natural barriers, greenstripping, and other human-made firebreaks as available for control lines. Develop vegetation manipulation plans to implement an aggressive greenstripping program. Amend the current FMP to reflect altered suppression standards. When fighting fire in areas such as WSA's and SMA's, restrict the use of surface-disturbing equipment except where needed to protect human life or property.

Alternative B

Provide an AMR of initial attack, full suppression on all wildfires, ensuring that fire and resource standards and objectives identified under the current FMP would be met. Use greenstripping where determined necessary to break fuel continuity and provide firebreaks. When fighting fire in areas such as WSA's and SMA's, restrict the use of surface-disturbing equipment except where needed to protect human life or property.

Alternative C

Provide AMR based on criteria identified in Appendix M. Develop suppression strategies that would most efficiently meet resource and fire management direction for wildfire under current and expected burning conditions. Develop specific AMR "pre-attack" plans for each area within the protection zone. Base wildland fire management actions on values to be

protected, fire and land management objectives, and environmental conditions. See Map FIRE-2 for AMR categories. Amend current FMP's to reflect altered suppression standards. When fighting fire in areas such as WSA's and SMA's, restrict the use of surface-disturbing equipment except where needed to protect human life or property.

Alternative D

Provide AMR based on criteria identified in Appendix M, emphasizing only the protection of sensitive resource values, life and private, State and Federal property. Develop specific preplanned dispatch actions for each area within the protection boundary. Base wildland fire management actions on identified values to be protected, fire and land management objectives, and environmental conditions. Amend current FMP's to reflect altered suppression standards. When fighting fire in WSA's and SMA's, restrict the use of surface-disturbing equipment except where needed to protect human life and property.

Alternative D2

Provide AMR on all wildfires. Response to be based on preplanned fire criteria and resource objectives (identified in Appendix M) with emphasis on the protection of sensitive resource values, human life and other Federal, State and private property.

Alternative E

Provide AMR with emphasis on suppressing fires only to protect human life, other Federal, State and private property and in annual grasslands.

Proposed RMP

Provide AMR on all wildfires. Response to be based on preplanned fire criteria and resource objectives (Appendix M).

Objective 2: Recognize fire as a critical natural process and use it to protect, maintain, and enhance resources.

Rationale: "Wildland fire will be used to protect, maintain, and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role."—"Federal Wildland Fire Management Policy and Program Review," December 18, 1995, and as amended by the January 2001 review and update.

Monitoring: Monitoring would include the use of photo and/or study plots to determine resource change and effectiveness of meeting resource and fire objectives. Real time fire monitoring, including weather, fire behavior, fuels etc., would be documented and analyzed for effectiveness in meeting objectives. Burn boss and cost analysis reports would be completed to determine cost-effectiveness of each burn project. As necessary, post-burn reviews between resource and fire personnel would occur.

Alternative A

Emphasize the use of prescribed fire to optimize the forage base and create a vegetation mosaic. Conduct prescribed burning at the maximum allowed by the "Clean Air Act" and State regulations. Amend the current FMP to reflect changes in prescribed fire management.

Alternative B

Use prescribed fire to meet resource objectives and create a vegetation mosaic. Conduct prescribed fire operations to enhance the forage base, improve vegetation diversity, and maintain watershed integrity.

Alternative C

Use prescribed fire and AMR to create a vegetation mosaic. As listed below, classify areas according to their potential for reintroduction of fire to meet resource objectives and reduce hazards:

- Areas where fire does not need to be reintroduced (fire is not a significant component, or the fire regime has not been altered).
- Areas where fire is unlikely to succeed (fire would be adverse; examples include areas significantly altered by fuel accumulations and species changes). In these areas, determine appropriate, ecologically sound alternatives.
- Areas where treatment with fire is essential or potentially effective (fire is needed to improve resource conditions or reduce risk).

On land identified for treatment, establish an aggressive prescribed fire program. Require appropriate treatment of fuel hazards created by resource management and land use activities. Modify the existing FMP to reflect changes in prescribed fire management.

Alternative D

Emphasize the use of AMR over prescribed fire to create a vegetation mosaic.

As listed below, classify areas according to their potential for reintroduction of fire to meet resource objectives and reduce hazards:

- Areas where fire does not need to be reintroduced (fire is not a significant component, or the fire regime has not been altered).
- Areas where fire is unlikely to succeed (fire would be adverse; examples include areas significantly altered by fuel accumulations and species changes). In these areas, determine appropriate, ecologically sound alternatives.
- Areas where treatment with fire is essential or potentially effective (fire is needed to improve resource conditions or reduce risk).

On land identified for treatment, develop plans, where appropriate, for the use of prescribed fire. Require appropriate treatment of fuel hazards created by resource management and land use activities. Modify the existing FMP to reflect changes in prescribed fire management.

Alternative D2

Same as Alternative D.

Alternative E

No prescribed fire would be used.

Proposed RMP

Where determined appropriate, use prescribed fire and AMR to meet resource and fire hazard fuels reduction objectives. As listed below, identify areas according to their potential for the reintroduction of fire to meet resource and hazards fuels reduction:

- Areas where fire does not need to be reintroduced (fire is not a significant component, or the fire regime has not been altered).
- Areas where fire is unlikely to succeed (fire would be adverse; examples include areas significantly altered by fuel accumulation and species changes). In these areas determine appropriate, ecologically sound alternatives.

- Areas where treatment with fire is essential or potentially effective (fire is needed to improve resource conditions or reduce risks).

Require appropriate treatment of fuel hazards created by resource management and land use activities. Develop prescribed fire plans for areas identified for prescribed fire use. As necessary, modify the existing FMP to reflect changes in the prescribed fire management program.

Rangeland Vegetation

Objective 1: 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.

Rationale: With passage of 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 rangeland ecosystems. S&G's for livestock grazing management for public land administered by the BLM in Oregon and Washington were approved by the Secretary of the Interior on August 12, 1997 (Appendix Q). This objective would maintain and improve the condition and trend 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 DRFC's which meet management objectives, not specifically late-potential natural communities (PNC's) ecological status.

Management actions authorized or implemented by 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 the 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.

Vegetation management has been based on existing inventories delineating the ecological status of vegetation communities. Management objectives have been to improve early and middle seral stage vegetation communities to attain late seral or PNC within the limits of ecological site potential. Additionally, those vegetation communities in late seral stage or PNC have been managed to improve or maintain those desirable conditions. The basis for defining ecological status and potential is site descriptions that provide a summary of expected species composition and variability within climax vegetation communities, as well as anticipated responses with management. The delineation of ecological sites is based on soils and climatic conditions. Management objectives within existing land use plans to attain late-PNC seral communities were based on the increased productivity of late-PNC seral communities relative to low seral communities, their greater ability to stabilize watersheds, and their improved role in water, nutrient, and energy cycling. Vegetation communities in late-PNC seral stage express a mosaic of species composition and structure consistent with site potential and, as such, reflect a range of possible plant communities that should meet the objectives defining desired future conditions within this land use plan.

Monitoring: Over the life of this plan, vegetation communities would be monitored to determine progress toward attaining DRFC's. Monitoring to determine success in meeting

vegetation management objectives would include periodic measurements of plant composition, vigor, and productivity as well as measurement of the amount and distribution of plant cover and litter which protects the soil surface from raindrop impact, detains overland flow, protects the surface from wind erosion, and retards soil moisture loss through evaporation. Additional data, to determine the effectiveness of established tools in meeting objectives, may include herbaceous or woody utilization, actual use, and climatic parameters.

Alternative A

Upland native rangeland communities would be managed to attain a trend toward DRFC's based on site potential. Management actions would maintain the condition of those native communities where vegetation composition and structure is consistent with desired conditions. Nonnative seedings in poor or fair condition would be managed to restore production and vigor while those seedings in good or excellent condition would be managed to maintain their vegetation composition to ensure continued forage production. Forage production and other commodity values of native and nonnative vegetation resources would be optimized to minimize competition with herbaceous species. Upland shrub cover would be maintained at minimum to moderate levels of desired conditions in selected native vegetation communities and in nonnative seedings. The frequency, distribution, and ecological integrity of native stands of mountain shrubs would be restored and maintained.

Management actions would be implemented to rehabilitate and/or establish desirable vegetation communities in areas held in a condition that does not meet desired conditions due to dominance by annual, weedy, or woody species. Vegetation would be manipulated to direct trend toward desired conditions, enhance commodity production, and protect soil, water and vegetation resources. Emphasis would be placed on the use of prescribed fire to reduce woody species dominance, optimize forage production, and direct vegetation composition toward desired conditions. Prescribed fire prescriptions would include consideration of short-term impacts to grazing management as well as long-term benefits of increased herbaceous production. Aggressive suppression response would be implemented on wildfires to meet vegetation management objectives and livestock forage allocations. Following wildfire, priority would be placed on the rehabilitation of rangeland vegetation communities held at risk due to dominance by annual and woody species.

Seedings would be implemented with appropriate mixes of adapted perennial species. Species mixes would be determined on a site-specific basis dependent on the probability of successful establishment and risks associated with seeding failure. The selection of appropriate species would include the use of forage-producing species, nonnative and native perennial species, that support livestock production and other commodity values as well as the function of upland vegetation communities. Use of desirable nonnative species and competitive native species would be emphasized in seedings within sites moderately and highly susceptible to degradation. Treatment configuration would emphasize commodity production as consistent with other resource management objectives.

Areas burned by wildfire, including those subsequently rehabilitated, would be deferred from grazing use through at least two growing seasons following fire or until monitoring data or professional judgment indicate that health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function. Appropriate grazing use of healthy perennial vegetation communities or areas dominated by annual species prior to the established limitations of two growing seasons may be provided on a case-by-case basis as consistent with objectives for improving or maintaining rangeland health and other objectives.

Annual rangeland vegetation communities at risk from frequent fires would be protected through the establishment of appropriate firebreaks, using both desirable nonnative and native species. An emphasis would be placed on the establishment of firebreaks using the

most cost-effective methods and seed mixes consistent with resource management objectives and objectives to emphasize commodity production.

Alternative B

Upland rangeland communities would continue to be managed to improve ecological status of those pastures currently in early to mid seral stage. Within those pastures in late seral stage to PNC, management would be implemented to maintain them. Prescribed fire would continue to be the preferred method to control the dominance of woody species. Emphasis would be placed on providing for uses which are consistent with meeting ecological objectives including increasing forage production through the development and implementation of economically feasible grazing systems and rangeland improvements. Nonnative seedings would be managed to improve or maintain their vegetation composition to ensure continued forage production and support vegetation community diversity. Identified vegetation communities that provide deer and antelope winter range would be managed to supply necessary cover, forage, and browse.

Management actions, consistent with existing land use plans, would be implemented to rehabilitate and/or vegetate plant communities which are in early to mid seral stage. Vegetation manipulation projects would be implemented primarily to direct trend toward late seral stage, enhance forage production, and protect soil, water, and vegetation resources. The future composition of vegetation communities would be the result of continued aggressive suppression response to wildfire. Following wildfire, priority would be placed on the rehabilitation of rangeland vegetation communities to protect soil, water, and vegetation resources and to prevent unacceptable on-site or off-site damage. Rehabilitation of areas burned by prescribed fire would be consistent with objectives for the burn. Following wildfire, rehabilitated areas would be closed to grazing at least two growing seasons. Exceptions may be justified on a case-by-case basis.

Seedings would be implemented with appropriate mixes of adapted perennial species. Species mixes would be determined on a site-specific basis dependent on the probability of successful establishment and risks associated with seeding failure.

Annual rangeland vegetation communities at risk from frequent fires would be protected through the establishment of appropriate firebreaks using both desirable nonnative and native species.

Alternative C

Upland native rangeland communities would be managed to attain a trend toward DRFC's based on management objectives and site potential. Management actions would maintain the condition of those native communities where vegetation composition and structure are consistent with desired conditions and natural values. Nonnative seedings in poor or fair condition would be managed to restore production and vigor, as well as to improve structural and species diversity consistent with other management objectives. Nonnative seedings in good or excellent condition would be managed to maintain seeding health, improve structural and species diversity, and ensure continued forage production. Upland shrub cover across the landscape would be maintained at moderate levels of potential for wildlife cover values and structural diversity in selected native vegetation communities where potential exists and in nonnative seedings as consistent with other resource management objectives. The frequency, distribution, and ecological integrity of native stands of mountain shrubs would be restored and maintained where site potential would support these species.

Management actions would be implemented to rehabilitate and/or vegetate plant communities that do not meet DRFC's due to dominance by annual, weedy or woody species. Vegetation manipulation projects would be implemented primarily to direct trend toward desired conditions, improve structural and species diversity, and protect soil, water, and vegetation resources. Emphasis would be placed on the use of prescribed and wildland fire to regulate

woody species dominance and direct vegetation composition toward desired conditions. AMR would be implemented on wildland fires to meet vegetation management and other objectives. Following wildland fire, priority would be placed on the rehabilitation of rangeland vegetation communities held at risk due to dominance by annual and woody species.

Seedings would be implemented with appropriate mixes of adapted perennial species. Species mixes would be determined on a site-specific basis dependent on the probability of successful establishment, risks associated with seeding failure, and other management considerations. Preference would be toward the use of native species, though nonnative species may be used when better adapted to out-compete established annual species. Use of competitive native species or desirable nonnative species would be emphasized in seedings within sites moderately and highly susceptible to degradation. Treatment configuration would emphasize the maintenance of natural values as consistent with other resource management objectives.

Areas burned by wildland fire, including those subsequently rehabilitated, would be rested from grazing for one full year and through a second growing season at a minimum, or until monitoring data or professional judgment indicate that health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function. Appropriate grazing use of healthy perennial vegetation communities, or areas dominated by annual species, prior to the two growing season limit may be allowed on a case-by-case basis, as consistent with objectives for improving or maintaining rangeland health and other objectives.

Annual rangeland vegetation communities at risk from frequent fires would be protected through the establishment of appropriate firebreaks using both desirable native and nonnative species. An emphasis would be placed on the establishment of effective firebreaks using seed mixes and project configurations consistent with resource management objectives and goals to maintain natural values.

Alternatives D and D2

Upland native rangeland communities would be managed to attain a trend toward the DRFC's based on management objectives and site potential. Management actions would maintain the condition of those native communities where vegetation composition and structure would be consistent with desired conditions and natural values. Nonnative seedings in poor or fair condition would be managed to restore production and vigor, as well as to improve structural and species diversity consistent with other management objectives. Nonnative seedings in good or excellent condition would be managed to maintain seeding production, improve structural and species diversity, and maintain forage production. Upland shrub cover across the landscape would be maintained at moderate to heavy levels of potential for wildlife cover values (see Appendix F, Table F-1) in most native vegetation communities where potential exists and in nonnative seedings as consistent with other resource management objectives. The frequency, distribution, and ecological integrity of native stands of mountain shrubs would be restored and maintained where site potential would support these species, consistent with desired conditions and other management objectives.

Management actions would be implemented to rehabilitate and/or vegetate plant communities that do not meet desired conditions due to dominance by annual, weedy, or woody species. Additionally, management actions would be implemented to convert nonnative seedings to a greater dominance by native species to meet management objectives where potential for success is present. Vegetation manipulation projects would be implemented primarily to direct trend toward desired conditions, improve structural and species diversity, and protect soil, water and vegetation resources. Emphasis would be placed on the use of wildland fire, though prescribed fire could be used to regulate woody species dominance and direct vegetation composition toward desired conditions. AMR would be implemented on

wildland fires to meet vegetation management and other objectives. Following wildland fire or prescribed fire, priority would be placed on the rehabilitation of rangeland vegetation communities held at risk due to dominance by annual and woody species.

Seedings would be implemented with appropriate mixes of adapted native perennial species. Species mixes would be determined on a site-specific basis dependent on the probability of successful establishment, risks associated with seeding failure, and other management considerations. Use of competitive native species would be emphasized in seedings within sites moderately and highly susceptible to degradation. Treatment configuration would emphasize natural values as consistent with other resource management objectives.

Areas burned by wildland fire, including those subsequently rehabilitated, would be rested from grazing through at least two growing seasons following fire or until monitoring data indicate that health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function.

Annual rangeland vegetation communities at risk from frequent fires would be protected through the establishment of appropriate firebreaks using native species. Project configurations and seeding methods which emphasize natural values would be emphasized.

Alternative E

Trend in upland rangeland community conditions, including those native and nonnative vegetation communities, would be allowed to fluctuate with natural processes of disturbance and recovery.

All fire, including arson, unsuppressed except to protect human life and property, would define the diversity, composition, and structure of many vegetation communities. Woody species dominance would fluctuate with fire frequency and severity on a site-specific basis.

Rehabilitation actions following wildland fire would only be implemented to protect human life and off-site private property values. Adapted perennial species mixes would be used to ensure the probability of success and to limit risk associated with poor establishment. Treated areas would receive appropriate rest and/or deferment from wild horse use during establishment as necessary to ensure success.

No vegetation firebreaks would be established to protect at-risk annual rangeland vegetation communities from frequent fire. Firebreaks would be limited to those that naturally occur across the landscape.

Proposed RMP

Upland native rangeland communities would be managed to attain a trend toward DRFC's based on management objectives and site potential. Management actions would maintain the condition of those native communities where vegetation composition and structure would be consistent with desired conditions and natural values. Nonnative seedings in poor or fair condition would be managed to restore production and vigor, as well as to improve structural and species diversity consistent with other management objectives. Nonnative seedings in good or excellent condition would be managed to maintain seeding health, improve structural and species diversity, and ensure continued forage production. Upland shrub cover across the landscape would be maintained at moderate to heavy levels of potential for wildlife cover values (see Appendix F, Table F-1) and structural diversity in most native vegetation communities where potential exists and in nonnative seedings as consistent with other resource management objectives. The frequency, distribution, and ecological integrity of native stands of mountain shrubs would be restored and maintained where site potential would support these species.

Management actions would be implemented to rehabilitate and/or vegetate plant communities that do not meet DRFC's due to dominance by annual, weedy or woody species. Vegetation manipulation projects would be implemented primarily to direct trend toward desired conditions, improve structural and species diversity, and protect soil, water, and vegetation resources. Emphasis would be placed on the use of prescribed and wildland fire to regulate woody species dominance and direct vegetation composition toward desired conditions. AMR would be implemented on wildland fires to meet vegetation management and other objectives. Following wildland fire, priority would be placed on the rehabilitation of rangeland vegetation communities held at risk due to dominance by annual and woody species.

Seedings would be implemented with appropriate mixes of adapted perennial species. Species mixes would be determined on a site-specific basis dependent on the probability of successful establishment, risks associated with seeding failure, and other management considerations. Preference would be toward the use of native species, though nonnative species may be used when better adapted to out-compete established annual species. Use of competitive native species or desirable nonnative species would be emphasized in seedings within sites moderately and highly susceptible to degradation. Treatment configuration would emphasize the maintenance of natural values as consistent with other resource management objectives.

Areas burned by wildland fire, including those subsequently rehabilitated, would be rested from grazing for one full year and through a second growing season at a minimum, or until monitoring data or professional judgment indicate that health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function. Appropriate grazing use of healthy perennial vegetation communities, or areas dominated by annual species, prior to the two growing season limit may be allowed on a case-by-case basis, as consistent with objectives for improving or maintaining rangeland health and other objectives.

Annual rangeland vegetation communities at risk from frequent fires would be protected through the establishment of appropriate firebreaks (such as greenstripping) using both desirable native and nonnative species. An emphasis would be placed on the establishment of effective firebreaks using seed mixes and project configurations consistent with resource management objectives and goals to maintain natural values.

Objective 2: Manage big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife.

Rationale: This objective leads to a more detailed description of DRFC's for Wyoming, mountain, and basin big sagebrush in the analysis area.

Section 102.8 of FLPMA states that it is the policy of the United States that public land be managed in a manner that will protect the quality of multiple resources and will provide food and habitat for fish, wildlife, and domestic animals. PRIA directs improvement of rangeland conditions and provides for rangeland improvements including providing habitat for wildlife. This objective is consistent with the S&G's (43 CFR 4180). Because rangeland supports big sagebrush habitat for nearly 60 percent of the planning area, managing the shrub overstory for multiple-use has significant benefits for wildlife. In some areas, primarily in Malheur County, big sagebrush habitats have been affected by seedings and a variety of other events, such as fire, that have reduced the shrub overstory. The result has been fragmentation of shrub habitat. This is important because big sagebrush shrub cover is directly related to the support of diverse wildlife communities (see Figure 2-1 in Chapter 2). Although grass and forb understories are certainly important to the overall suitability and health of big sagebrush habitats for wildlife, the shrub overstory alone accounts for a high proportion of wildlife habitat values.

Monitoring: Monitoring would include approximations or measured values of shrub cover within big sagebrush habitats.

Alternative A

Management would strive for about 50 (+/- 10) percent of the total potential sagebrush habitat to achieve DRFC's in each resource area over the long term. Native range or seedings would be managed to meet the requirements of game such as big game, upland game birds, and waterfowl. Diversity, mosaics, and connectivity of sagebrush cover types between geographic areas would be evident but at a mid-scale. The obligation to provide sagebrush cover for its various wildlife habitat values would be very limited outside of game species habitats. To achieve DRFC's management would include a variety of methods to increase or decrease big sagebrush overstory. Quantifications of shrub occurrence are described in Appendix F.

Alternative B

Native range or seedings would be managed to meet shrub cover needs on some big game winter ranges. In limited instances, other species would be used as rationale for meeting DRFC's. No specific or measurable desired future conditions would be defined other than to encourage a mosaic of shrub habitats and supply adequate cover and forage. To achieve DRFC's, management would include a variety of methods to increase or decrease big sagebrush overstory. Quantifications of shrub occurrence are described in Appendix F.

Alternative C

Management would strive for about 70 (+/- 10) percent of the total potential sagebrush habitat to achieve DRFC's in each resource area over the long term. Native range or seedings would be managed to meet the requirements of game and a host of nongame species. Management would be to maintain or establish diversity, mosaics, and connectivity of sagebrush between geographic areas at middle and fine scales. The obligation to provide sagebrush cover for its various wildlife habitat values would be met in most areas outside of the habitats of game species. The overall goal of this alternative would be to emphasize plant and animal community health at landscape levels. To achieve DRFC's, management would include a variety of methods to increase or decrease big sagebrush overstory. Quantifications of shrub occurrence are described in Appendix F.

Alternative D and D2

Management would strive for more than 90 percent of total potential sagebrush habitat to achieve DRFC's in each resource area over the long term. Native range or seedings would be managed to meet the requirements of game and nongame species. Management would be to maintain or establish diversity, mosaics, and connectivity of sagebrush between geographic areas at middle and fine scales. The obligation to provide sagebrush cover for its various wildlife habitat values would be met in most areas outside of the habitats of game species. The overall goal of this alternative would be to emphasize plant and animal community health at landscape levels. To achieve DRFC's, management would include a variety of methods to increase or decrease big sagebrush overstory. Quantifications of shrub occurrence are described in Appendix F.

Alternative E

DRFC's for big sagebrush cover values would be determined by natural events.

Proposed RMP

Management would strive for greater than 70 percent or more of the total potential sagebrush habitat to achieve DRFC's in each resource area over the long term. Native range and most

seedings would be managed to meet the requirements of game and a host of nongame species. Management would be to maintain or establish diversity, mosaics, and connectivity of sagebrush between geographic areas at middle and fine scales. The obligation to provide sagebrush cover for its various wildlife habitat values would be met in most areas. The overall goal of this alternative would be to emphasize plant and animal community health at landscape levels. To achieve DRFC's, management would include a variety of methods to increase or decrease big sagebrush overstory. Quantifications of shrub occurrence are described in Appendix F.

Objective 3: Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.

Rationale: FLPMA and PRIA direct 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." "The Carlson-Foley Act" (Public Law 90-583) and the "Federal Noxious Weed Act" (Public Law 93-629) direct weed control on public land. The introduction and spread of noxious weeds within the planning area causes a decline in rangeland condition, exposes soils to accelerated rates of erosion, reduces productivity, reduces dominance of individual species and communities of native plants, and reduces economic returns to individuals and society.

Monitoring: In cooperation with the State of Oregon, Harney County, Malheur County, adjoining counties, and private landowners, inventories to identify the distribution and density of identified noxious weeds would continue. Inventories would be repeated as necessary in subsequent years following control actions to identify effectiveness.

Alternatives A, B, C, D, D2, E, and PRMP

The distribution and density of noxious weeds would be reduced through the application of approved control methods in an integrated program in cooperation with the State of Oregon, Malheur County, Harney County, and other adjoining counties, adjoining private landowners, and other affected agencies and interests. Control methods would include preventive management to maintain competitive vegetation cover and reduce the distribution and introduction of noxious weed seed; manual and mechanical methods to physically remove noxious weeds; biological methods to introduce and cultivate factors that naturally limit the spread of noxious weeds; cultural practices; and application of chemicals. Target species would include those identified in memorandums of understanding (MOU's) with counties.

Forest and Woodlands

Objective 1: Manage forests 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 forest. Increase the dominance of ponderosa pine, Douglas fir, and western larch on appropriate sites in mature forests. Decrease the amount of Douglas fir, white fir, and grand fir where they were not historically maintained by the dominant fire regime. Manage forests for long-term, healthy habitat for animal and plant species. Provide for timber production where feasible and compatible with forest health.

Rationale: The "Materials Act" of 1947 authorized disposal of timber on public land. Section 102 of FLPMA requires that public land be managed for multiple use and sustained yield in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values. It also states that public land will be managed in a manner that recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber.

Changes in forest landscapes from historical conditions include a loss of mature, scattered, overstory pine, western larch, and Douglas fir; a general trend toward increased densities of young trees; and a shift from a dominance of low intensity/high frequency fire regimes toward higher intensity/lower frequency. These changes have predisposed forest landscapes to larger scale disturbances than would naturally occur with endemic fire, insect, and disease. Wildlife habitat characterized historically by large fire tolerant trees has declined. Maintaining forest health by enhancing vegetation for a diversity and abundance of animal species and diverse plant communities is a high priority for management.

Monitoring: Timber sale and land treatment contracts would be monitored regularly to ensure management actions are performed to contract specifications and that mitigation measures are properly applied. An interdisciplinary team would develop appropriate monitoring on a case-by-case basis for resource-related issues relative to forest practices. Other government agencies would also periodically provide information relevant to monitoring, such as information on the progress of insect and disease activity, wildlife habitat needs, and water and air quality.

Alternative A

All forested land would be managed for forest health using timber harvest in conjunction with precommercial thinning, prescribed fire, and other techniques to achieve site-specific objectives such as commercial timber production, reduced stocking of understory trees, removal of ladder fuels, or removal of undesirable species. A total of 4,407 acres of forested land would be available for commercial harvest. An average management level of 294 acres per year would result in a potential sale quantity of 220,000 board feet per year.

Approximately 588 to 1,175 acres of the forested land (Table 3-5) would be managed to preserve old growth characteristics necessary for old growth-dependent wildlife species such as pileated, white headed, and black-backed woodpeckers; pygmy nuthatch; and northern goshawks. Commercial harvest within old growth stands may be considered only to maintain or enhance old growth characteristics.

Forests would continue to be managed for other products, such as firewood and posts, on a case-by-case basis. See Table 3-5 for acre comparisons by alternative.

Alternative B

Approximately 1,057 acres of commercial forested land (Table 3-5) would be managed for a potential sale quantity of 244,000 board feet per year. This volume would generally come

Table 3-5.—*Comparison of forest management alternatives (acres)*

Alternative	Acres within RCA's or riparian areas	Acres managed for old growth	Acres within ACEC's	Acres within WSA's	Acres available for commercial harvested
A	71 to 295	588 to 1,175	539	261	4,407
B	71 to 295	0	0	261	1,057
C	71 to 295	1,175 to 2,351	2,338	261	2,644
D	71 to 295	5,877	2,434	261	0
D2	71 to 295	5,877	2,434	261	0
E	0	0	0	261	0
PRMP	71 to 295	5,877	2,065	261	4,407

from outside the 18,641-acre Castle Rock HMP area. Castle Rock would be managed for maintenance and enhancement of big game wildlife habitat, with harvest allowed to enhance big game habitat.

No guidance for management of old growth would be provided.

Forests would continue to be managed for other products, such as firewood and posts, on a case-by-case basis.

Alternative C

All forested land would be managed using timber harvest in conjunction with precommercial thinning, prescribed fire, and other techniques to achieve site-specific objectives of restoring and maintaining forest health, biodiversity, and wildlife habitat. Timber harvest would be permitted if identified values could be protected or enhanced. Intensive commercial timber harvest would be unlikely within the potential Castle Rock, Ott Mountain, and North Fork Malheur River ACEC's, and administratively suitable North Fork Malheur NWSR because harvest would likely affect the relevant and important or outstandingly remarkable values of those areas. Approximately 2,644 acres (Table 3-5) would be available for potential commercial harvest. Manipulation of approximately 196 acres per year could result in an average annual potential sale quantity of 88,000 board feet.

Approximately 1,175 to 2,351 acres of the forested land would be managed to preserve or create old growth forest characteristics necessary for old growth-dependent wildlife species such as pileated, white headed, and black-backed woodpeckers; pygmy nuthatch; and northern goshawks.

Forests would continue to be managed for other products, such as firewood and posts, on a case-by-case basis.

Alternative D

All forested land would be managed without commercial timber harvest (Table 3-5), to maintain or restore forest health, biodiversity, and wildlife habitat. Precommercial thinning, prescribed fire, or other nonharvest techniques could be used to reduce stocking, remove ladder fuel, or remove undesirable species on a site-specific basis. Management of about 147 acres per year would yield no potential sale quantity.

All potential old growth forest stands would be managed to maintain and create old growth characteristics necessary for old growth-dependent wildlife species such as pileated, white headed, and black-backed woodpeckers; pygmy nuthatch; and northern goshawks. Noncommercial harvest techniques would be emphasized to meet site-specific objectives.

Products such as firewood and posts may be available to meet site-specific objectives.

Alternative D2

All forested land would be managed without commercial timber harvest (Table 3-5), to maintain or restore forest health, biodiversity, and wildlife habitat. Precommercial thinning, prescribed fire, or other nonharvest techniques could be used to reduce stocking, remove ladder fuel, or remove undesirable species on a site-specific basis. Management of about 147 acres per year would yield no potential sale quantity.

All potential old growth forest stands would be managed to maintain and create old growth characteristics necessary for old growth-dependent wildlife species such as pileated, white headed, and black-backed woodpeckers; pygmy nuthatch; and northern goshawks. Noncommercial harvest techniques would be emphasized to meet site-specific objectives.

Products such as firewood and posts may be available to meet site-specific objectives.

Alternative E

Allow natural processes to define management of forested land.

Proposed RMP

All forested land would be managed using timber harvest in conjunction with precommercial thinning, prescribed fire, and other techniques to achieve site-specific objectives of restoring and maintaining forest health, biodiversity, and wildlife habitat. Timber harvest would be permitted if identified values could be protected or enhanced. Intensive commercial timber harvest would be unlikely within the potential Castle Rock and North Fork Malheur River ACEC's and administratively suitable North Fork Malheur NWSR because harvest would likely affect the relevant and important or outstandingly remarkable values of those areas. Approximately 4,407 acres (Table 3-5) would be available for potential commercial harvest. Manipulation of approximately 196 acres per year could result in an average annual potential sale quantity of 88,000 board feet.

Approximately 5,877 acres of the forested land would be managed to preserve or create old growth forest characteristics necessary for old growth-dependent wildlife species such as pileated, white headed, and black-backed woodpeckers; pygmy nuthatch; and northern goshawks.

Forests would continue to be managed for other products, such as firewood and posts, on a case-by-case basis.

Objective 2: Restore productivity and biodiversity in western juniper and quaking aspen woodland areas. Manage western juniper areas where encroachment or increased density is threatening other resource values. Retain old growth characteristics in historic western juniper sites not prone to frequent fire. Manage quaking aspen to maintain diversity of age classes and to allow for species reestablishment.

Rationale: FLPMA, section 102, requires that public land be managed for multiple use and sustained yield in a manner that will 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.

The 166,000 acres of western juniper are approximately 3 to 10 times the acreage covered 100 years ago (Karl and Leonard 1996). Western juniper has increased in distribution and density throughout its range, expanding into open meadows, grasslands, sagebrush steppe communities, quaking aspen stands, riparian/wetland communities, and forestland. At high densities, western juniper reduces herbaceous production (Bates et al. 1994), diversity and cover of associated plant species (Miller 1987), reduces habitat for animal species dependent on those plant communities, and may increase soil erosion (Buckhouse 1980).

The distribution and health of quaking aspen stands have decreased in the past 100 to 200 years. These declines have been attributed to reduced fire; severe browsing of quaking aspen suckers by livestock; expansion of tree and shrub species; and loss of suitable habitat where streams have down cut and water tables have been lowered due to deleterious management (Crow 1996) and natural flooding. In some areas, declines may have occurred due to severe browsing of quaking aspen suckers by deer and elk. Many quaking aspen stands contain mostly large trees with few sapling or pole-sized trees. Healthy, reproductive quaking aspen stands are beneficial for biodiversity, wildlife habitat, and other uses such as recreational camping.

Monitoring: An interdisciplinary team would develop appropriate monitoring on a case-by-case basis for each action proposed for western juniper or quaking aspen management.

Alternative A

Western juniper management would be implemented primarily to enhance production of forage for big game and livestock and for western juniper wood while protecting natural values. Priority areas for treatments would be productive grasslands, forested areas, and shrublands where loss of commodity production is likely. A maximum of 124,500 acres of western juniper would be treated during the life of the plan, using prescribed fire and /or mechanical treatment. Acres burned in wildfire situations would be included as part of acres treated.

Old growth characteristics would be identified and managed same as Alternative B.

Existing quaking aspen stands would be maintained through manipulation of uses which may impact sustainability of the stands. Stands would be managed for maintenance using a variety of methods which may include activities such as cutting, burning, or chemical applications.

Alternative B

While protecting natural values, western juniper management would be based on site potential, retention of soil hydrologic function, nutrient cycling, and energy flow, and contributing to the diversity, composition, and structure of plant communities. Approximately 41,500 acres of western juniper would be treated during the life of the plan.

Areas where fire frequency is limited by site productivity, and which support significant numbers of western juniper trees more than 150 years old, would be managed to preserve old growth characteristics.

Quaking aspen diversity, composition, and structure objectives are identified in some of the existing AMP's.

Alternative C

Western juniper management would be implemented to maintain commodity production, enhance resource values, and reduce western juniper dominance. Priority areas for western juniper treatments would be riparian/wetlands, quaking aspen stands, productive grasslands, forested areas, and shrublands where loss of vegetation diversity is likely. Treatments would be conducted to provide a mosaic pattern to meet wildlife habitat requirements. A maximum of 124,500 acres of western juniper would be treated during the life of the plan, using prescribed fire and/or mechanical treatment. Acres burned in wildfire situations would be included as part of acres treated.

Old growth characteristics are identified and would be managed same as Alternative B.

Uses in quaking aspen stands would be managed to maintain or enhance distribution, density, regeneration and sustainability, and to favor regeneration of quaking aspen where possible. Stands would be managed for maintenance or enhancement using a variety of methods which may include activities such as cutting, burning, or chemical applications.

Alternative D

Western juniper management would be implemented for the protection, enhancement of resource values, and reduction of western juniper dominance. Priority areas for western juniper treatments would be riparian/wetlands, quaking aspen stands, grasslands, forested

areas, and shrublands where loss of vegetation diversity is occurring. A maximum of 83,000 acres of western juniper would be treated during the life of the plan, using prescribed fire and/or mechanical treatment. Acres burned in wildfire situations would be included as part of acres treated.

Old growth characteristics are identified and and would be managed same as Alternative B.

Uses in quaking aspen stands would be managed to maintain or enhance distribution, density, regeneration and sustainability, and to favor regeneration of quaking aspen where possible. Quaking aspen may be introduced into sites showing potential to support the species. Stands would be managed for maintenance or enhancement using a variety of methods which may include activities such as cutting, burning, or chemical applications.

Alternative D2

Western juniper management would be implemented for the protection, enhancement of resource values, and reduction of western juniper dominance. Priority areas for western juniper treatments would be riparian/wetlands, quaking aspen stands, grasslands, forested areas, and shrublands where loss of vegetation diversity is occurring. A maximum of 83,000 acres of western juniper would be treated during the life of the plan, using prescribed fire and/or mechanical treatment. Acres burned in wildfire situations would be included as part of acres treated.

Old growth characteristics are identified and would be managed same as Alternative B.

Uses in quaking aspen stands would be managed to maintain or enhance distribution, density, regeneration and sustainability, and to favor regeneration of quaking aspen where possible. Quaking aspen may be introduced into sites showing potential to support the species. Stands would be managed for maintenance or enhancement using a variety of methods which may include activities such as cutting, burning, or chemical applications.

Alternative E

Allow natural processes to operate in western juniper and quaking aspen areas.

Proposed RMP

Western juniper management would be implemented to maintain commodity production, enhance resource values, and reduce western juniper dominance. Priority areas for western juniper treatments would be riparian/wetlands, quaking aspen stands, productive grasslands, forested areas, and shrublands where loss of vegetation diversity is likely. Treatments would be conducted to provide a mosaic pattern to meet wildlife habitat requirements. A maximum of 124,500 acres of western juniper would be treated during the life of the plan, using prescribed fire and/or mechanical treatment. Acres burned in wildfire situations would be included as part of acres treated.

Areas where fire frequency is limited by site productivity, and which support significant numbers of western juniper trees more than 150 years old, would be managed to preserve old growth characteristics. Uses in quaking aspen stands would be managed to maintain or enhance distribution, density, regeneration and sustainability, and to favor regeneration of quaking aspen where possible. Stands would be managed for maintenance or enhancement using a variety of methods which may include activities such as cutting, burning, or chemical applications. At this time, herbicide use on BLM land for purposes other than noxious weed control is prohibited by a Federal court injunction.

Special Status Plant Species

Objective: 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.

Rationale: Section 102.8 of FLPMA requires that public land be managed to protect the quality of ecological and environmental values, and where appropriate, to protect their natural condition.

The ESA mandates management that leads to the conservation or recovery of Federally listed threatened or endangered species. This Act, as well as BLM policy, also encourages management to protect special status species that are not currently listed as threatened or endangered.

Most plant species 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 that 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 ESA. Listing of a species as threatened or endangered may lead to restrictions on land uses, and under some circumstances commodity users may experience adverse socioeconomic impacts. In most cases, there are both socioeconomic and biological benefits associated with conserving species to avoid Federal listing.

Maintenance, restoration, or enhancement of populations or habitat, as defined in the glossary of this document, may each represent appropriate BLM management depending on the habitat needs or specific circumstances of a species. Restoration or enhancement may not always be the only clear choice for BLM action regarding special status species. One potential limitation that could delay restoration or enhancement actions is the biological mechanisms adversely affecting a species may not be understood well enough to identify needed management changes. Maintenance may be a preferred course of action where resource conditions are already considered to be of a high quality.

Monitoring: Monitoring would include survey to determine the distribution, resource conditions, and trends of special status plant species and representative habitats.

Alternative A

Special status plant species habitats or populations would be managed so that BLM actions do not contribute to the need to list these species as Federally threatened or endangered. Management for these species would emphasize maintenance rather than restoration and enhancement. Management would also be oriented toward providing habitat conditions that favor individual special status species.

Alternative B

All special status species habitats or populations would be managed so that BLM actions do not contribute to the need to list these species as Federally threatened or endangered. Management would be oriented toward providing habitat conditions that meet individual species requirements.

A variety of projects or other land use adjustments may be required to manage for special status species. Some management for maintenance could require avoidance or mitigation measures that have impacts on land uses.

Alternative C

Management would emphasize achieving DRFC's that maintain, enhance, or restore habitats or populations of special status plant species. All special status species habitats or populations would be managed so that BLM actions would not contribute to the need to list the species as Federally threatened or endangered. Management would consist of a mix of protection, restoration, and enhancement actions. It would be oriented toward the development of habitats that support healthy, biologically diverse plant communities at landscape levels while meeting the needs of special status species.

A variety of projects or other land use adjustments might be required to manage for special status species. Management could require avoidance or mitigation that may have little impact on land uses, while restoration or enhancement could lead to substantial adjustments in customary land use.

Alternative D

This alternative would include the most aggressive measures for special status species management. Restoration or enhancement of habitats and populations would occur in areas where it would be biologically sound and reasonable to do so. Maintenance would only be considered where habitat or population conditions are considered to be at or near their potential. This is in contrast to Alternatives A and B, which would include measures for maintenance regardless of habitat or population quality. Management would be oriented toward the development of habitats that support healthy, biologically diverse plant communities at landscape levels while meeting the needs of special status species.

A variety of projects or other land use adjustments might be required to manage for special status species. Management could require avoidance or mitigation that may have little impact on land uses, while restoration or enhancement could lead to substantial adjustments in customary land use.

Alternative D2

This alternative would include the most aggressive measures for special status species management. Restoration or enhancement of habitats and populations would occur in areas where it would be biologically sound and reasonable to do so. Maintenance would only be considered where habitat or population conditions are considered to be at or near their potential. This is in contrast to Alternatives A and B, which would include measures for maintenance regardless of habitat or population quality.

Management would be oriented toward the development of habitats that support healthy, biologically diverse plant communities at landscape levels while meeting the needs of special status species.

A variety of projects or other land use adjustments might be required to manage for special status species. Management could require avoidance or mitigation that may have little impact on land uses, while restoration or enhancement could lead to substantial adjustments in customary land use.

Livestock grazing would be excluded from selected sites supporting Mulford's milk-vetch (Appendix Q, Table-LVRM) and in certain ACEC's with special status plants.

Alternative E

Natural processes would determine future conditions, except for Federally listed species in need of management as specified in recovery plans developed by the USFWS.

Proposed RMP

Management would emphasize achieving DRFC's that maintain, enhance, or restore habitats or populations of special status plant species. All special status species habitats or populations would be managed so that BLM actions would not contribute to the need to list the species as Federally threatened or endangered. Management would consist of a mix of protection, restoration, and enhancement actions. It would be oriented toward the development of habitats that support healthy, biologically diverse plant communities at landscape levels while meeting the needs of special status species.

A variety of projects or other land use adjustments might be required to manage for special status species. Management could require avoidance or mitigation that may have little impact on land uses, while restoration or enhancement could lead to substantial adjustments in customary land use.

Water Resources and Riparian/Wetland Areas

Objective 1: Ensure that surface water and ground water 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 Oregon Department of Environmental Quality (ODEQ).

Rationale: The "Federal Water Pollution Control Act" (commonly known as the "Clean Water Act" [CWA]) of 1977, as amended, requires the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters. Mandates of the Act establish the EPA as administrator and the states (such as Oregon) as implementors of the Act. The BLM is responsible to manage the requirements of the Act on land they administer, but primacy in implementing the Act is retained by Oregon. BLM is required to maintain water quality where it presently meets EPA-approved Oregon State water quality standards and improve water quality on public land where it does not meet standards. State developed total maximum daily loads (TMDL's) and State approved water quality management plans are required for waterbodies in subbasins and watersheds containing water quality limited segments (Table 2-10; Appendix D5, Table D5-1) (as defined by section 303(d) of the CWA) where water quality is not meeting standards. In addition to the Act, numerous laws, regulations, policies, and Executive orders direct BLM to manage for water quality for the benefit of the Nation and its economy.

Water quality is important not only for human use but also for proper ecosystem function. Management practices such as grazing, mining, recreation, forest harvesting, and other forms of vegetation management for restoring and maintaining water quality would be designed for healthy sustainable and functional rangeland ecosystems as described in the 1997 S&G's.

Monitoring: Water quality monitoring would be conducted for various parameters using water quality standards and criteria established for Oregon or developed by the State through the TMDL process (see Appendix W, Monitoring).

Management common to all alternatives: The BLM is responsible for the requirements of the CWA on public lands they administer, and is required to maintain water quality where it presently meets EPA-approved Oregon State Water Quality Standards and to improve water quality where it does not meet standards on public land. Specific water bodies within the planning area that do not meet Oregon water quality standards have been placed by the State of Oregon on an EPA-approved list of water quality limited segments, as defined by section 303(d) of the CWA (Table 2-10; Appendix D5, Table D5-1).

As a participating partner in the endeavor to comply with appropriate state water quality standards, BLM is seeking ways to bring these streams into compliance and reduce the number of section 303(d) listed stream segments on public land. For waterbodies on the 303(d) list, a State-developed, EPA-approved TMDL is developed. TMDL's are designed and implemented to achieve water quality standards by establishing quantifiable allocations for allowable levels (or "load") of individual pollutants that are assigned to sources of pollution for waters that are violating state water quality standards and failing to protect associated beneficial uses. An associated state-developed, EPA-approved WQMP is developed to identify management measures that are needed to meet the load allocations of the TMDL.

The BLM's commitment to complying with the Federal CWA and the State DEQ's program is secured by the joint USFS and BLM protocol for addressing CWA section 303(d) listed waters. One goal of the strategy is to address all waters on BLM-administered lands within the timeline established by the State of Oregon DEQ. The BLM will take actions relative to 303(d) listed waterbodies in accordance with the protocol, as follows:

1) BLM will validate the 303(d) listing of its waterbodies.

a) BLM will review the current 303(d) list (Table 2-10) and listing rationale to determine if the waterbody was correctly listed. BLM will provide the State with documentation or evidence if the waterbody was erroneously placed on the list while it actually meets the water quality standard for which it was listed.

2) BLM will assess the effect of its management actions on the water quality parameter for which a waterbody is 303(d) listed.

a) BLM management activities will be assessed for their effects on water quality for the standard for which it was listed. This will be done at the site-specific scale during evaluations of GMA's.

b) BLM will document and present evidence to the State where sufficiently stringent management measures (Appendix O) have been implemented to bring listed segments into compliance in a reasonable timeframe. For such situations, development of a TMDL and WQMP are not needed. EPA's current interpretation of this are measures that would allow the waterbody to meet the water quality standard within two years.

3) For waterbodies that remain on the 303(d) list and are affected by BLM management activities, BLM will develop or adjust management actions necessary to restore water quality and meet Oregon water quality standards.

a) BLM will work with the State agencies and local tribes to set priorities and timelines for addressing listed waterbodies.

b) BLM will develop water quality restoration plans (WQRP), described in Appendix D6, to address the water quality parameter at issue for lands it administers. BLM's WQRP's may be developed before or after the State's TMDL's and WQMP's, depending upon the State's timeframes. Once the State's WQMP is developed, the BLM's WQRP must incorporate the WQMP's management measures to meet the TMDL's load allocation. Any WQRP developed prior to a WQMP would have to be adjusted if needed to incorporate the management measures of the WQMP.

BLM will submit WQRP's to the State for coordination purposes. If WQRP's are developed prior to TMDL's and WQMP's, submission of the WQRP is a means for the BLM to provide the State with information that may be incorporated into the TMDL and WQMP. After WQMP's are developed, submission of the WQRP provides an opportunity for the State and

BLM to jointly review BLM's management activities for compliance with the management measures of the WQMP's.

4) BLM will implement WQRP's upon their completion, with adjustments as necessary.

Alternative A

Water resources would be managed for uses and activities that emphasize commodity production, while providing for the attainment and maintenance of water quality standards, PFC, and DRFC's. Public uses and activities would be allowed along streams and around other water bodies, as long there is progress toward attainment of State water quality standards.

For streams with water quality limited segments (impaired waters) as defined by section 303(d) of the CWA management activities would be implemented with the intent to restore water quality to minimum levels that meet State water quality standards. For water quality limited segments identified by the State of Oregon, commodity production uses and activities would be permitted along streams and riparian/wetland areas only if they would allow progress toward attainment of water quality standards.

Streams and water bodies not meeting State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. This alternative focuses specifically on the protection and maintenance of the area along and in stream channels and within RCA's (Appendix D2) and allows those commodity uses and activities in the remaining watershed to occur. Any use or activity within the RCA that would adversely affect water quality and/or riparian/wetland resources would be excluded from the RCA. Enforcement would be in the form of buffered exclusion areas or the use of temporary and permanent fencing.

Alternative B

Management would continue to allow uses and activities on public land that are in compliance with State water quality standards. Uses and activities that address water resource-related objectives identified in existing planning documents, such as objectives relating to erosion, and sedimentation would be emphasized. Uses and activities would be managed to meet water quality standards on streams with water quality limited segments identified by the State of Oregon.

Implementation of existing water resource objectives and maintenance or improvement of existing water quality would continue. Streams and water bodies not meeting State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel.

Uses and activities in these stream channels and riparian/wetland areas would be adjusted if current management would not allow for the maintenance or attainment of water quality standards and PFC. Uses and activities within the watershed would continue to occur as long as the physical and biological condition and degree of function necessary to sustain healthy rangeland ecosystems is maintained.

Alternative C

Water resources would be managed for uses and activities that emphasize the maintenance or improvement of naturally occurring values while providing for commodity production and the attainment and maintenance of water quality standards, PFC, and DRFC's of water

resources. Public use and activities would be allowed along streams, other water bodies, and associated watershed as long as there is measurable progress toward attainment of State water quality standards. For streams with water quality limited segments (impaired waters) as defined by section 303(d) of the CWA, management activities would be implemented with the intent to restore water quality to levels that meet State water quality standards.

Streams and water bodies not meeting State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watershed areas that adversely affect water quality and/or lead to stream channel or riparian/wetland resource degradation would be adjusted, restricted, or limited if water quality and PFC cannot be attained or maintained with existing management.

Management options would focus on uses and activities that allow for the protection and maintenance of RCA's and upland watersheds and measurable progress toward the attainment of water quality standards and PFC, within the stream and/or RCA's.

Alternative D

Water resources would be managed for uses and activities that emphasize the restoration, protection or improvement of naturally occurring values while providing for a reduced commodity production and the attainment and maintenance of water quality standards, PFC, and DRFC's of water resources. Restoration activities, such as intensive woody riparian vegetation plantings and the installation of check-dams or wing-deflectors, would be used in areas unable to attain PFC and the DRFC's through changes in management alone.

For streams with water quality limited segments identified by the State of Oregon, uses and activities would be allowed in watersheds only if they would promote or have no effect on restoring water quality to required State water quality standards while protecting and enhancing natural values. Public use would be allowed along streams and around other water bodies, as long as State water quality standards are either attained at the same or greater rate than if the use or activity were absent or maintained. Management would be adjusted as needed for those uses and activities that are not leading to the attainment of State water quality standards. For streams with water quality limited segments (impaired waters) as defined by section 303(d) of the CWA, management activities would be implemented with the intent to restore water quality to levels that meet State water quality standards.

Streams and water bodies not meeting State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watershed areas that adversely affect water quality and/or lead to stream channel or riparian/wetland resource degradation would be adjusted, restricted, or limited if water quality and PFC cannot be attained or maintained with existing management.

Management options would focus on uses and activities that allow for the protection, maintenance, and restoration of RCA's and upland watersheds and measurable progress toward the attainment of water quality standards and PFC, within the stream and/or RCA's.

Alternative D2

Water resources would be managed for uses and activities that emphasize the restoration, protection or improvement of naturally occurring values while providing for a reduced commodity production and the attainment and maintenance of water quality standards, PFC, and DRFC's of water resources. Restoration activities, such as intensive woody riparian

vegetation plantings and the installation of check-dams or wing-deflectors, would be used in areas unable to attain PFC and the DRFC's through changes in management alone.

For streams with water quality limited segments identified by the State of Oregon, uses and activities would be allowed in watersheds only if they would promote or have no effect on restoring water quality to required State water quality standards while protecting and enhancing natural values. Public use would be allowed along streams and around other water bodies, as long as State water quality standards are either attained at the same or greater rate than if the use or activity were absent or maintained. Management would be adjusted as needed for those uses and activities that are not leading to the attainment of State water quality standards. For streams with water quality limited segments (impaired waters) as defined by section 303(d) of the CWA, management activities would be implemented with the intent to restore water quality to levels that meet State water quality standards.

Streams and water bodies not meeting State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watershed areas that adversely affect water quality and/or lead to stream channel or riparian/wetland resource degradation would be adjusted, restricted, or limited if water quality and PFC cannot be attained or maintained with existing management.

Management options would focus on uses and activities that allow for the protection, maintenance, and restoration of RCA's and upland watersheds and measurable progress toward the attainment of water quality standards and PFC within the stream and/or RCA's. Livestock grazing uses and activities would be excluded from all affected streams, RCA's and associated watersheds that contain a PFC assessment rating of functioning at risk with a downward trend or are nonfunctioning. Exclusion of livestock would continue in these streams, riparian/wetland areas, and any associated watersheds until systems have attained State water quality standards and are determined able to support reintroduction of grazing uses and activities.

Alternative E

Commodity production would be excluded from all public lands. For streams with water quality limited segments identified by the State of Oregon, uses and activities would be allowed in watersheds only if they would promote or have no effect on restoring water quality to required State water quality standards while protecting and enhancing natural values. Public use would be allowed along streams and around other water bodies, as long as State water quality standards are either attained at the same or greater rate than if the use or activity were absent or maintained. Management would be adjusted as needed for those uses and activities that are not leading to the attainment of State water quality standards. For streams with water quality limited segments (impaired waters) as defined by section 303(d) of the CWA, management activities would be implemented with the intent to restore water quality to levels that meet State water quality standards.

Streams and water bodies not meeting State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Noncommodity uses and activities within the RCA and contributing upland watershed areas that adversely affect water quality and/or lead to stream channel or riparian/wetland resource degradation would be adjusted, restricted, or limited if water quality and PFC cannot be attained or maintained with existing management.

Proposed RMP

Water resources would be managed for uses and activities that emphasize the maintenance or improvement of naturally occurring values while providing for commodity production and the attainment and maintenance of water quality standards, PFC, and DRFC's of water resources. Public use and activities would be allowed along streams, other water bodies, and associated watershed as long as there is measurable progress toward attainment of State water quality standards. For streams with water quality limited segments (impaired waters) as defined by section 303(d) of the CWA, management activities would be implemented with the intent to restore water quality to levels that meet State water quality standards.

Streams and water bodies not meeting State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watershed areas that adversely affect water quality and/or lead to stream channel or riparian/wetland resource degradation would be adjusted, restricted, or limited if water quality and PFC cannot be attained or maintained with existing management.

Management options would focus on uses and activities that allow for the protection and maintenance of RCA's and upland watersheds and measurable progress toward the attainment of water quality standards and PFC, within the stream and/or RCA's.

Objective 2: Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.

Rationale: FLPMA directs and requires BLM to comply with State water quality standards and manage public land in a manner that will preserve and protect certain land in its natural condition. In addition to FLPMA, numerous laws, regulations, policies, Executive orders, and MOU's and agreements direct BLM to manage its riparian/wetland areas for biological diversity, and the productivity, and sustainability for the benefit of the Nation and its economy.

BLM policies relating to riparian/wetland areas include the following:

- Focus management on entire watersheds using an ecosystem approach and involving all interested landowners and affected parties;
- Achieve riparian/wetland area improvement and maintenance objectives through the management of existing and future uses;
- Ensure that new plans and existing plans, when revised, recognize the importance of riparian/wetland values, and initiate management to maintain restore, improve, or expand them;
- Prescribe riparian/wetland management based on site-specific physical, biological, and chemical condition and potential; and
- Use interdisciplinary teams to inventory, monitor, and evaluate management of riparian/wetland areas and to revise management where objectives are not being met.

Monitoring: Monitoring for the attainment of DRFC's may include the following (see Appendix D4, Table D4-1 for more detailed descriptions of trend parameters, and Appendix W, Monitoring):

- Assessment of PFC (Technical Reference 1737-09/11) and measurement of parameters identified in Appendix D3. Attainment of PFC and RMO's is considered a minimum step in the process of achieving DRFC's. PFC and the riparian objectives in most cases do not equate to the DRFC's. Determination of PFC and RMO's is an interdisciplinary process.

- Current information on riparian/wetland areas in the planning area is based on assessments of riparian condition, trend, and PFC.
- Appropriate wildlife and aquatic habitat monitoring.
- Water quality monitoring.
- Rosgen channel typing.

Alternative A

Riparian/wetland areas would be managed for uses and activities that emphasize commodity production, while providing for the attainment of PFC, RMO's, and the DRFC's of RCA's.

Areas not in PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Managed uses and activities in RCA's would be allowed as long as there is progress toward attainment of State water quality standards, PFC, and RMO's. This alternative focuses specifically on the protection and maintenance of the area within the RCA and allows those commodity uses and activities in the remaining watershed to occur. Any use or activity within the RCA that would adversely affect water quality standards and/or riparian/wetland resources would be excluded from the RCA. Enforcement would be in the form of buffered exclusion areas or the use of temporary and permanent fencing. Management options for uses and activities would allow for measurable progress toward the attainment of water quality, PFC, and RMO's within RCA's at a positive annual rate.

Alternative B

Implementation of existing riparian/wetland objectives and maintenance or improvement of existing riparian/wetland exclosures and designated or identified riparian pastures would continue. In addition, riparian/wetland areas would be managed for the attainment of PFC. Areas not in PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities in these riparian/wetland areas would be adjusted if current management would not allow for the maintenance or measurable progress toward the attainment of PFC. Uses and activities within the watershed would continue to occur as long as the physical and biological condition and degree of function necessary to sustain healthy rangeland ecosystems is maintained.

Alternative C

Riparian/wetland areas would be managed for uses and activities within the watershed that emphasize the maintenance or improvement of naturally occurring values while providing for commodity production and the attainment of PFC, RMO's, and DRFC's of RCA's.

Areas not in PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watersheds would be allowed as long as there is measurable progress towards attainment of State water quality standards, PFC, and RMO's.

Management options focus on uses and activities that allow for the protection and maintenance of RCA's and upland watersheds and the measurable progress toward the attainment of water quality, PFC, and RMO's within RCA's at a positive annual rate.

Alternative D

Riparian/wetland areas would be managed for uses and activities within the watershed that emphasize maintenance, improvement, and/or restoration of naturally occurring values that provide for the attainment of water quality, PFC, RMO's, and DRFC's of RCA's. Restora-

tion activities, such as intensive woody riparian vegetation plantings and the installation of check-dams or wing-deflectors, would be used in areas unable to attain PFC, RMO's and the DRFC's through changes in management alone.

Areas not in PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watersheds would be allowed as long as there is measurable progress toward attainment of State water quality standards, PFC, and RMO's.

Management options focus on uses and activities that allow for the protection, maintenance, and restoration of RCA's and upland watersheds and the measurable progress toward the attainment of water quality standards, PFC, and RMO's within RCA's.

Alternative D2

Riparian/wetland areas would be managed for uses and activities within the watershed that emphasize maintenance, improvement, and/or restoration of naturally occurring values that provide for the attainment of water quality, PFC, RMO's, and DRFC's of RCA's. Restoration activities, such as intensive woody riparian vegetation plantings and the installation of check-dams or wing-deflectors, would be used in areas unable to attain PFC, RMO's and the DRFC's through changes in management alone.

Areas not in PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watersheds would be allowed as long as there is measurable progress toward attainment of State water quality standards, PFC, and RMO's.

Management options focus on uses and activities that allow for the protection, maintenance, and restoration of RCA's and upland watersheds and the measurable progress toward the attainment of water quality standards, PFC, and RMO's within RCA's. Livestock grazing uses and activities would be excluded from all affected streams, RCA's and associated watersheds that contain a PFC assessment rating of functioning at risk with a downward trend or are nonfunctioning. Exclusion of livestock would continue in these streams, riparian/wetland areas, and any associated watersheds until systems have met State water quality standards and are determined able to support reintroduction of grazing uses and activities.

Alternative E

Commodity production would be excluded from all public lands. Noncommodity and public uses and activities would be allowed along streams, around riparian/wetland areas, and in associated watersheds if they would promote or have no effect on water quality, PFC, and RMO's within RCA's while protecting and enhancing natural values.

Streams, water bodies, and RCA's not meeting State water quality standards, PFC, and RMO's would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Noncommodity uses and activities within the RCA's and contributing upland watershed areas that adversely affect water quality and/or lead to stream channel or riparian/wetland resource degradation would be adjusted, restricted, or limited if water quality, PFC, and RMO's cannot be attained or maintained with existing management.

Proposed RMP

Riparian/wetland areas would be managed for uses and activities within the watershed that emphasize the maintenance or improvement of naturally occurring values while providing for commodity production and the attainment of PFC, RMO's, and DRFC's of RCA's.

Areas not in PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watersheds would be allowed as long as there is measurable progress towards attainment of State water quality standards, PFC, and RMO's.

Management options focus on uses and activities that allow for the protection and maintenance of RCA's and upland watersheds and the measurable progress toward the attainment of water quality, PFC, and RMO's within RCA's at a positive annual rate.

Fish and Aquatic Habitat

Objective: Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.

Rationale: FLPMA, six Executive orders, numerous legislative acts, and other regulations and policies direct the BLM to manage public land to provide habitat for fish and wildlife and to protect the quality of water resources. The following are examples:

FLPMA places fish and wildlife management on equal footing with other traditional land uses; requires that part of grazing fees be spent for "range betterment," including aquatic and terrestrial wildlife habitat enhancement, protection, and maintenance where livestock range; and requires consideration of fish and wildlife resources before approval of land exchanges.

The "Sikes Act" of 1974 is a congressional mandate for the BLM to "plan, develop, maintain, and coordinate programs for the conservation and rehabilitation of wildlife, fish, and game."

The ESA of 1973 provides for the protection of listed and potentially listed species and their habitats. Many of the listed and potentially listed fish species in the West are on land managed by the BLM.

In addition, Executive orders for floodplain management and protection of wetlands provide further direction for protection and management of fisheries habitat.

In watersheds with bull trout, the BLM manages resources according to the "Inland Native Fish Strategy" (1995).

Through a Statewide MOU between the BLM and ODEQ, the BLM implements the CWA by meeting State water quality standards. Hydrologic basins covered by this Draft SEORMP/EIS "shall be managed to protect the recognized beneficial uses," which include "salmonid fish rearing (trout)," "salmonid fish spawning (trout)," and "resident fish (warmwater) and aquatic life."

The BLM's role in the management of fish and other aquatic resources is to provide the habitat that supports desired aquatic plants and animals. Plants, animals, and their interactions with each other and the physical environment are part of the ecological processes important for the health and function of aquatic ecosystems as well as the overall rangeland or forest ecosystem. Species manipulations, such as introductions or removals, are under the authority of ODFW.

Monitoring: Monitoring aquatic habitats would include aquatic habitat surveys, fish population surveys, macroinvertebrate sampling, water quality assessments, riparian trend analyses, and assessments of riparian PFC.

Alternative A

Management emphasizes habitat for fish and other aquatic organisms important to commodity uses, such as recreational fishing, but not at the risk of causing extinction of native species.

Management would protect, maintain, or restore instream processes and habitat diversity, and riparian condition to sustain aquatic organisms important for commodity use. In addition, management would maintain a distribution of native game and nongame species that would promote natural dispersal and recolonization among populations.

Although management of entire watersheds is considered important for the health and function of aquatic ecosystems, this alternative focuses specifically on the protection of riparian/wetland areas where land uses or activities could have the most direct and immediate effect on aquatic habitat. Uses or activities allowed in riparian/wetland areas must ensure progress toward (1) maintenance, protection, or restoration of instream processes and habitat diversity; (2) water quality that meets State standards for aquatic beneficial use; and (3) attainment of PFC and RMO's.

Alternative B

Current management objectives for fish and other aquatic resources would be followed. Management emphasis is on improving and expanding existing fisheries habitat in streams and reservoirs, especially for Lahontan cutthroat and other native trout. Existing riparian exclosures and pastures would be maintained or improved. Previously identified strategies for fish habitat restoration and improvement (such as grazing reductions, new reservoir construction, riparian fencing, instream structures) would be implemented.

Alternative C

Management emphasis is on providing habitat for fish and other aquatic organisms to maintain the distribution of native species among subwatersheds while providing opportunities for commodity uses. Nonnative species would receive less emphasis. Habitat would also be provided for most of the native species needed for self-sustaining aquatic communities.

Management would protect, maintain, or restore riparian condition, instream processes, and habitat diversity so that all native aquatic species can live in predominantly natural assemblages within their present or historic subwatersheds. The purpose is to maintain a distribution of native species that would promote natural dispersal and recolonization among populations and allow species interactions that are part of ecosystem processes.

Because management throughout a watershed is considered important for the health and function of aquatic ecosystems, this alternative focuses on entire watersheds where uses or activities may have direct or indirect effects on riparian/wetland areas. Uses or activities would be allowed in the watershed as long as they ensure progress toward (1) maintenance, protection, or restoration of instream processes and habitat diversity; (2) water quality that meets State standards for aquatic beneficial use; and (3) attainment of PFC and RMO's.

Alternative D

Management emphasis provides fish and other aquatic organism habitat that maintains the distribution of native species among subwatersheds and supports all native species needed for self-sustaining aquatic communities.

Management would protect, maintain, or restore riparian condition, instream processes, and habitat diversity so that all native aquatic species can persist in natural assemblages within their present or historic subwatersheds. Where nonnative species already occur, habitat objectives would be based on the requirements of the native species. The purpose would be to maintain a distribution of native species that would promote natural dispersal and recolonization among populations and allow species interactions that are part of ecosystem processes.

Because management throughout a watershed is vital for the health and function of aquatic ecosystems, this alternative focuses on entire watersheds where uses or activities may have direct or indirect effects on riparian/wetland areas. Uses or activities would be allowed in the watershed as long as they promote (1) maintenance, protection, or restoration of instream processes and habitat diversity; (2) water quality that meets State standards for aquatic beneficial use; and (3) attainment of PFC and RMO's.

Alternative D2

Management emphasis provides fish and other aquatic organism habitat that maintains the distribution of native species among subwatersheds and supports all native species needed for self-sustaining aquatic communities.

Management would protect, maintain, or restore riparian condition, instream processes, and habitat diversity so that all native aquatic species can persist in natural assemblages within their present or historic subwatersheds. Where nonnative species already occur, habitat objectives would be based on the requirements of the native species. The purpose would be to maintain a distribution of native species that would promote natural dispersal and recolonization among populations and allow species interactions that are part of ecosystem processes.

Because management throughout a watershed is vital for the health and function of aquatic ecosystems, this alternative focuses on entire watersheds where uses or activities may have direct or indirect effects on riparian/wetland areas. Uses or activities would be allowed in most watersheds as long as they promote (1) maintenance, protection, or restoration of instream processes and habitat diversity; (2) water quality that meets State standards for aquatic beneficial use; and (3) attainment of PFC and RMO's.

Livestock grazing and related activities would be removed from those stream segments where PFC assessment ratings are functioning at risk with a downward trend or nonfunctioning. Exclusion of livestock would continue in these areas until systems are determined able to support reintroduction of grazing.

Livestock grazing would also be removed from stream segments that provide habitat for Federally listed, proposed, or candidate aquatic species, as, for example, bull trout, Lahontan cutthroat trout, or Columbia spotted frog, regardless of PFC assessment ratings. In addition, livestock grazing would be removed from streams that function as exceptional habitat or "strongholds" for Great Basin or inland Columbia Basin redband trout. These strongholds would be designated as stream segments, usually near headwaters, with redband populations that are genetically pure or only slightly hybridized with hatchery stocks of rainbow trout.

Alternative E

Commodity production would be excluded from all public lands. Management would protect, maintain, or restore riparian condition, instream processes, and habitat diversity so that all native aquatic species can persist in natural assemblages within their present or historic subwatersheds. Streams and water bodies not meeting minimum State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the

stream channel. Noncommodity uses and activities within the RCA and contributing upland watershed areas that adversely affect water quality and/or lead to stream channel or riparian/ wetland habitat degradation would be adjusted, restricted, or eliminated.

Proposed RMP

Management emphasis is on providing habitat for fish and other aquatic organisms to maintain the distribution of native species among subwatersheds while providing opportunities for commodity uses. Nonnative species would receive less emphasis. Habitat would also be provided for most of the native species needed for self-sustaining aquatic communities.

Management would protect, maintain, or restore riparian condition, instream processes, and habitat diversity so that all native aquatic species can live in predominantly natural assemblages within their present or historic subwatersheds. The purpose is to maintain a distribution of native species that would promote natural dispersal and recolonization among populations and allow species interactions that are part of ecosystem processes.

Because management throughout a watershed is considered important for the health and function of aquatic ecosystems, this alternative focuses on entire watersheds where uses or activities may have direct or indirect effects on riparian/wetland areas. Uses or activities would be allowed in the watershed as long as they ensure progress toward (1) maintenance, protection, or restoration of instream processes and habitat diversity; (2) water quality that meets State standards for aquatic beneficial use; and (3) attainment of PFC and RMO's.

Wildlife and Wildlife Habitat

Objective 1: Maintain, restore, or enhance riparian areas and wetlands so they provide diverse and healthy habitat conditions for wildlife.

Rationale: Section 102.8 of FLPMA requires that public land be managed to protect the quality of multiple resources and to 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.

Wildlife depend on riparian/wetland areas to meet numerous life history needs. Because of their spatial distribution within a wide variety of upland habitats, riparian area health affects most game and nongame species. In managing riparian/wetlands, the BLM should consider the consequences and relationships of management to the life history needs of wildlife.

PFC assessments (see the section of this chapter on riparian areas) alone may not disclose certain desired future conditions known to be important for wildlife. For example, quaking aspen-dependent bird species may require a minimum stand size before they can become self-sustaining as a breeding population. The grazing system necessary to reach this goal may require specific periods of rest or other actions which would exceed that necessary to attain PFC.

Monitoring: Refer to Appendix W, Monitoring for Wildlife and Wildlife Habitat, and Appendix F,

Wildlife Habitat Descriptions and Considerations. Wildlife habitat conditions currently being measured for evaluation may continue to be.

Alternative A

Manage for desired future habitat conditions that emphasize structure, forage, or other riparian habitat elements important to game species of wildlife.

Alternative B

Manage for desired future habitat conditions that emphasize structure, forage, or other riparian habitat elements important to game and nongame species of wildlife.

Alternative C and D

Same as Alternative B.

Alternative D2

Same as Alternative B, but with prescriptions identified in Rangeland/Grazing Use, Alternative D2. This would be the most aggressively proactive alternative in that it pursues a high level of terrestrial source habitat conservation per ICBEMP Final EIS.

Alternative E

Natural processes would determine future habitat conditions.

Proposed RMP

Manage for desired future habitat conditions that emphasize structure, forage, or other riparian habitat elements important to game and nongame species of wildlife.

Objective 2: Manage upland habitats in forest, woodland, and rangeland vegetation types so that the forage, water, cover, structure, and security necessary for wildlife are available on the public land.

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

The character of upland vegetation (arrangements, densities, age classes, etc.) greatly influences wildlife habitat quality and productivity. The ICBEMP Final EIS has disclosed a number of broad-scale issues pertaining to wildlife habitat that support this fundamental relationship with the best available science. Because the character of upland vegetation can vary in response to Federal land use authorizations, BLM needs to consider the consequences of various land uses (such as grazing and mining) and treatments (such as commercial forest harvest, burning and seeding) to the health of wildlife habitat. The outcomes of what may be considered proper range or forest management may not necessarily result in satisfactory wildlife habitat.

Wildlife must have a reasonable amount of protection from the adverse impacts associated with human activities, regardless of the source of disturbance (such as OHV's, aircraft, etc.). This is especially true during breeding periods and on winter ranges where there is high potential for affecting survival and recruitment.

Monitoring: Monitoring includes periodic estimations or actual measured values of vegetation. Monitoring would normally be in concert with resource evaluations of various geographic areas. Monitoring would determine how closely GMA's or project areas are to meeting desired wildlife habitat conditions.

Alternative A

The overall goal of this alternative is to emphasize the sagebrush steppe, forestland and woodland habitat needs of game species. Single-species oriented management is emphasized in most habitats.

Forest, western juniper, quaking aspen, and mountain shrub types would be managed as described under the Rangeland Vegetation, and Forest and Woodlands sections of this document in a way that substantially conforms to the considerations described in Appendix F.

Alternative B

Wildlife habitat is managed to meet requirements of game and some limited nongame wildlife habitat needs. Single species oriented management approaches would be emphasized in most habitats.

In JRA and MRA, native range or seedings would be managed to meet the shrub cover and forage needs on selected big game winter ranges. No specific or measurable conditions would be defined other than to encourage a mosaic of shrub habitats and supply adequate cover and forage. Management to meet existing objectives would include a variety of methods to provide forage and cover.

Forest, western juniper, quaking aspen, and mountain shrub types would be managed as described under the Rangeland Vegetation, and Forest and Woodlands sections of this document.

Alternative C

The overall goal of this alternative is to generally place equal emphasis on game and nongame wildlife habitat needs in sagebrush steppe, forestland and woodland habitats. To the extent possible and practical, wildlife community connectivity and interrelationships would be emphasized in most habitats. This approach would be distinctly different from single species management.

Manage to maintain or establish connectivity of big sagebrush types between GMA's at mid and fine scales. To achieve desired wildlife habitat conditions, management would include a variety of methods to maintain, increase, or decrease the big sagebrush overstory.

Forest, western juniper, quaking aspen, and mountain shrub types would be managed as described under the Rangeland Vegetation, and Forest and Woodlands sections of this document in a way that substantially conforms to the considerations described in Appendix F.

Alternative D

Same as Alternative C, except that a high level of emphasis would be placed on meeting desired habitat conditions for wildlife at the fine scale. More than 90 percent of sagebrush would be managed in a way that substantially conforms to the considerations described in Appendix F.

Alternative D2

Generally the same as Alternative C except that (1) a high level of emphasis would be placed on meeting desired habitat conditions for wildlife at the fine scale, and (2) management emphasis would substantially address species of focus and source habitats described in the ICBEMP science as a means to attain habitat for multiple species of wildlife. This would be

the most aggressively proactive alternative in that it pursues a high level of terrestrial source habitat conservation per ICBEMP Final EIS.

Areas not allocated to livestock grazing (24 percent of the planning area) would include the following:

1) selected habitat of Mulford's milkvetch, a special status plant species which is vulnerable to livestock impacts;

2) habitat of fish and aquatic species listed under ESA and redband trout/Columbia spotted frog strongholds;

3) selected habitat of sagebrush-dependent species, utilizing sage grouse as an indicator species;

4) management corridors of four river segments congressionally designated as NWSR's and four additional river segments found administratively suitable for potential designation by Congress as NWSR's within Alternative C; and

5) selected ACEC's

Forest, western juniper, quaking aspen, and mountain shrub types would be managed as described under the Rangeland Vegetation, and Forest and Woodlands sections of this document. Desired wildlife conditions would substantially conform to the considerations described in Appendix F.

Alternative E

This alternative assumes that habitat conditions would be determined by the consequences of natural events.

Proposed RMP

The overall goal of this alternative is to generally place equal emphasis on game and nongame wildlife habitat needs in sagebrush steppe, forest, and woodland habitats. To the extent possible and practical, wildlife community connectivity and interrelationships would be emphasized in most habitats. Management emphasis would substantially address source habitats and species of focus described in the ICBEMP science. Desired wildlife conditions would substantially conform to the considerations described in Appendix F.

Manage to maintain or establish connectivity of big sagebrush types between GMA's at mid and fine scales. To achieve desired wildlife habitat conditions, management would include a variety of methods to maintain, increase, or decrease the big sagebrush overstory.

Forest, western juniper, quaking aspen, and mountain shrub types would be managed as described under the Rangeland Vegetation, and Forest and Woodlands sections of this document.

Special Status Animal Species

Objective 1: 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.

Rationale: Section 102.8 of FLPMA requires that public land be managed to protect the quality of multiple resources and to provide food and habitat for fish, wildlife, and domestic animals.

The ESA directs Federal agencies to manage in a way which leads to the conservation or recovery of Federally listed threatened or endangered species. This Act, as well as BLM policy, encourages management actions to protect special status species not currently listed as threatened or endangered.

Most fish and wildlife 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 that 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 ESA. Emerging management issues may require BLM to expend time and effort towards species that are in assessment or tracking categories rather than for some listed species.

Listing of a species as threatened or endangered may lead to restrictions on land uses, and under some circumstances commodity users may experience adverse socioeconomic impacts. In most cases, there are both socioeconomic and biological benefits associated with proactive measures which lead to avoidance of Federal listing.

Maintenance, restoration, or enhancement of populations or habitat, as defined in the glossary of this document, may represent appropriate BLM management depending on the habitat needs or specific circumstances of a species. Restoration or enhancement may not always be the only clear choice for BLM action regarding special status species. One potential limitation that could delay restoration or enhancement is that the biological mechanisms adversely affecting a species may not be well enough understood in the best available science. Maintenance may also be a preferred course of action where resource conditions are of high quality (such as terrestrial source habitats in the ICBEMP Final EIS).

Monitoring: With the exception of Alternative E, management for bull trout and Lahontan cutthroat trout would be in accordance with recovery plans and consultation with the USFWS. Refer to Appendix W, Monitoring for Wildlife and Wildlife Habitat, and Appendix F, Wildlife Habitat Descriptions and Considerations.

Alternative A

Management would emphasize achieving conditions that maintain, enhance, or restore habitats and populations of special status game species listed in Table 2-15. All other special status species habitats or populations would be managed so that BLM actions do not contribute toward the need to list these species as Federally threatened or endangered. Management for these other species would emphasize maintenance rather than restoration and enhancement.

Management would provide habitat conditions that favor individual special status species. Fish and wildlife community goals would be secondary to goals for individual species.

Management that might be required for special status species may include avoidance or mitigation measures. Some restoration or enhancement measures could involve very specific remedies leading to substantial adjustments in customary land use practices. Because of the variability in habitat use by special status species, management actions could be required within any of the habitat types described in this plan.

Alternative B

Management would emphasize achieving conditions that maintain, enhance, or restore habitats or populations of any special status species regardless of economic importance. All

special status species habitats or populations would be managed so that BLM actions do not contribute toward the need to list these species as Federally threatened or endangered.

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 projects or other land use adjustments might be required to manage for special status species. Some management for maintenance could require avoidance or mitigation measures. Some restoration or enhancement measures could involve very specific remedies with the potential to lead to substantial adjustments in customary land use practices. Because of the variability in habitat use by special status species, management actions could be required within any of the habitat types described in this plan.

Alternative C

Management would emphasize achieving conditions that maintain, enhance, or restore habitats or populations of special status species regardless of their economic status. All special status species habitats or populations would be managed so that BLM actions would not contribute toward the need to list the species as Federally threatened or endangered.

Management would be oriented toward the development of habitats that support healthy, biologically diverse communities of wildlife at mid and fine scales while meeting special status species needs. Individual species requirements would be included in management prescriptions, but not to an extent that overemphasizes the value of any one habitat type. This community approach to management is different from the single-species-driven management indicated in Alternatives A and B.

A variety of projects or other land use adjustments might be required to manage for special status species. Some management for maintenance could require avoidance or mitigation measures. Some restoration or enhancement measures could involve very specific remedies leading to substantial adjustments in customary land use practices. Because of the variability in habitat use by special status species, management actions could be required within any of the habitat types described in this plan.

Alternative D

This alternative would include aggressive, proactive measures for special status species management. Habitats and populations would be restored or enhanced in all areas where biologically sound and reasonable. Maintenance would only be considered where habitat or population conditions are considered to be at or near their potential. This is in contrast to Alternatives A and B, which would include measures for maintenance regardless of habitat or population quality.

Management would develop habitats that support healthy, biologically diverse communities of wildlife at the fine scale while meeting special status species needs. Individual species requirements would be included in management prescriptions, but not to an extent that overemphasizes the value of any one habitat type. This community approach to management is different from the single-species-driven management indicated in Alternatives A and B.

A variety of projects or other land use adjustments might be required to manage for special status species. Some management for maintenance could require avoidance or mitigation measures. Restoration or enhancement measures could involve remedies that lead to substantial adjustments in customary land use practices. Because of the variability in habitat use by special status species, management actions could be required within any of the habitat types described in this plan.

Alternative D2

Similar to Alternative D, except that management emphasis would substantially address the habitat for species of focus in the ICBEMP science. In so doing, BLM would be able to foster plant/animal community health and habitat integrity at the landscape level for game and nongame species. This would be the most aggressively proactive alternative in that it pursues a high level of terrestrial source habitat conservation per ICBEMP Final EIS. Areas identified in Table 3-7 would not be allocated to livestock grazing based on the following criteria:

1) selected habitat of Mulford's milkvetch, a special status plant species which is vulnerable to livestock impacts;

2) habitat of fish and aquatic species listed under ESA and redband trout/Columbia spotted frog strongholds;

3) selected habitat of sagebrush-dependent species, utilizing sage grouse as an indicator species;

4) management corridors of four river segments congressionally designated as NWSR's and four additional river segments found administratively suitable for potential designation by Congress as NWSR's within Alternative C; and

5) selected ACEC's.

Management would substantially emphasize achieving conditions that maintain, enhance, or restore habitats and populations regardless of their economic status. All special status species habitats or populations would be managed so that BLM actions do not contribute toward the need to list these species as Federally threatened or endangered.

Use considerations described in Appendix F, and habitat relationships shown in Chapter 2, Figure 2-1, as direction for managing sagebrush wildlife habitat values. In so doing, BLM would be able to foster plant/animal community health and habitat integrity at a landscape level for game and nongame species.

A variety of projects or other land use adjustments might be required to manage for special status species. Some management for maintenance could require avoidance or mitigation measures. Some restoration or enhancement measures could involve very specific remedies with the potential to lead to substantial adjustments in customary land use practices. Because of the variability in habitat use by special status species, management actions could be required within any of the habitat types described in this plan.

Alternative E

Natural processes would determine future conditions.

Proposed RMP

Management would emphasize achieving conditions that maintain, enhance, or restore habitats and populations regardless of their economic status. All special status species habitats or populations would be substantially managed so that BLM actions do not contribute toward the need to list these species as Federally threatened or endangered. Individual species requirements would be included in management prescriptions but not to an extent that overemphasizes the value of any one habitat. Management emphasis would substantially address source habitats and species of focus in the ICBEMP science.

Use considerations described in Appendix F and habitat relationships shown in Chapter 2, Figure 2-1 as direction for managing sagebrush wildlife habitat values. In so doing, BLM would be able to foster plant/animal community health and habitat integrity at a landscape level for game and nongame species.

A variety of projects or other land use adjustments might be required to manage for special status species. Some management for maintenance could require avoidance or mitigation measures. Some restoration or enhancement measures could involve very specific remedies with the potential to lead to substantial adjustments in customary land use practices. Because of the variability in habitat use by special status species, management actions could be required within any of the habitat types described in this plan.

Objective 2: Facilitate the maintenance, restoration, and enhancement of bighorn sheep populations and habitat on public land. Pursue management in accordance with the 1997 "Oregon's Bighorn Sheep Management Plan" (OBSMP) in a manner consistent with the principles of multiple use management.

Rationale: Section 102.8 of FLPMA states that it is the policy of the United States to manage the public land in a manner that will protect the quality of multiple resources and will provide food and habitat for fish, wildlife and domestic animals.

Public land supplies a high percentage of the total available and currently unoccupied land suitable for bighorn sheep use. As the principal land-administrator of habitat capable of supporting bighorn sheep, BLM involvement in this program is necessary. 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.

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

Bighorn sheep are native to eastern Oregon and their presence contributes to the overall biological diversity and productivity of public land. There is widespread public interest in being able to observe them in their natural setting of eastern Oregon, and they are highly prized as big game.

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

Alternative A

Bighorn sheep maintenance, restoration, and enhancement would be emphasized on approximately 2,643,000 acres as shown on Map WLDF-2 in the Draft SEORMP/EIS. Bighorn sheep pioneering outside of this area would be either harvested or captured and moved to other suitable habitat.

Bighorn sheep occupancy would be planned outside of domestic sheep use areas in order to avoid conflicts associated with disease transmission. No displacement of current domestic sheep grazing permittees would result from bighorn sheep occupancy. Reasonable buffers between domestic sheep use areas and bighorn sheep use areas, based on local conditions, would be maintained as a mechanism to further avoid disease transmission.

To protect bighorn sheep populations and their habitats, future proposals to graze domestic sheep in bighorn sheep range, as identified on Map WLDF-2, would not be authorized.

Alternative B

Bighorn sheep maintenance, restoration, and enhancement would be emphasized on approximately 800,000 acres of land as identified in current land use plans and wildlife HMP's. Bighorn sheep pioneering outside of the range would be allowed to remain where the resulting multiple use conflicts are minor.

Bighorn sheep occupancy would be planned outside of domestic sheep use areas in order to avoid conflicts associated with disease transmission. No displacement of current domestic sheep grazing permittees would result from bighorn sheep occupancy. Reasonable buffers between domestic sheep use areas and bighorn sheep use areas, based on local conditions, would be maintained as a mechanism to further avoid disease transmission.

Future proposals to graze domestic sheep within bighorn sheep range would be considered for Malheur County on a case-by-case basis.

Alternative C

Bighorn sheep maintenance, restoration, and enhancement would be emphasized on approximately 2,643,000 acres as shown on Map WLDF-2 in the Draft SEORMP/EIS. Bighorn sheep pioneering outside of this area would be allowed where the resulting multiple use conflicts are minor.

Bighorn sheep occupancy would be planned outside of domestic sheep use areas in order to avoid conflicts associated with disease transmission. No displacement of current domestic sheep grazing permittees would result from bighorn sheep occupancy. Reasonable buffers between domestic sheep use areas and bighorn sheep use areas, based on local conditions, would be maintained as a mechanism to further avoid disease transmission.

Future proposals to graze domestic sheep would be same as Alternative B.

Alternative D

Same as Alternative C except that one or more domestic sheep grazing or trailing permits would be retired within identified bighorn sheep range shown on Map WLDF-2 in the Draft SEORMP/EIS.

Alternative D2

Bighorn sheep maintenance, restoration, and enhancement would be emphasized on approximately 2,888,000 acres as shown on Map WLDF-2. Bighorn sheep pioneering outside of this area would be allowed where the resulting multiple use conflicts are minor.

Bighorn sheep occupancy would be planned outside of domestic sheep use areas in order to avoid conflicts associated with disease transmission. No displacement of current domestic sheep grazing permittees would result from bighorn sheep occupancy. Reasonable buffers between domestic sheep use areas and bighorn sheep use areas, based on local conditions, would be maintained as a mechanism to further avoid disease transmission.

Future proposals to graze domestic sheep would be same as Alternative B.

Alternative E

Bighorn sheep maintenance, restoration, and enhancement would be emphasized within all suitable range and with no limitations on public land.

Proposed RMP

The maintenance, restoration, and enhancement of bighorn sheep would be emphasized on approximately 2,888,000 acres as shown on Map WLDF-2. Bighorn sheep pioneering outside of this area would be allowed where the resulting multiple use conflicts are minor.

Bighorn sheep occupancy would be planned outside of domestic sheep use areas to avoid conflicts associated with disease transmission. No displacement of current domestic sheep grazing permittees would result from bighorn sheep occupancy. Reasonable buffers between domestic sheep use areas and bighorn sheep use areas, based on local conditions, would be maintained as a mechanism to further avoid disease transmission.

Future proposals to graze domestic sheep would be same as Alternative B.

Wild Horses

Objective: Maintain and manage wild horse herds in established herd management areas (HMA's) at appropriate management levels (AML's) to ensure 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.

Rationale: The "Wild Free-Roaming Horse and Burro Act" of 1971 requires the BLM to manage wild horses according to principles of multiple use management and to achieve a thriving, natural ecological balance. The color, type, conformation, size, and weight of members of various herds are historic characteristics and desirable to retain.

Monitoring: Wild horses and their habitat would be monitored to schedule and implement gathering and to further refine and support adjustments of AML's in each HMA. Monitoring would include periodic horse counts which identify age and sex composition of herds, areas of use by livestock and horses, climatic data, vegetation utilization, vegetation condition, and vegetation trend.

Alternative A

Established boundaries of the Hog Creek, Cold Springs, Three Fingers, Jackies Butte, Sand Springs, and Coyote Lake HMA's would be maintained. Because of limited barriers to wild horse movement between the Sheepshead HMA of the Vale District and Heath Creek-Sheepshead HMA of the Burns District, these two HMA's would be combined, and the resulting HMA would be managed by the Vale District. The initial AML of this HMA would be 302 head, with a range of 161 to 302 head.

Horse herds in all HMA's would be managed to produce desirable and adoptable horses. Where wild horse use significantly conflicts with livestock production, livestock production would be considered a higher value use and would be emphasized on a case-by-case basis, through the adaptive management process to optimize commodity production from public land. When analysis of monitoring data identifies a need to reduce grazing impacts, reductions in wild horse AML's would be emphasized. When analysis of monitoring data identifies additional available forage, increases in livestock authorized use would be emphasized.

Return of gathered wild horses into HMA's would be limited to animals exhibiting the special and unique characteristic designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with low AML's. Numbers of animals returned to the range would be at or near the low end of the AML range.

Established water developments supporting current wild horse populations would be maintained. Emphasis would be placed on construction of water developments to minimize forage competition between wild horses and livestock and to assure a reliable water supply during periods of drought, consistent with other resource management objectives.

Alternative B

Wild horses would continue to be managed in 7 HMA's within Vale District identified in Chapter 2. Current boundaries would be maintained for all HMA's. Wild horse populations would be managed within the limits of established AML's, with periodic adjustments supported by monitoring and consistent with existing land use plans.

Return of gathered wild horses into HMA's would be limited to animals exhibiting the special and unique characteristics designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with low AML's.

Established water developments used by wild horses would be maintained. Additional water developments, as identified in current land use plans, would be constructed to support established AML's.

Alternative C

Established boundaries of the Hog Creek, Cold Springs, Three Fingers, Jackies Butte, and Sand Springs HMA's would be maintained. Because of limited barriers to wild horse movement between the Sheepshead HMA of the Vale District and Heath Creek-Sheepshead HMA of the Burns District, these two HMA's would be combined, and the resulting HMA would be managed by the Vale District. See Map WLHS-1 in the Draft SEORMP/EIS and Table 2-18. The initial AML of this HMA would be 232 head, with a range of 161 to 302 head.

Though not identified as part of the Coyote Lake HMA, wild horses used Red Mountain North Pasture in 1971 and have continued that use since the original inventories. Red Mountain North Pasture would be designated a portion of Coyote Lake HMA. Horses using this pasture have been included in the AML for Coyote Lake HMA; thus, the AML would remain unchanged with implementation of the PSEORMP/FEIS. After adding the Red Mountain North Pasture, the Coyote Lake HMA would be 194,992 acres.

When monitoring data support a downward adjustment in the allocation of forage resources within HMA's, proportionate decreases in wild horse AML's and authorized active use by livestock would be implemented. This would be done through the adaptive management process, based on each species' contribution to the failure to meet management objectives or failure to maintain an ecological balance. When monitoring data identify additional available forage on a sustained basis, proportionate increases between wild horse AML's and livestock authorized active use would be emphasized, as consistent with meeting other management objectives of Alternative C.

Return of gathered wild horses into HMA's would be limited to animals exhibiting the special and unique characteristics designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with a low AML.

Established water developments supporting current wild horse populations would be maintained. Construction of water developments to minimize forage competition between wild horses and livestock and to assure a reliable water supply during periods of drought would be considered, consistent with other resource management objectives.

Alternative D

Established boundaries of the Hog Creek, Cold Springs, Three Fingers, Jackies Butte, and Sand Springs HMA's would be maintained. As identified in Alternative C, Sheepshead HMA of Vale District and Heath Creek-Sheepshead HMA of Burns District would be combined and managed as one HMA by Vale District. The initial AML of the combined HMA would be 302 head, with a range from 161 to 302 head.

Red Mountain North Pasture would be designated a portion of the Coyote Lake HMA based on historical use. Because horses using this pasture have been included in the AML for the Coyote Lake HMA, the AML would remain unchanged with implementation of the PSEORMP/FEIS.

Adjustments in AML's for each HMA would be implemented through the adaptive management process. When monitoring data identify a need to reduce grazing impacts within an HMA, reductions in livestock authorized use would be emphasized. When monitoring data identify additional available forage, increases in wild horse populations would be emphasized.

Return of gathered wild horses into HMA's would be limited to animals exhibiting the special and unique characteristics designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with a low AML.

Established water developments and other projects supporting wild horse populations would be maintained, as consistent with other management objectives. Projects designed to facilitate wild horse management that do not emphasize natural values would be abandoned and sites would be rehabilitated. Construction of water developments to minimize wild horse impacts to other resource values, emphasize natural values, and assure a reliable water supply during periods of drought would be considered.

Alternative D2

Established boundaries of the Hog Creek, Cold Springs, Three Fingers, Jackies Butte, and Sand Springs HMA's would be maintained. As identified in Alternative C, Sheepshead HMA of Vale District and Heath Creek-Sheepshead HMA of Burns District would be combined and managed as one HMA by Vale District. The initial AML of the combined HMA would be 302 head, with a range from 161 to 302 head.

Red Mountain North Pasture would be designated a portion of the Coyote Lake HMA based on historical use. Because horses using this pasture have been included in the AML for the Coyote Lake HMA, the AML would remain unchanged with implementation of the PSEORMP/FEIS.

Adjustments in AML's for each HMA would be implemented through the adaptive management process. When monitoring data identify a need to reduce grazing impacts within an HMA, reductions in livestock authorized use would be emphasized. When monitoring data identify additional available forage, increases in wild horse populations would be emphasized.

Return of gathered wild horses into HMA's would be limited to animals exhibiting the special and unique characteristics designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with a low AML.

Established water developments and other projects supporting wild horse populations would be maintained, as consistent with other management objectives. Projects designed to

facilitate wild horse management that do not emphasize natural values would be abandoned and sites would be rehabilitated. Construction of water developments to minimize wild horse impacts to other resource values, emphasize natural values, and assure a reliable water supply during periods of drought would be considered.

Alternative E

Established boundaries of the Hog Creek, Cold Springs, Three Fingers, Jackies Butte, and Sand Springs HMA's would be maintained. As identified in Alternative C, Sheepshead HMA of Vale District and Heath Creek-Sheepshead HMA of Burns District would be combined and managed as one HMA by Vale District. The initial AML of the combined HMA would be 302 head, with a range from 161 to 302 head.

Red Mountain North Pasture would be designated a portion of the Coyote Lake HMA based on historical use. Because horses using this pasture have been included in the AML for the Coyote Lake HMA, the AML would remain unchanged with implementation of the PSEORMP/FEIS.

Adjustments in AML's for each HMA would be implemented through the adaptive management process. When monitoring data identify a need to reduce grazing impacts within an HMA, reductions in livestock authorized use would be emphasized. When monitoring data identify additional available forage, increases in wild horse populations would be emphasized.

Return of gathered wild horses into HMA's would be limited to animals exhibiting the special and unique characteristics designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with a low AML.

Established water developments and other projects supporting wild horse populations would be maintained, as consistent with other management objectives. Projects designed to facilitate wild horse management that do not emphasize natural values would be abandoned and sites would be rehabilitated. Construction of water developments to minimize wild horse impacts to other resource values, emphasize natural values, and assure a reliable water supply during periods of drought would be considered.

Proposed RMP

Established boundaries of the Hog Creek, Cold Springs, Three Fingers, Jackies Butte, and Sand Springs HMA's would be maintained. Because of limited barriers to wild horse movement between the Sheepshead HMA of the Vale District and Heath Creek-Sheepshead HMA of the Burns District, these two HMA's would be combined, and the resulting HMA would be managed by the Vale District. See Map WLHS-1 in the Draft SEORMP/EIS and Table 2-18. The initial AML of this HMA would be 302 head, with a range of 161 to 302 head.

Though not identified as part of the Coyote Lake HMA, wild horses used Red Mountain North Pasture in 1971 and have continued that use since the original inventories. Red Mountain North Pasture would be designated a portion of Coyote Lake HMA. Horses using this pasture have been included in the AML for Coyote Lake HMA; thus, the AML would remain unchanged with implementation of the PSEORMP/FEIS. After adding the Red Mountain North Pasture, the Coyote Lake HMA would be 194,992 acres.

When monitoring data support a downward adjustment in the allocation of forage resources within HMA's, decreases in wild horse AML's and authorized active use by livestock would be implemented through the adaptive management process, based on each species' contribution to the failure to meet management objectives or failure to maintain an ecological

balance. When monitoring data identify additional available forage on a sustained basis, proportionate increases between wild horse AML's and livestock authorized active use would be considered, as consistent with meeting other management objectives of the Proposed RMP alternative.

Return of gathered wild horses into HMA's would be limited to animals exhibiting the special and unique characteristics designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with a low AML.

Established water developments supporting current wild horse populations would be maintained when consistent with meeting management objectives. Construction of water developments to minimize forage competition between wild horses and livestock and to assure a reliable water supply during periods of drought would be considered, consistent with other resource management objectives.

Rangeland/Grazing Use

Objective: Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.

Rationale: The "Taylor Grazing Act" of 1934 is the legislative authority providing for livestock grazing on and protection of public land. FLPMA, PRIA, and other acts, direct the management of public land for multiple use and sustained yield. Rangeland management strategies will provide for the maintenance or restoration of watershed function, nutrient cycling and energy flow, water quality, habitat for special status species, and habitat quality for populations and communities of native plants and animals. These management strategies have been supported by the development of regional S&G's (see Appendix Q).

Public land found not to be suitable for livestock grazing or containing resource values that cannot be adequately protected from livestock impacts through mitigating measures is not allocated to livestock grazing (Table 2-18). Small areas within allotments where livestock grazing is not compatible with other uses or values may be excluded by agreement or decision from livestock grazing.

Monitoring: Monitoring of livestock grazing would include recording actual use, measurements of utilization, and climatic data. Conditions and trends of resources affected by livestock grazing would be monitored to support periodic analysis/evaluation and site-specific adjustments of livestock management actions.

Management common to all alternatives: Where livestock grazing is found not to be consistent with meeting objectives, actions that control the intensity, duration, and timing of grazing and/or provide for periodic deferment and/or rest would be required to meet the physiological requirements of key plant species and to meet other resource management objectives. Upon determining through the adaptive management process that existing grazing management practices or levels of grazing on public land are significant factors in failing to achieve resource objectives, appropriate actions would be implemented. It is the intent of grazing management to leave sufficient herbaceous material in most areas to provide soil and watershed protection, to provide forage and cover for wildlife and wild horses, and to meet other resource objectives. A summary of potential interactions between livestock grazing and other resource uses or values is presented in Appendices F and R.

The current grazing use authorizations (Appendix E) would be maintained until analysis or evaluation through the adaptive management process identifies a need for adjustments to meet objectives. Applicable activity plans (including AMP's), agreements, decisions, and/or

terms and conditions of grazing use authorizations, would be revised and implemented to ensure that objectives are met.

Ten Mile Seeding within Ten Mile Allotment (01308) of JRA, which has been available for livestock grazing on a temporary basis only and has not been allotted to a specified livestock operator, would continue to be grazed on a temporary case-by-case basis to provide necessary livestock management flexibility, pending final disposition of the grazing authorizations in this area. That temporary use would continue to provide flexibility in other allotments of JRA following fire, fire rehabilitation, poor climatic conditions, implementation of rest or deferment of use in other areas to facilitate recovery of resource values, or for other reasons. Opportunities for similar management of additional areas within MRA and JRA would be pursued through administrative routes to provide additional flexibility to meet management objectives.

Livestock grazing would be managed during and following drought to maintain soil and vegetation health and productivity.

Alternative A

Emphasize livestock grazing use on public land suitable for grazing, while protecting resource values for multiple use and sustained yield, consistent with meeting resource objectives. In addition to 41,874 acres of public land in three blocks (Table 2-19) allocated as not suitable or not available for livestock grazing, 8,730 acres in three blocks (Table 3-6; Appendix T) would be partitioned from affected grazing allotments and would not be allocated to grazing use.

Emphasis would be placed on the construction and maintenance of rangeland projects, primarily fencing and water development, which mitigate livestock impacts, access underutilized forage resources, and improve livestock distribution. Temporary and/or permanent fencing and other structural improvements to protect resources values, while retaining an optimum quantity of forage resources available for livestock use, would be a priority. Livestock grazing systems would be designed on a site-specific basis to mitigate impacts with a priority to maintain or enhance authorized levels of livestock use. Consideration would be given to administrative solutions, including reductions in levels of authorized livestock use, as necessary to meet management objectives. Vegetation treatments would be implemented to enhance forage production. Standard implementation procedures for rangeland improvements are presented in Appendix S.

Existing structural rangeland projects that support livestock grazing use would be maintained. Projects which no longer function to meet objectives would be abandoned and sites would be rehabilitated.

Optimize authorization of TNR grazing use of additional production in years of favorable growing conditions consistent with meeting resource objectives. Evaluate applications to ensure that authorization of TNR would be consistent with meeting management objectives.

Alternative B

Continue the authorization of livestock grazing use consistent with multiple use and sustained yield objectives identified in existing land use and activity plans.

Adjustments to terms and conditions of livestock grazing authorization, based on periodic allotment evaluations, would be implemented to progress toward meeting objectives of existing land use plans. Administrative solutions, including reductions in levels of authorized livestock use, would be considered, as necessary, to meet management objectives.

Structural rangeland improvements and vegetative treatments would be implemented, as appropriate, to mitigate impacts, access underutilized forage resources, and improve livestock distribution, consistent with other resource management objectives. Vegetative manipulation projects that emphasize the conversion of less productive annual vegetative communities to productive perennial ground cover would be implemented, as identified in the vegetative management alternatives of this document. Standard implementation procedures for construction of rangeland improvements are presented in Appendix S.

Existing structural rangeland projects that support livestock grazing use would be maintained. Projects which no longer function to meet objectives would be abandoned and sites would be rehabilitated.

Additional forage, periodically available as the result of favorable growing conditions, would be made available to qualified applicants through TNR grazing authorizations, as consistent with existing land use plans.

Alternative C

Provide for a sustained yield of forage for livestock grazing while maintaining resource values for long term multiple use, consistent with management objectives. In addition to 41,874 acres of public land in three blocks (Table 2-19) allocated as not suitable or not available for livestock grazing, 8,836 acres in four blocks (Table 3-6; Appendix T) would be partitioned from affected grazing allotments and would not be allocated to grazing use. Grazing of Historic Birch Creek Ranch may be authorized only on a temporary basis for administrative and/or interpretive purposes.

A combination of administrative solutions and rangeland project development would be implemented, as necessary, on a site-specific basis to provide a sustained level of livestock use while maintaining resource values. Livestock grazing systems would be retained or revised through the adaptive management process to meet management objectives. Structural rangeland projects would be implemented to facilitate meeting resource objectives rather than making additional forage available. Vegetation manipulation projects would emphasize the conversion of rangelands dominated by exotic annuals to properly functioning perennial communities. Standard implementation procedures for rangeland improvements are presented in Appendix S.

Table 3-6.—*Areas which would not be allocated to livestock grazing with implementation of Alternatives A, C, and D, in addition to those identified in the existing environment (Chapter 2)*

Area	Acres
Malheur Resource Area	
Owyhee Reservoir State Park	832
Historic Birch Creek Ranch [1]	106
Jordan Resource Area	
Deary Pasture	4,641
Luscher Pasture	3,257

[1]Alternative A—allocated to livestock grazing and available for permit application. Alternatives C and D—grazing may be authorized only on a temporary basis for administrative and/or interpretive purposes.

Existing structural rangeland projects would be maintained where beneficial to livestock management and other resource values. Projects which no longer meet livestock or resource management objectives may be abandoned and sites would be rehabilitated.

TNR grazing use may be authorized to make additional forage available to livestock operators in a year of favorable growing conditions, consistent with meeting resource objectives. Additionally, TNR may be authorized to facilitate meeting vegetation management objectives (such as reducing competition from undesirable annual species with desirable perennial species or reducing the quantity of standing dead herbaceous material in nonnative seedings while continuing to meet resource objectives). The following criteria shall be the basis for timely processing of applications for nonrenewable grazing authorization during the current grazing year in excess of the number of AUM's or outside the period identified in a current grazing permit:

- The area does not include lands managed under special designations such as wilderness, WSA's, ACEC/RNA's, administratively suitable or designated NWSR's;
- The area does not include riparian communities where PFC assessment is functional at risk with a static or downward trend or nonfunctional, or similar outcomes of other approved riparian assessment techniques, due to livestock grazing;
- The pasture is not scheduled to be rested during the subject grazing year;
- Utilization monitoring indicates the presence of a surplus of available forage or recent climatic conditions which contribute to production lead to the reasonable expectation that available forage is greater than the long term average levels on which authorized active use is permitted and where utilization levels, as a result of authorized active and TNR use, would not limit meeting resource objectives;
- Where negative or adverse impacts, including indirect impacts, to any of the following critical elements of the human environment, as identified in manual guidance implementing NEPA, would not be present or would be mitigated: air quality, ACEC's, cultural resources, prime or unique farmland, floodplains, native American religious concerns, threatened and endangered species, hazardous and solid wastes, water quality, wetlands or riparian zones, designated NWSR's, wilderness, or WSA's;
- Where negative or adverse impacts, including indirect impacts, to any of the following resource values would not be present or would be mitigated: administratively suitable NWSR's, native vegetation, seeded nonnative vegetation, wild horses, wild horse habitat and a thriving natural ecological balance, wildlife species, wildlife habitat, special status species, soils, biological soil crusts, watershed values, native American cultural concerns, visual resources, or high value recreation resources.

These criteria are not intended to be used for determining when additional forage is available on a sustained yield basis. Authorization of annual applications for temporary nonrenewable grazing use would not be the basis for determining when improving forage productivity and resource conditions may support additional active grazing use. Where monitoring data indicate that a permanent increase in authorized grazing use may be possible and conflict with meeting resource objectives would be mitigated, a temporary increase in grazing use may be authorized by decision or agreement for a specified test period prior to granting a permanent increase.

Alternative D

Provide for a sustained yield of forage for livestock at a limited level while emphasizing resource values, consistent with resource objectives. In addition to 41,874 acres of public land in three blocks (Table 2-19) allocated as not suitable or not available for livestock grazing, 8,836 acres in four blocks (Table 3-6; Appendix T) would be partitioned from affected grazing allotments and would not be allocated to livestock grazing use. Grazing of Historic Birch Creek Ranch may be authorized only on a temporary basis for administrative and/or interpretive purposes.

Emphasis would be placed on the identification and implementation of administrative solutions to livestock impacts. Livestock grazing systems would be retained or revised through the adaptive management process on a site-specific basis to enhance resource values and meet resource objectives. Structural rangeland projects would only be implemented in a manner which emphasizes resource values. Construction of temporary or permanent fencing to exclude livestock from resource values would be minimized. Vegetation manipulation projects would emphasize the conversion of rangelands dominated by exotic annuals to properly functioning native perennial communities. Standard implementation procedures for rangeland improvements are presented in Appendix S.

Existing structural rangeland projects would be maintained where beneficial to resource values. Projects which no longer meet livestock or resource management objectives and enhance resource values may be abandoned and sites would be rehabilitated. The remaining projects would be maintained to design standards to meet management objectives.

Additional herbaceous production resulting during years of favorable growing conditions, would not be available to livestock. Additional herbaceous production would be retained on site for values other than livestock production.

Alternative D2

Provide for a sustained yield of forage for livestock at a limited level while emphasizing resource values and protecting significant resources, consistent with management objectives. In addition to 41,874 acres of public land in three blocks (Table 2-19) currently identified as not suitable or not available for livestock grazing, approximately 1.45 million acres (Table 3-7; Appendix T; Maps LVST-2M and -2J) would be partitioned from affected grazing allotments and would not be allocated to livestock grazing use. Included among those additional areas not allocated to grazing would be selected habitat of Mulford's milkvetch, a special status plant species which is vulnerable to livestock impacts, habitat of fish and aquatic species listed under the ESA, redband trout/Columbia spotted frog strongholds, selected habitat of sagebrush-dependent species utilizing sage grouse as an indicator species, management corridors of four congressionally designated NWSR's, four additional river segments found administratively suitable within Alternative C for potential designation by Congress as NWSR's, and selected ACEC's. Lava Butte Lower Lava Field in West Cow Creek Allotment of JRA would be available for livestock grazing, recognizing that the topography has not restricted livestock access to this area.

Livestock grazing would be excluded from pastures containing riparian vegetation communities which, due to current livestock management actions, are in functioning at risk with a downward trend or are not properly functioning, until appropriate livestock management actions can be implemented and a condition of functioning at risk with an upward trend is attained. Emphasis would be placed on the identification and implementation of administrative solutions to livestock impacts. Livestock grazing systems would be retained or revised through the adaptive management process on a site-specific basis to enhance resource values and meet resource objectives. Structural rangeland projects would only be implemented in a manner which emphasizes resource values. Construction of temporary or permanent fencing to exclude livestock from resource values would be minimized. Vegetation manipulation projects would emphasize the conversion of rangelands dominated by exotic annuals to properly functioning native perennial communities. Standard implementation procedures for rangeland improvements are presented in Appendix S.

No livestock management action would be implemented, including project construction, which would increase grazing use within portions of a pasture in late to PNC ecological status and currently unutilized or only slightly utilized by livestock.

Table 3-7.—*Areas which would not be allocated to livestock grazing with implementation of Alternative D2, in addition to those identified in the existing environment (Chapter 2)*

Area	Allotment	Acres	D2 rationale
Jordan Resource Area			
Rome South Pasture	Jackies Butte Summer (01101)	19,243	Owyhee NWSR
China Gulch Seeding	Jackies Butte Summer (01101)	6,298	Owyhee NWSR
Indian Fort Pasture	Jackies Butte Summer (01101)	55,539	Owyhee NWSR
Skull Creek North Pasture	Jackies Butte Summer (01101)	2,049	Owyhee NWSR
Skull Creek South Pasture	Jackies Butte Summer (01101)	1,332	Owyhee NWSR
Eastside Pasture	Jackies Butte Summer (01101)	44,124	Owyhee NWSR
Ambrose-Maher Pasture	Ambrose-Maher (001102)	3,633	Owyhee NWSR
Dry Creek Pasture	15 Mile Community (01201)	3,376	Lahontan cutthroat trout
Whitehorse Pasture	15 Mile Community (01201)	2,112	Lahontan cutthroat trout
Green Pond Pasture	15 Mile Community (01201)	33,352	Lahontan cutthroat trout
V Pasture	15 Mile Community (01201)	21,395	Lahontan cutthroat trout; Sagebrush dependent species
Luscher Pasture [1]	15 Mile Community (1201) /Whitehorse Butte (01206)	3,257	Lahontan cutthroat trout
Indian Creek Pasture	McCormick (01202)	16,827	Lahontan cutthroat trout
Dry Creek Pasture	Zimmerman (01203)	7,007	Lahontan cutthroat trout: Sagebrush dependent species
Turner Pasture	Zimmerman (01203)	10,139	Sagebrush dependent species
Red Mountain North Pasture	Whitehorse Butte (01206)	25,299	Lahontan cutthroat trout
Red Mountain South Pasture	Whitehorse Butte (01206)	25,722	Lahontan cutthroat trout
Willow Pasture	Whitehorse Butte (01206)	23,814	Lahontan cutthroat trout
15 Mile Pasture	Whitehorse Butte (01206)	19,346	Lahontan cutthroat trout
Drummond Basin Pasture	Louse Canyon Community (01307)	14,033	Owyhee NWSR
Pole Creek Seeding	Louse Canyon Community (01307)	16,330	Owyhee NWSR
Louse Canyon	Louse Canyon Community (01307)	87,834	Owyhee NWSR; redband stronghold
Spring Pasture	Anderson (01401)	9,590	Owyhee NWSR
North Pasture	Anderson (01401)	15,748	Owyhee NWSR
Bull Flat Pasture	Anderson (01401)	13,981	Owyhee NWSR
South Tent Creek Pasture	Star Valley Community (01402)	45,782	Owyhee NWSR
North Tent Creek Pasture	Star Valley Community (01402)	35,972	Owyhee NWSR
North Stoney Corral	Star Valley Community (01402)	57,915	Owyhee NWSR
Bowden Hills Pasture	Bowden Hills (10803)	82,607	Sagebrush dependent species
Cowgill Pasture	East Cow Creek (10903)	4,629	Sagebrush dependent species
Boulder Pasture	East Cow Creek (10903)	8,024	Sagebrush dependent species
Lava Pasture	East Cow Creek (10903)	11,848	Sagebrush dependent species
Bennett North Pasture	East Cow Creek (10903)	932	Sagebrush dependent species
Bennet South Pasture	East Cow Creek (10903)	431	Sagebrush dependent species
Bogus Creek Pasture	Bogus Creek (10904)	3,060	Owyhee NWSR
West Pasture (Jordan Craters)	Oliver (10905)	15,856	Sagebrush dependent species
Morcom Pasture	Morcom (10907)	5,051	Owyhee NWSR
Indian Canyon West Pasture	Willow Creek (11004)	2,948	Owyhee NWSR
Dry Lake Pasture	Willow Creek (11004)	9,194	Owyhee NWSR
Willow Creek North Pasture	Willow Creek (11004)	3,275	Sagebrush dependent species
Willow Creek West Pasture	Willow Creek (11004)	6,747	Columbia Spotted frog
Mud Flat Pasture	Bighorn (11005)	607	Owyhee NWSR
West Pasture	Bighorn (11005)	3,021	Owyhee NWSR
East Pasture	Whitehorse (11008)	14,682	Owyhee NWSR
West Pasture	Whitehorse (11008)	11,513	Owyhee NWSR
Cherry Creek Pasture	Danner Individual (11014)	824	Owyhee NWSR
Hanson Flat North Pasture	Sherburn (11303)	12,690	Sagebrush dependent species
Horse Hill Pasture	Campbell (11306)	42,987	Owyhee NWSR; redband stronghold
Lorribeu Holding Pasture	Campbell (11306)	1,722	Owyhee NWSR
Sacramento Hill Pasture	Campbell (11306)	15,472	Antelope Creek NWSR
Twin spring Middle Pasture	Campbell (11306)	7,154	Antelope Creek NWSR
Saddle Butte Pasture	Saddle Butte (20805)	175,574	Owyhee NWSR
Owyhee Butte #1 Pasture	West Cow Creek (20902)	3,432	Owyhee NWSR
Owyhee Butte #3 Pasture	West Cow Creek (20902)	1,354	Owyhee NWSR
Owyhee Butte #4 Pasture	West Cow Creek (20902)	3,019	Owyhee NWSR
Navarro V Seeding	West Cow Creek (20902)	9,555	Owyhee NWSR
Riley Horn Pasture	West Cow Creek (20902)	11,669	Owyhee NWSR
Little Grassy South Pasture	Arock (21001)	3,125	Owyhee NWSR
Pinto Horse Pasture	Arock (21001)	4,040	Owyhee NWSR
Field #4	Arock (21001)	1,675	Owyhee NWSR
Field #5	Arock (21001)	1,746	Owyhee NWSR
Round Mountain South Pasture	Arock (21001)	1,930	Owyhee NWSR

Table 3-7.—*(continued)*

Area	Allotment	Acres	D2 rationale
Parsnip East Pasture	Antelope (21002)	2,781	Sagebrush dependent species
Parsnip West Pasture	Antelope (21002)	7,142	Sagebrush dependent species
Rattlesnake Pasture	Rattlesnake Individual (21003)	1,314	Owyhee NWSR
Malheur Resource Area			
Owyhee Reservoir State Park [1]		832	
Historic Birch Creek Ranch [2]		106	
Malheur City Pasture	Malheur City (00130)	1,167	Columbia spotted frog
Simmons Gulch Pasture	Harper (00301)	25,547	ACEC; redband stronghold; sagebrush dependent species
Sand Basin Pasture	Turnbull (00303)	20,441	Owyhee NWSR
Dinner Creek and Hunter Creek Riparian Pastures	Jonesboro (00306)	4,228	Redband stronghold
West Canal Pasture (west 1/4)	North Harper (00402)	569	Special status plant ASMU
Black Canyon portion of West Miller Pasture	Allotment Number Four (10203)	3,069	ACEC
East Miller Creek Pasture and Hog Creek Stream Enclosure	Allotment Number Four (10203)	6,823	Redband stronghold
Hog Creek Pasture	Allotment Number Four (10203)	10,404	Columbia spotted frog
East Crow Creek Pasture	Rail Canyon (10205)	4,380	Columbia spotted frog
Castle Rock Pasture	Dearmond-Murphy (10206)	9,821	Castle Rock ACEC
Beulah Pasture	Dearmond-Murphy (10206)	1,583	Castle Rock ACEC
Hunter Creek Pasture	Dearmond-Murphy (10206)	2,092	Castle Rock ACEC
North Rock Pile Pasture	Castle Rock (10211)	1,267	North Fork Malheur NWSR; bull trout; Castle Rock ACEC
Castle Rock Pasture	Castle Rock (10211)	3,904	Castle Rock ACEC
Duck Pond Pasture	Castle Rock (10211)	1,451	Castle Rock ACEC
Hat Butte Pasture	Castle Rock (10211)	2,115	Castle Rock ACEC
South Ridge Pasture	Richie Flat (10214)	2,260	ACEC; sagebrush dependent species
North Ridge Pasture	Richie Flat (10214)	3,793	ACEC; sagebrush dependent species
Mountain Pasture	Brian Creek (10215)	2,776	Sagebrush dependent species
East MJ Field	Beulah Reservoir (10217)	249	North Fork Malheur NWSR; bull trout; ACEC
River Field	Beulah Reservoir (10217)	471	North Fork Malheur NWSR; bull trout; ACEC
Mountain Pasture	Buckbrush (10218)	5,103	Sagebrush dependent species
North Bully Pasture	Lava Ridge (10223)	2,999	ACEC; sagebrush dependent species
Lake Ridge Pasture	Red Hills (10302)	21,638	ACEC; redband stronghold; sagebrush dependent species
West Canal (west 1/2)	North Harper (10402)	2,501	Special status plant ASMU
Rock Creek Riparian Stream Exclosure (Lower Owyhee River)	Nyssa (10403)	2,388	Owyhee River Below the Dam NWSR, ACEC, special status plant ASMU
South Freezeout Pasture	Freezeout (10404)	12,878	Dry Creek NWSR, redband stronghold, sagebrush dependent species
Hurley Spring Pasture	Freezeout (10404)	33,075	Dry Creek NWSR, redband stronghold, sagebrush dependent species
Willow Springs Pasture	Quartz Mountain (10406)	18,095	Owyhee NWSR
East Blackjack (north 1.4)	Blackjack (10501)	2,679	Special status plant ASMU
Leslie Gulch	Three Fingers (10503)	11,673	Leslie Gulch/Honeycombs Complex ACEC
Riverside Pasture	Three Fingers (10503)	54,524	Leslie Gulch/Honeycombs Complex ACEC
Coal Mine Basin	Three Fingers (10503)	755	ACEC
Blackrocks Pasture	Three Fingers (10503)	10,441	Owyhee NWSR
Shalerock Pasture	Spring Mountain (10504)	5,174	Redband stronghold
Historic Birch Creek Ranch	Birch Creek (10506)	106	Owyhee NWSR
Island Field	Birch Creek (10506)	1,808	Owyhee NWSR
Birch Creek Pasture	Birch Creek (10506)	2,633	Owyhee NWSR
Sandhills East Pasture	South Alkali (20100)	3,858	ACEC

[1] Also not allocated to livestock grazing in Alternatives A, C, and D.
[2] Grazing not authorized by permit. Grazing may be authorized only on a temporary basis for administrative and/or interpretive purposes.

Existing structural rangeland projects would be maintained where beneficial to resource values. Projects which no longer meet livestock or resource management objectives and enhance resource values may be abandoned and sites would be rehabilitated.

Additional herbaceous production resulting during years of favorable growing conditions, would not be available to livestock. Additional herbaceous production would be retained on site for values other than livestock production.

Alternative E

Livestock grazing of public land would not be authorized. As a result, no rangeland projects would be constructed or maintained for livestock grazing. Existing projects that do not contribute to meeting management objectives would be removed and sites would be rehabilitated.

Proposed RMP

Provide for a sustained yield of forage for livestock grazing while maintaining resource values for long term multiple use, consistent with management objectives. Approximately 58,900 acres as identified in Table 3-8, Appendix T, and Maps LVST-1M and -1J, would not be allocated to livestock grazing use and would be outside any livestock grazing allotment. Lava Butte Lower Lava Field in West Cow Creek Allotment of JRA would be available for livestock grazing, recognizing that the topography has not restricted livestock access to this area. Though not authorized by a long term permit, grazing of Historic Birch Creek Ranch may be authorized only on a temporary basis for administrative and/or interpretive purposes.

A combination of administrative solutions and rangeland project development would be implemented, as necessary, on a site-specific basis to provide a sustained level of livestock use while maintaining resource values. Livestock grazing systems would be retained or revised through the adaptive management process to meet management objectives. Structural rangeland projects would be implemented to facilitate meeting resource objectives rather than making additional forage available. Vegetation manipulation projects would emphasize the conversion of rangelands dominated by exotic annuals to properly functioning perennial communities. Standard implementation procedures for rangeland improvements are presented in Appendix S.

No livestock management action would be implemented , including project construction, which would increase grazing use within portions of a pasture in late to PNC ecological status and currently unutilized or only slightly utilized by livestock, unless implementation of that action would result in a net benefit toward attaining natural resource management objectives (such as within riparian areas) within the area of limited livestock use and adjoining areas.

Existing structural rangeland projects would be maintained where beneficial to livestock and other resource values. Projects which no longer meet livestock or resource management objectives may be abandoned and sites would be rehabilitated.

TNR grazing use may be authorized to make additional forage available to livestock operators in a year of favorable growing conditions, consistent with meeting resource objectives. Additionally, TNR may be authorized to facilitate meeting vegetation management objectives (such as reducing competition from undesirable annual species with desirable perennial species or reducing the quantity of standing dead herbaceous material in nonnative seedings while continuing to meet resource objectives). The following criteria shall be the basis for timely processing of applications for nonrenewable grazing authorization during the current grazing year in excess of the number of AUM's or outside the period identified in a current grazing permit:

Table 3-8.—*Areas which would not be allocated to livestock grazing with implementation of the Proposed RMP*

Area	Acres
Malheur Resource Area	
Sand Basin Pasture [1]	882
Dunlevy-Sayer Botanical Exclosure	569
Leslie Gulch	11,673
Owyhee Reservoir State Park	832
Historic Birch Creek Ranch [2]	106
Jordan Resource Area	
Jordan Craters	15,856
Luscher Pasture	3,084
Rome South Pasture (01101) [1]	12
China Gulch Seeding North (01101) [1]	288
Indian Fort Pasture (01101) [1]	1,900
Skull Creek North Pasture (01101) [1]	311
Skull Creek South Pasture (01101) [1]	311
Eastside Pasture (01101) [1, 3]	2,878
Pole Creek Seeding (01307) [1]	1,099
Louse Canyon (01307) [1]	828
Spring Pasture (01401) [1]	847
North Pasture (01401) [1]	2,767
Bull Flat Pasture (01401) [1]	1,022
North Tent Creek Pasture (01402) [1]	703
North Stoney Corral (01402) [1]	666
Bogus Creek Pasture (10904) [1]	246
Indian Canyon West Pasture (11004) [1, 3]	646
Dry Lake Pasture (11004) [1]	998
Mud Flat Pasture (11005) [1]	269
West Pasture (11005) [1]	51
East Pasture (11008) [1]	450
West Pasture (11008) [1, 3]	2,574
Cherry Creek Pasture (11014) [1]	214
Saddle Butte Pasture (20805) [1]	1,859
Owyhee Butte No. 1 Pasture (20902) [1]	566
Owyhee Butte No. 3 Pasture (20902) [1]	238
Owyhee Butte No. 4 Pasture (20902) [1]	43
Navarro V Seeding (20902) [1]	415
Riley Horn Pasture (20902) [1]	968
Little Grassy South Pasture (21001) [1]	302
Pinto Horse Pasture (21001) [1]	504
Field No. 2 (21001) [1]	115
Field No. 3 (21001) [1]	216
Field No. 4 (21001) [1]	439
Field No. 5 (21001) [1]	120
Round Mountain South Pasture (21001) [1]	66
Rattlesnake Pasture (21003) [1]	992

[1]A portion of the pasture including and/or adjacent to the Owyhee NWSR—these areas total 26,805 acres.
[2]Grazing not authorized by permit. Grazing may be authorized only on a temporary basis for administrative and/or interpretive purposes.
[3]A portion of the pasture which when combined with all these areas comprise 6,098 acres and includes the 4,641 acre "Deary Pasture" region adjacent to the Owyhee River.

- The area does not include lands managed under special designations such as wilderness, WSA's, ACEC/RNA's, administratively suitable or designated NWSR's;
- The area does not include riparian communities where PFC assessment is functional at risk with a static or downward trend or nonfunctional, or similar outcomes of other approved riparian assessment techniques, due to livestock grazing;
- The pasture is not scheduled to be rested during the subject grazing year;
- Utilization monitoring indicates the presence of a surplus of available forage or recent climatic conditions which contribute to production lead to the reasonable expectation that available forage is greater than the long term average levels on which authorized active use is permitted and where utilization levels, as a result of authorized active and TNR use, would not limit meeting resource objectives;
- Where negative or adverse impacts, including indirect impacts, to any of the following critical elements of the human environment, as identified in manual guidance implementing NEPA, would not be present or would be mitigated: air quality, ACEC's, cultural resources, prime or unique farmland, floodplains, native American religious concerns, threatened and endangered species, hazardous and solid wastes, water quality, wetlands or riparian zones, designated NWSR's, wilderness, or WSA's;
- Where negative or adverse impacts, including indirect impacts, to any of the following resource values would not be present or would be mitigated: administratively suitable NWSR's, native vegetation, seeded nonnative vegetation, wild horses, wild horse habitat and a thriving natural ecological balance, wildlife species, wildlife habitat, special status species, soils, biological soil crusts, watershed values, native American cultural concerns, visual resources, or high value recreation resources.

These criteria are not intended to be used for determining when additional forage is available on a sustained yield basis. Authorization of annual applications for temporary nonrenewable grazing use would not be the basis for determining when improving forage productivity and resource conditions may support additional active grazing use. Where monitoring data indicate that a permanent increase in authorized grazing use may be possible and conflict with meeting resource objectives would be mitigated, a temporary increase in grazing use may be authorized by decision or agreement for a specified test period prior to granting a permanent increase.

Recreation

Objective: Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.

Rationale: FLPMA provides for recreation use of public land as an integral part of multiple-use management. Dispersed, unstructured activities typify the recreational uses occurring on most public land. Policy guidelines in BLM Manual 8300 direct the BLM to designate administrative units known as SRMA's where there is a need for a higher level of financial investment or managerial presence than is typical of most BLM land. See Table 3-9 and Map REC-2 for SRMA acreages by alternative. Remaining public land is designated as an ERMA where limited commitment of resources is required to provide extensive, unstructured recreation activities.

In accordance with FLPMA, the BLM's "Recreation 2000 Plan and Update" sets national recreation policy as follows: "BLM will emphasize resource-dependent recreation opportunities that typify the vast Western landscapes . . . while giving the public the freedom to choose how to spend its leisure time on BLM land within the constraints of achieving healthy ecosystems, resolving user conflict, and providing for health and visitor safety." The plan envisions that most recreation-related development would be for protecting resource values and to serve as staging areas for resource-based use and not as visitor attractions in and of themselves.

Table 3-9.—*Special recreation management areas by alternative*

Alternative	Special recreation management area	Acres [1]	Resource area
A	Trout Creek/Oregon Canyon	280,776	JRA
	Jordan Craters	29,713	JRA, MRA
	Owyhee River Complex	529,422	JRA, MRA
	Owyhee River Below the Dam	11,239	MRA
	Oregon National Historic Trail	2,447	MRA
	Succor Creek	11,355	MRA
	TOTAL	864,952	
B	Owyhee River Complex	349,919	JRA, MRA
	Oregon National Historic Trail	2,412	MRA
	TOTAL	352,331	
C	Trout Creek/Oregon Canyon	179,166	JRA
	Owyhee River Complex	462,134	JRA, MRA
	Owyhee River Below the Dam	11,239	MRA
	Oregon National Historic Trail	9,200	MRA
	TOTAL	661,739	
D	Trout Creek/Oregon Canyon	179,166	JRA
	Owyhee River Complex	462,134	JRA, MRA
	Owyhee River Below the Dam	11,239	MRA
	Oregon National Historic Trail	9,200	MRA
	Succor Creek	11,355	MRA
	TOTAL	673,094	
D2	Trout Creek/Oregon Canyon	179,166	JRA
	Owyhee River Complex	462,134	JRA, MRA
	Owyhee River Below the Dam	11,239	MRA
	Oregon National Historic Trail	9,200	MRA
	Succor Creek	11,355	MRA
	TOTAL	673,094	
E	N/A	0	
PRMP	Trout Creek/Oregon Canyon	179,166	JRA
	Owyhee River Complex	462,134	JRA, MRA
	Owyhee River Below the Dam	11,239	MRA
	Oregon National Historic Trail	9,175	MRA
	Succor Creek	11,355	MRA
	TOTAL	673,069	

[1] Acreage includes FERC withdrawals.

Monitoring: Monitoring would include periodic patrols to check boundaries, signing, and visitor use; to maintain facilities; to ensure visitor compliance with rules and regulations; to establish baseline data and observation points to determine current impacts from recreation use; to rehabilitate specific sites as necessary, including the development of recreation facilities to protect sites against continued undue recreation use impacts; and, the development of studies such as limits of acceptable change, and the implementation of other management tools to help determine appropriate levels and patterns of recreational use and the influences of other resource uses. Also see Appendix W.

Management common to all alternatives: Management actions described under specific SRMA's/ERMA's of each alternative are not all inclusive. As appropriate, an interdisciplinary management plan may be developed for SRMA's. The plan would involve all potential management partners and provide more specific detail of the type, nature and extent of recreation support facilities, services, and any needed use and user limitations required to address public safety concerns, provide resource protection, resolve resource or user conflicts, and/or to meet present and foreseeable future recreational use demands and trends and resource needs. Each plan developed would be subject to meeting NEPA requirements prior to implementation. Appendix U displays information on potential recreation sites and trails and proposed improvements on existing recreation sites. At the time of development of new recreation sites, the need for a locatable minerals withdrawal or use restrictions would be assessed and applied as appropriate; existing recreation sites would be appropriately withdrawn. Recreation activities such as, but not limited to, camping, horse use, campfire fuel collection, and other uses at specific recreation sites and other areas may be prohibited and/or restricted and posted to meet other resource management objectives. The general public and commercial outfitters would be informed of programs such as "Leave No Trace" and "Tread Lightly," as applicable. Informational and interpretive media (such as signs, brochures, kiosks) would be provided as appropriate to meet objectives (see Map REC-2). See Appendix H for definition of recreation opportunity spectrum (ROS).

Except for Alternative E, SRP's would be issued, as appropriate, for individuals and groups participating in specific recreation activities (including competitive events and commercial uses associated with recreational pursuits), scientific study, and educational activities. Authorized permits would be consistent with recreation and other resource management objectives and minimize resource and user conflicts.

Alternative A

The BLM would establish and manage SRMA's to enhance tourism and recreation opportunities. The remaining areas would become ERMA's. Management of existing recreation sites would be expanded, and new sites would be developed as appropriate. Commercial recreation opportunities would be optimized, and BLM would pursue avenues to enhance recreation opportunities through joint efforts with private landowners and county, State, and other Federal land managers.

Potential recreation sites described in Appendix U and/or additional recreation sites would be established or existing sites modified following site-specific review, if justified by public safety concerns, resource protection needs, resource or user conflict resolution, or public recreational use demands/trends.

Special Recreation Management Areas

***Trout Creek/Oregon Canyon*:** Establish the Trout Creek/Oregon Canyon SRMA in JRA. The SRMA would encompass 280,776 acres of the Trout Creek and Oregon Canyon Mountains and surrounding area in Harney and Malheur Counties. The area has outstanding scenery, a Federal threatened fish species, cultural resources, trophy mule deer hunting, camping, backpacking, hiking, sightseeing, nature study, and associated interpretive opportunities. Management objectives for the area would be to enhance opportunities for high-

quality primitive and semiprimitive outdoor recreation experiences, environmental education, and scientific studies while maintaining the integrity of the area's natural systems and cultural resources. Primitive and semiprimitive recreation opportunities would be emphasized. Opportunities for recreation use and SRP's/commercial uses would be increased.

Recreation sites within the SRMA would include the following existing sites: Willow Creek Hot Springs; a petrified wood collection site; the Mud Springs, Cottonwood Creek, Oregon Canyon, Minehole Creek (Log Spring) hunter camps; and the McDermitt Caldera Campground potential site. Management considerations would include information/interpretation at appropriate access points to the SRMA; interpretive media at the Willow Creek site; and a campground at McDermitt Caldera for day and overnight use at the southeast end of the SRMA.

***Jordan Craters*:** Establish the Jordan Craters SRMA of 29,713 acres within JRA (28,072 acres) and MRA (1,641 acres). Primary values are unique geologic and botanic resources, outstanding scenery, hiking, fishing, nature study, and interpretive opportunities. Management objectives for the area are to enhance opportunities for high-quality primitive and semiprimitive outdoor recreation experiences, environmental education, and scientific studies, while maintaining the integrity of the area's natural systems.

Existing recreation sites would include the Coffee Pot Crater and Cow Lakes Campground. Management considerations would include interpretation of the natural values, developing nonmotorized trail systems, and developing appropriate barriers to reduce off-road and off-trail impacts.

***Owyhee River Complex*:** Extend the existing Owyhee River Complex SRMA within JRA and MRA to include the Upper West Little Owyhee, Dry Creek, Dry Creek Buttes, and Wild Horse Basin WSA's; those portions of the Owyhee Views ACEC outside the WSA's; and the Three Fork Road to Stateline Road area, to total 529,422 acres (194,845 acres in MRA; 334,577 acres in JRA). Primary values and management objectives would be the same as Alternative B. However, additional management would include actions described for VRM and OHV's for the proposed Owyhee Views ACEC in Alternative C, as well as increasing opportunities for recreation use, and SRP's/commercial uses.

Recreation sites would include all of the sites listed in Alternative B for this SRMA and expanded to include the existing Jeff's Reservoir, Owyhee Springs, and Twin Springs sites; and potential Owyhee Breaks Trail, Deary Pasture Trail, and Wes Hawkins Trail sites. Management considerations include: (1) each of the three trails would be a point-to-point corridor with no development of treaded trail, except as needed to protect or prevent undue damage to sensitive resources; (2) Twin Springs would be extended and its water system improved; (3) an existing cooperative management agreement with the BOR, which provides for BLM management of a boat ramp and associated facilities at Leslie Gulch, would be retained; and (4) Owyhee Springs would be developed to provide visitor information/interpretation and for day and overnight use.

***Owyhee River Below the Dam*:** Establish an 11,239-acre Owyhee River Below the Dam SRMA within MRA. The SRMA's boundaries and its management would coincide with and include those described under Alternative A for the proposed Owyhee River Below the Dam ACEC. Recreation values and use opportunities of the area include high-quality scenery, driving and walking/hiking for pleasure, varied wildlife and historic resource viewing, photography, camping, hunting, fishing, and water play at the developed Snively Hot Springs Recreation Site. Recreation management objectives for the area would be to enhance opportunities for roaded natural, semiprimitive motorized, and semiprimitive nonmotorized outdoor recreation settings and experiences to optimize tourism, environmental education, and interpretation while maintaining the integrity and protection of the area's ACEC and outstanding river-related values.

Developed recreation sites would include Snively Hot Springs, the Lower Owyhee Canyon Watchable Wildlife Area Gateway site, Lower Owyhee Trail, satellite wildlife overlook/ interpretive sites, and allowance for the Lower Owyhee Canyon camping/day use site if needed to meet recreation use demands.

Management of the SRMA would be coordinated with the BOR, county, State and other appropriate partners for provision of recreation support facilities and services and area maintenance to enhance recreational uses, experiences and tourism in the area. Developed camping and day use recreation site facilities would be provided and enhanced. Substantial amenities would be provided at Snively Hot Springs, and dispersed camping limited to where it does not conflict with other uses, and ACEC and outstanding river-related resource values. Developed nonmotorized trails with amenities would be provided. As appropriate, scenic and access easements/agreements would be pursued. Recreation support facilities would be located, by preference, at existing altered sites whenever possible.

***Oregon Trail*:** Extend the boundaries of the Oregon Trail SRMA (780 acres) within MRA to be consistent with the proposed Oregon National Historic Trail ACEC (2,447 acres). Resource prescriptions would include those described for the ACEC. Recreation management direction would emphasize public education and enjoyment of the trail and its setting, while providing for protection of important cultural resource values and for other recreational uses in the SRMA. The SRMA would be managed for semiprimitive motorized and roaded natural recreational opportunities and experiences.

Recreation sites within the SRMA would include the Keeney Pass, Alkali Springs, and Birch Creek interpretive sites. Site management considerations, in addition to those described for Alternative B, would include parking improvements at the Alkali Springs and Birch Creek sites. Prior authorization for any overnight camping would be required in the SRMA.

***Succor Creek*:** Establish the 11,355-acre Succor Creek SRMA within MRA. This SRMA would include public land that partly surrounds the State of Oregon's Succor Creek State Recreation Area. The recreation area is a linear tract along the deepest portion of the scenic Succor Creek Canyon that has a county road traversing it and a partially developed State-managed campground. Recreation-oriented resource values and use opportunities of the SRMA include quality scenery associated with the deeply cut and highly colorful canyon and its perennial stream, driving and walking/hiking for pleasure, wildlife viewing, rockhounding, photography, camping, and hunting. Overall recreation management objectives for the SRMA would be to provide varied opportunities for roaded natural and semiprimitive motorized recreation, as well as for environmental education and interpretation, while maintaining the integrity of the area's natural and cultural values.

New rights-of-way would be avoided when practical. Livestock use along Succor Creek and its immediate canyon setting of the SRMA would be managed to avoid conflicts with visitors during higher recreational use periods of the year.

Extensive Recreation Management Areas

***Jordan*:** The remaining 1,973,093 acres of JRA would become the Jordan ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities and experiences.

Recreation sites within the ERMA would include Antelope Reservoir Campground and Highway 95 Interpretive Site. Management may include developing a trail system at Antelope Reservoir and designating the area as a Watchable Wildlife site; providing various forms of interpretation (such as panels and brochures) for the area; and installing picnic and rest room facilities for day use only at the Highway 95 Interpretive Site.

***Malheur*:** The remaining 1,800,981 acres of MRA would become the Malheur ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities and experiences.

Existing and potential recreation sites within the ERMA would include Chukar Park, Riverside, Castle Rock, Oasis, Trenkel Hill Interpretive Site, Horseshoe Bend, Coyne Place, Big Bend, Hunter Spring, Snake River, the Desert Trail, Malheur River Trail, Castle Rock Trail, and portions of the Owyhee Breaks Trail. Management considerations would include the following:

Chukar Park: picnic units, a group overnight use area, and a recreation vehicle sanitation dump station would be established, and sanitation for the campground host site and for the recreation site's water systems would be included. *Riverside*: completion of overnight camping units, a trailhead, and parking associated with the proposed Desert and Malheur Canyon Trails, and a river access/parking facility for floatboaters. *Castle Rock*: reconstruction of the exclosure fence and provisions for camping units and a developed trail to Castle Rock. *Oasis*: expanded parking, picnic units, a boat ramp and safety dock, and a developed foot trail with interpretive materials as a designated Watchable Wildlife site. *Horseshoe Bend, Coyne Place, and Hunter Spring*: would provide for day use and overnight camping, with exclosure fencing as needed. Hunter Spring would include camping amenities and an exclosure fence and a trailhead for Castle Rock nonmotorized recreational uses. *Big Bend and Snake River*: day use sites with developed boating access, if feasible, and appropriate interpretive media as possible Watchable Wildlife sites. *Malheur River Trail*: would follow the abandoned railroad grade. Other trails, including point-to-point corridors may be developed as required to protect sensitive resources or address visitor safety issues. The Desert and Malheur Trails would be assessed as potential components of the national recreation trail system. Partnerships in providing recreation facilities and services with adjacent landowners and other entities would be pursued as appropriate.

Alternative B

Continue to manage existing SRMA's and ERMA's, implementing existing, and developing new, management plans, as appropriate. Management of existing recreation sites would be continued and their expansion considered. Development of potential sites would occur to meet high public demand or to provide for public safety or resource protection. Tourism opportunities would continue to be developed.

Recreation sites could be established or existing sites modified, following site-specific assessment should public safety concerns, resource protection needs, resource conflict resolution, or public recreational use demands/trends justify the action.

Special Recreation Management Areas

***Owyhee River Complex*:** Retain the Owyhee River Complex SRMA at its current size of 349,919 acres (92,522 acres in MRA; 257,397 acres in JRA). The SRMA includes the Main, West Little, and North Fork Owyhee NWSR corridors; a 0.5-mile-wide corridor between China Gulch and Crooked Creek; the Leslie Gulch and Honeycombs ACEC's; the Honeycombs, Upper Leslie Gulch, Slocum Creek, Blue Canyon, Owyhee Breaks, Lower Owyhee Canyon, and Owyhee Canyon WSA's; and about 4,100 acres between the Blue Canyon and Slocum Creek WSA's. The SRMA was designated in 1988 for the following primary values: outstanding river canyon scenery, unique cultural sites, high-quality fishery, whitewater boating, hiking, camping, and sightseeing opportunities. Overall management objectives for the area are to preserve outstandingly remarkable and high-quality scenic, recreational, geologic, wildlife, botanic, and cultural values and to enhance opportunities for high-quality outdoor recreation experiences, environmental education, and scientific studies while maintaining the integrity of the area's natural systems and cultural resources. Management

for the SRMA would include continuing to implement the management plans for the Main, West Little, and North Fork Owyhee NWSR's and the Leslie Gulch ACEC, as well as ensuring compliance with the IMPLWR. The SRMA would be managed for primitive, semiprimitive nonmotorized, semiprimitive motorized, and roaded natural recreation opportunities and experiences.

Recreation sites within the SRMA would be Three Forks, Owyhee Overlook, Rome Launch, Owyhee Springs, The Hole-in-the-Ground, Birch Creek Historic Ranch, Anderson Crossing, Slocum Creek, and trailheads and other facilities of the Leslie Gulch ACEC. An existing cooperative management agreement with the BOR providing for BLM management of a boat ramp and associated facilities at Leslie Gulch, would be retained.

***Oregon Trail*:** Retain the existing 2,640-foot wide Oregon Trail corridor and the three interpretive sites associated with the Oregon National Historic Trail SRMA. The historic trail would be managed in accordance with the "Oregon National Historic Trail Management Plan" (1989) and the "South Alkali Management Area Plan" (1995). The recreation management direction for this 2,412-acre corridor is to emphasize public education and enjoyment of the historic trail and its setting, while protecting its important cultural values. The SRMA would be managed for semiprimitive motorized and roaded natural recreation opportunities and experiences.

Recreation sites within the SRMA would be the Keeney Pass, Alkali Springs, and Birch Creek interpretive sites. For Alkali Springs and Birch Creek, interpretive signing would be enhanced and parking facilities provided. The existing exclosure at Alkali Springs would be enlarged by approximately 80 acres.

Extensive Recreation Management Areas

***Jordan*:** Retain the remaining 2,359,161 acres of JRA as the Jordan ERMA. Management would be primarily for primitive, semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities and experiences.

Existing recreation sites within the ERMA would be the Antelope Reservoir Campground; Highway 95 Interpretive Site; Cow Lakes Campground; Willow Creek Hot Springs; Soldier Creek Watchable Wildlife Loop; Jeff's Reservoir petrified wood site; and Mud Springs, Cottonwood Creek, Minehole Creek (Log Spring), and Oregon Canyon hunter camps. Existing management would continue, including increasing interpretation/visitor information by installing information signs at appropriate access points and developing a brochure for the Trout Creek/Oregon Canyon Mountains.

***Malheur*:** Retain the remaining 1,927,573 acres of MRA as the Malheur ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities and experiences.

Existing recreation sites within the ERMA would include Snively Hot Springs, Lower Owyhee River Watchable Wildlife Site, Chukar Park, Twin Springs, Riverside, Castle Rock, Oasis, Trenkel Hill Interpretive Site, and Hunter Spring. Chukar Park would remain a user fee site. Modifications of the recreation sites under this alternative would be the same as described under Alternative A. In addition, the Twin Springs site would be enlarged with developed camping units and site interpretation; if feasible, the existing road through the site would be rerouted. Authorized segments of the proposed Desert Trail would be nominated as a component of the national recreation trails system.

Alternative C

The BLM would establish and manage SRMA's to provide quality recreation opportunities while protecting resource values. The remaining areas would be managed as ERMA's. The

BLM would continue management of existing recreation sites and allow for potential expansion of existing sites and establishment of new sites to protect resource values or provide interpretation of natural values. Tourism opportunities could be developed when consistent with protecting natural and cultural values. Use restrictions would be implemented when necessary to meet other resource objectives. Recreation opportunities would be enhanced and resource values protected, where possible, through joint efforts with private landowners and county, State, and other appropriate entities.

Potential recreation sites described in Appendix U and/or additional recreation sites would be established or existing sites modified, following site-specific assessment if public safety concerns, resource protection needs, resource or user conflict resolution, or public recreational use demands/trends justify the action.

Special Recreation Management Areas

***Trout Creek/Oregon Canyon*:** Establish the Trout Creek/Oregon Canyon SRMA in JRA. The SRMA would encompass 179,166 acres of the Trout Creek and Oregon Canyon Mountains and the surrounding area in Harney and Malheur Counties. The boundary would encompass the five WSA's associated with the area and extend north to include Willow Creek Hot Springs. The primary values of the area are outstanding scenery and opportunities for solitude and primitive and unconfined recreation activities, Federally-listed fish, cultural resources, camping, backpacking, hiking, sightseeing, nature study, and associated interpretive opportunities. Overall management objectives for the area would be to provide for high-quality primitive and semiprimitive outdoor recreation experiences, environmental education, and scientific studies while maintaining the integrity of the area's natural systems and cultural resources.

Recreation sites and management within the SRMA would be the same as described under Alternative A, except that the McDermitt Caldera Campground would not be developed.

***Owyhee River Complex*:** Extend the existing Owyhee River Complex SRMA within JRA and MRA to include the Owyhee Views ACEC of this alternative, the Upper West Little Owyhee WSA and the Three Forks Road to total 462,134 acres (140,994 acres in MRA; 321,140 acres in JRA). Although primary values and management objectives would be the same as in Alternative B, additional management would include those actions described for the Owyhee Views ACEC in the ACEC section.

Recreation sites and management would be the same as those described for Alternatives A and B for this SRMA, except Twin Springs would not be included and Owyhee Springs and Jeff's Reservoir would no longer be designated as recreation sites.

***Owyhee River Below the Dam*:** Establish the Owyhee River Below the Dam SRMA within MRA. The 11,239-acre SRMA's boundaries and its management would coincide with and include those described under this alternative in the ACEC section, for the proposed Owyhee River Below the Dam ACEC, and would include a Watchable Wildlife area. Recreation values and use opportunities of the area include high-quality scenery, driving and walking/hiking for pleasure, varied wildlife and historic resource viewing, photography, camping, hunting, fishing and water play at the Snively Hot Springs Recreation Site. Watchable Wildlife, camping, swimming, fishing, hiking, and interpretation opportunities would be enhanced. Overall recreation management objectives for the area would be to provide varied opportunities for roaded natural, semiprimitive motorized, and semiprimitive nonmotorized recreation and to provide for reasonable levels of tourism, environmental education, and interpretation while maintaining the integrity of the area's natural and cultural resource values. Management of recreation activities would be consistent with protecting ACEC and outstanding river-related values, while providing for certain recreation activities within the SRMA to accommodate some tourism in the area.

Management of the SRMA would be coordinated with the BOR, county, State, and other appropriate partners for provision of recreation support facilities and services and area maintenance to enhance recreational uses, experiences and tourism in the area. Recreation sites and management actions for the SRMA would be the same as described under Alternative A, with the following exceptions: developed nonmotorized trails and amenities would be provided primarily for enhancement of wildlife viewing, fishing, environmental education, and resource interpretation; existing primitive or unmaintained vehicle routes on the canyon bottom would be closed to motorized use not used in conjunction with establishment of nonmotorized trails/trailheads or for access through the SRMA; camping on BLM-administered land would be limited to the Snively Hot Springs recreation site with adjacent non-BLM landowners within the canyon encouraged to provide other developed camping facilities before the Lower Owyhee Canyon recreation site would be constructed to meet increased public camping demands within the area.

***Oregon Trail*:** Extend the boundaries of the Oregon Trail SRMA to be consistent with the Oregon National Historic Trail ACEC (9,200 acres) proposed under this alternative and provide for the management direction indicated for the ACEC. Recreation management direction would emphasize public education and enjoyment of the trail and its setting while protecting important cultural resource values. The SRMA would be managed for semiprimitive motorized and roaded natural recreation.

Recreation sites and management within the SRMA would be the same as described under Alternative B. New surface-disturbing activities observable from the trail would be limited to those needed for management of the interpretive site and protection of the trail corridor. Also, prior authorization for any overnight camping would be required.

Extensive Recreation Management Areas

***Jordan*:** The remaining 2,116,211 acres of JRA would be the Jordan ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities.

Recreation sites within the ERMA would include the Antelope Reservoir Campground, Highway 95 Interpretive Site, Cow Lakes Campground, petrified wood site, and Soldier Creek Watchable Wildlife Loop. Management may include developing nonmotorized trail systems at Antelope Reservoir and Cow Lakes and, if appropriate, designating these as Watchable Wildlife sites. Also, interpretation for the Soldier Creek Watchable Wildlife Loop would be increased.

***Malheur*:** The remaining 1,861,353 acres of MRA would be the Malheur ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities.

Recreation sites and trails within the ERMA would include Chukar Park; Twin Springs; Riverside; Castle Rock; Oasis including Watchable Wildlife facilities; Trenkel Hill Interpretive Site; Horseshoe Bend; Hunter Spring; Snake River; the Desert, Malheur River, and Castle Rock Trails; and portions of the Owyhee Breaks Trail. The Malheur River Trail would follow the abandoned railroad grade with an option for the Desert Trail to also follow this route. The Desert and Owyhee Breaks Trails would be point-to-point corridor with no development of treaded trail, except as needed to prevent undue damage to sensitive resources.

Management considerations affecting these sites would be the same as described under Alternative A, except for Twin Springs, whose management is described under Alternative B.

Alternative D

The BLM would establish and manage SRMA's with emphasis on undeveloped, dispersed recreation opportunities and protection of natural values. The remaining land would be managed as ERMA's. Developments would be constructed to protect natural and cultural values and provide for public safety. Sites would be closed or rehabilitated where resource values are being jeopardized beyond acceptable levels. Tourism would not be emphasized. Use restrictions would be implemented as necessary. Areas classified as "primitive" in regard to recreation opportunities would be managed in their current condition, and the BLM would strive to expand these areas (see Map REC-1 in the Draft SEORMP/EIS). BLM managers would pursue potential avenues to enhance recreation opportunities while protecting resource values through joint efforts with private landowners and county, State, and other Federal land managers.

Potential recreation sites described in Appendix U and/or additional recreation sites could be established, or existing sites modified, following site-specific assessment if public safety concerns, resource protection needs, resource or user conflict resolution, or public recreational use demands/trends justify the action.

Special Recreation Management Areas

***Trout Creek/Oregon Canyon*:** Manage the Trout Creek/Oregon Canyon SRMA as outlined for Alternative C, except that the petrified wood site would be closed to recreation use.

***Owyhee River Complex*:** Extend and manage the Owyhee River Complex SRMA within JRA and MRA the same as described under Alternative C.

Recreation sites within the SRMA would include those described in Alternative C. An existing cooperative management agreement with the BOR, which provides for BLM management of a boat ramp and associated facilities at Leslie Gulch, would be retained. Owyhee Springs and Jeff's Reservoir would be closed to recreation use.

***Owyhee River Below the Dam*:** Establish an 11,239-acre Owyhee River Below the Dam SRMA within MRA. The SRMA's boundaries and its management would be the same as described in Alternative D of the ACEC section for the proposed Owyhee River Below the Dam ACEC. Recreation values and opportunities in the area would be the same as described under Alternative C, except for no camping. Recreation management objectives for the area would be to provide opportunities for roaded natural, semiprimitive motorized, and semiprimitive nonmotorized recreation as well as to provide for a low level of environmental education and interpretation while enhancing the integrity of the area's natural and cultural resource values. Management of recreation activities and opportunities would be consistent with protection of the identified ACEC and outstanding river-related values while providing for certain recreation activities within the SRMA.

Recreation sites considered within the SRMA would include Snively Hot Springs; the existing gateway interpretive site of the Lower Owyhee Canyon Watchable Wildlife Area; and a few existing pullouts associated with the county road, which would also serve as satellite wildlife overlooks/interpretive sites. Management considerations would include: all recreation activities within the SRMA would be limited to day use, with Lower Owyhee Trail development limited to that needed to mitigate resource damage and to provide for public safety. No camping accommodations would be provided at Snively Hot Springs. There would be no increased promotion of recreational opportunities or cooperative efforts to promote tourism, and motorized vehicle use would be limited to designated routes providing access through the SRMA.

***Oregon Trail*:** Manage the 9,200-acre Oregon Trail SRMA as described for Alternative C, except that the entire SRMA would be withdrawn from locatable mineral entry.

***Succor Creek*:** Establish the 11,355-acre Succor Creek SRMA within MRA. This SRMA, its management objectives, and the management actions affecting it would be the same as described for Alternative A, except that the SRMA would be withdrawn from locatable mineral entry and motorized vehicle use would be limited to designated routes.

Extensive Recreation Management Areas

***Jordan*:** The remaining 2,116,211 acres of JRA would be the Jordan ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities.

Recreation sites within the ERMA would include Antelope Reservoir Campground, Highway 95 Interpretive Site, Cow Lakes Campground, portions of Soldier Creek Watchable Wildlife Loop.

***Malheur*:** The remaining 1,849,720 acres of MRA would be the Malheur ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities.

Recreation sites within the ERMA would include Chukar Park, Twin Springs, Riverside, Castle Rock, Oasis, Trenkel Hill Interpretive Site, Horseshoe Bend, Hunter Spring, Snake River, the Desert Trail, and portions of the Owyhee Breaks Trail. Management may include both the Desert and the Owyhee Breaks Trails, which would be point-to-point corridors with no development of treaded trail, except as needed to prevent undue damage to sensitive resources; and authorized segments of the proposed Desert Trail, which would be nominated as a component of the national recreation trails system. Management considerations affecting these sites would be the same as described for Alternative A, except for Twin Springs, which would be managed as described under Alternative C.

Alternative D2

Under this alternative, recreation would be managed the same as described under Alternative D.

Alternative E

Recreation would be minimally managed. No SRMA's would exist. In general, all public land would be treated as ERMA's. A minimal level of management to protect natural and cultural values would occur at recreation sites and other locations related to congressionally designated areas such as the Main, West Little, and North Fork Owyhee NWSR's and the Oregon National Historic Trail. Other existing recreation sites would be open for use, but the sites and access roads would not be maintained. If facilities at a recreation site become an issue in regard to public safety or protection of natural values or processes, removal and rehabilitation of the sites would be an option. Dispersed use would not be managed. No SRP's would be issued.

Proposed RMP

The BLM would establish and manage SRMA's to provide quality recreation opportunities while protecting resource values. The remaining areas would be managed as ERMA's. The BLM would continue management of existing recreation sites and allow for expansion of existing sites and establishment of new sites to protect resource values or and provide interpretation of natural and cultural values. Tourism opportunities would be developed when consistent with protecting natural and cultural values. Use restrictions would be implemented when necessary to meet other resource objectives. Recreation opportunities would be enhanced and resource values protected, where possible, through joint efforts with private landowners and county, State, and other appropriate entities.

Potential recreation sites described in Appendix U and/or additional recreation sites would be established or existing sites modified, following site-specific assessment if public safety concerns, resource protection needs, resource or user conflict resolution, or public recreational use demands/trends justify the action.

Special Recreation Management Areas

***Trout Creek/Oregon Canyon*:** Establish the Trout Creek/Oregon Canyon SRMA within JRA. The SRMA would encompass 179,166 acres of the Trout Creek and Oregon Canyon Mountains and the surrounding area in Harney and Malheur Counties. The boundaries would encompass five WSA's associated with the area and extend north to include Willow Creek Hot Springs. The primary values of
the area are outstanding scenery and opportunities for solitude and primitive and unconfined recreation activities, Federally-listed fish, cultural resources, hunting, camping, backpacking, hiking, sightseeing, nature study, and associated interpretive opportunities.

Recreation sites within the SRMA would include the following existing sites: Willow Creek Hot Springs; a petrified wood collection site; the Mud Springs, Cottonwood Creek, Oregon Canyon, and Minehole Creek (Log Spring) hunter camps. Management considerations would include information/interpretation at appropriate access points to the SRMA and interpretive media at the Willow Creek site.

***Owyhee River Complex*:** The Owyhee River Complex SRMA at 462,134 acres (140,994 acres in MRA; 321,140 acres in JRA) would include the Main, West Little, and North Fork Owyhee NWSR corridors; a 0.5-mile-wide corridor between China Gulch and Crooked Creek; the Leslie Gulch, Owyhee Views and Honeycombs ACEC's; the Honeycombs, Upper Leslie Gulch, Slocum Creek, Blue Canyon, Owyhee Breaks, Lower Owyhee Canyon, Upper West Little Owyhee and Owyhee Canyon WSA's; about 4,100 acres between the Blue Canyon and Slocum Creek WSA's; and the Three Forks Road. The SRMA's primary values include: outstanding river canyon scenery, unique cultural sites, high-quality fishery, whitewater boating, hiking, camping, outstanding opportunities for solitude and primitive and unconfined outdoor recreation activities, and sightseeing opportunities. Overall management objectives for the area are to preserve outstandingly remarkable and high-quality scenic, recreational, geologic, wildlife, botanic, and cultural values and to enhance opportunities for high-quality outdoor recreation experiences, environmental education, and scientific studies while maintaining the integrity of the area's natural systems and cultural resources. Management for the SRMA would include continuing to implement the management plans and court orders for the Main, West Little, and North Fork Owyhee NWSR's, the management plan for the Leslie Gulch ACEC, and ensure compliance with the IMPLWR and management prescriptions for the Honeycombs and Owyhee Views ACEC's. The SRMA would be managed for primitive, semiprimitive nonmotorized, semiprimitive motorized, and roaded natural recreation opportunities and experiences.

Recreation sites within the SRMA would include Three Forks, Owyhee Overlook, Rome Launch, The Hole-in-the-Ground, Birch Creek Historic Ranch, Anderson Crossing, Slocum Creek, the Owyhee Breaks, Deary Pasture and Wes Hawkins trails and associated amenities, and trailheads and other facilities of the Leslie Gulch ACEC. Each of the three trails (Owyhee Breaks, Deary Pasture, and Wes Hawkins) would be a point-to-point corridor with no development of treaded trail, except as needed to protect or prevent undue damage to sensitive resources. An existing cooperative management agreement with the BOR providing for BLM management of a boat ramp and associated facilities at Leslie Gulch, would be retained.

***Owyhee River Below the Dam*:** Establish the Owyhee River Below the Dam SRMA within MRA. The 11,239-acre SRMA's boundaries and its management would coincide with and include those described for the Owyhee River Below the Dam ACEC, and would include a Watchable Wildlife corridor area and sites along the river length of the SRMA. Recreation

values and use opportunities of the area include high-quality scenery, driving and walking/hiking for pleasure, varied wildlife and historic resource viewing, photography, camping, hunting, fishing, and water play at the Snively Hot Springs Recreation Site. Watchable Wildlife, camping, swimming, fishing, hiking, and interpretation opportunities would be enhanced. Overall recreation management objectives for the area would be to provide varied opportunities for roaded natural, semiprimitive motorized, and semiprimitive nonmotorized recreation and to provide for reasonable levels of tourism, environmental education, and interpretation while maintaining the integrity of the area's natural and cultural resource values. Management of recreation activities would be consistent with protecting ACEC and outstandingly remarkable river-related values, while providing for certain recreation activities within the SRMA to accommodate some tourism in the area.

Management of the SRMA would be coordinated with the BOR, county, State, and other appropriate partners for provision of recreation support facilities and services and area maintenance to enhance recreational uses, experiences and tourism in the area. Recreation sites and management actions for the SRMA would include the provision of developed nonmotorized trails and amenities primarily for enhancement of wildlife viewing, fishing, environmental education, and resource interpretation, and the placement of appropriate interpretive and informational mediums. Existing primitive or unmaintained vehicle routes on the canyon bottom not used in conjunction with establishment of nonmotorized trails/trailheads or for access through the SRMA would be closed to motorized use. Any camping on BLM-administered land would be limited to designated developed recreation sites (that is, possibly Snively Hot Springs), with adjacent non-BLM landowners within the canyon encouraged to provide other developed camping facilities before the Lower Owyhee Canyon recreation site would be constructed to meet increased public camping demands within the area. Recreation support facilities such as trailheads and parking areas would be located, by preference, at existing altered sites wherever possible. As appropriate, scenic and access easements/agreements would be pursued.

***Oregon Trail*:** The existing Oregon Trail SRMA (about 2,412 acres along a 1,320-foot wide Oregon Trail corridor) would be extended to be consistent with the Oregon National Historic Trail ACEC (9,175 acres) and provide for the management direction indicated for the ACEC. Recreation management direction would emphasize public education and enjoyment of the trail and its setting while protecting important cultural resource values. The SRMA would be managed for semiprimitive motorized and roaded natural recreation.

Recreation sites within the SRMA would be the Keeney Pass, Alkali Springs and Birch Creek interpretive sites. For Alkali Springs and Birch Creek, interpretive signing would be enhanced and parking facilities provided. New surface-disturbing activities observable from the trail route would be limited to those needed for management of the interpretive sites and protection of the trail corridor. Prior authorization for any overnight camping would be required.

***Succor Creek*:** Establish the 11,355-acre Succor Creek SRMA within MRA. This SRMA would include public land that partly surrounds the State of Oregon's Succor Creek State Recreation Area. The recreation area is a linear tract along the deepest portion of the scenic Succor Creek Canyon that has a county road traversing it and a partially developed State-managed campground. Recreation-oriented resource values and use opportunities of the SRMA include quality scenery associated with the deeply cut and highly colorful canyon and its perennial stream, driving and walking/hiking for pleasure, wildlife viewing, rockhounding, photography, camping, and hunting. Overall recreation management objectives for the SRMA would be to provide varied opportunities for roaded natural and semiprimitive motorized and nonmotorized recreation, as well as for environmental education and interpretation, while maintaining the integrity of the area's natural and cultural values.

New rights-of-way would be avoided when feasible. Livestock use along Succor Creek and its immediate canyon setting of the SRMA would be managed to avoid conflicts with visitors during higher recreational use periods of the year. Motorized vehicle use would be limited to designated routes.

Extensive Recreation Management Areas

***Jordan*:** The remaining 2,116,211 acres of JRA would be the Jordan ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities.

Recreation sites within the ERMA would include the Antelope Reservoir Campground, Highway 95 Interpretive Site, Cow Lakes Campground, petrified wood site, and Soldier Creek Watchable Wildlife Loop. Management may include developing nonmotorized trail systems at Antelope Reservoir and Cow Lakes and, if appropriate, designating these as Watchable Wildlife sites. Also, interpretation for the Soldier Creek Watchable Wildlife Loop would be increased.

***Malheur*:** The remaining 1,849,973 acres of MRA would be the Malheur ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities.

Recreation sites and trails within the ERMA would include Chukar Park; Twin Springs; Riverside; Castle Rock; Oasis including Watchable Wildlife facilities; Trenkel Hill Interpretive Site; Horseshoe Bend; Coyne Place; Hunter Spring; Snake River; the Desert, Malheur River, and Castle Rock Trails; and portions of the Owyhee Breaks Trail. The Malheur River Trail would follow the abandoned railroad grade with an option for the Desert Trail to also follow this route. The Desert and Owyhee Breaks Trails would have appropriate trailheads and be a point-to-point corridor with no development of treaded trail, except as needed to prevent undue damage to sensitive resources. The Owyhee Breaks Trail route would be from Owyhee Reservoir State Park to Birch Creek Historic Ranch.

Management considerations affecting these sites would be as follows:

> *Twin Springs*: would be enlarged and exclosed with developed camping units, improved water system, and site interpretation; the existing road through the site would be assessed for being rerouted around the site. *Chukar Park*: picnic units, a group overnight use area, and a recreation vehicle sanitation dump station would be added to existing facilities, and sanitation for the campground host site and for the recreation site's water systems would be included. *Riverside*: completion of overnight camping units, a trailhead and parking associated with the Desert and Malheur River Canyon Trails, and a river access/parking facility for floatboaters. *Castle Rock*: reconstruction of the exclosure fence and provisions for camping units, sanitation and a developed nonmotorized trail/trailhead to Castle Rock and Hunter Spring. *Oasis*: expanded parking, camp and picnic units, a boat ramp and safety dock, and a developed foot trail with interpretive materials as a designated Watchable Wildlife site. *Horseshoe Bend, Coyne Place, and Hunter Spring*: would provide for day use and overnight camping, with exclosure fencing as needed. Hunter Spring would include camping amenities, an exclosure fence and a trailhead for Castle Rock nonmotorized recreational uses. *Snake River*: day use sites with developed boating access, if feasible, and appropriate interpretive media as possible designated Watchable Wildlife site. *Malheur River Canyon Trail*: would follow the abandoned railroad grade between Riverside Recreation Site to near Juntura, OR. Other trails, including point-to-point corridors may be developed as required to protect sensitive resources or address visitor, access and safety issues. *The Desert and Malheur River Canyon Trails*: would be nominated and assessed as potential components of the national recreation trail system. Access and scenic easements and/or rights-of-way would be pursued if needed. Partnerships in

providing recreation facilities and services with adjacent landowners and other entities would be pursued as appropriate.

Off-Highway Vehicles

Objective: Manage off-highway vehicle (OHV) use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.

Rationale: 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 activities, protect natural resources and ensure public safety, and minimize conflicts among users (refer to Appendix I for supplemental OHV information).

Monitoring: Monitoring would include periodic patrols to check designation boundaries, signing, and use. Closures would be monitored to ensure public safety and protect affected roadbeds or areas. SRP's would be issued with appropriate mitigative measures for commercial, competitive, and other organized OHV activities. Baseline data would be established and sites rehabilitated as necessary. Also see Appendix W.

Management common to all alternatives: Unless otherwise specified, OHV use designations are in effect yearlong. Public land not designated limited or closed would be designated open to motorized vehicle use. For OHV designations in existing and proposed ACEC's, see Table 3-12. In WSA's, unless otherwise designated, the use of motorized and mechanical vehicles is limited to designated routes (WSA inventoried roads and vehicular ways still in existence). Motorized vehicle use would be managed in accordance with the IMPLWR. Should a WSA not be designated as wilderness, the OHV use designation would remain the same. Vehicle use in existing and suitable NWSR corridors and VRM Class I areas would be limited to designated routes (see Table 3-13 for the list of suitable rivers by alternative). Emergency OHV closures or use limits may be implemented as necessary to protect natural and cultural resources, reduce or eliminate user conflicts, or protect the public from hazard areas. Commercial, competitive, and other organized OHV activities would be managed with SRP's, with such activities allowed when consistent with protecting resource values and meeting other management objectives. OHV site/area signing and other implementation measures would be conducted as designations, uses, and resource values dictate. Recreation and administrative sites would be OHV designated limited to BLM developed motorized vehicle routes/areas, unless otherwise posted closed. Closures or use limits would not apply to certain OHV uses or purposes as described in 43 CFR 8340.0-5 (Appendix I). For public land users, such use exceptions may occur only for specifically described locations and associated durations within BLM authorized issued permits (such as livestock use), rights-of-way, or other appropriate authorizing instruments.

Alternative A

Within both resource areas, vehicular use within WSA's, existing and administratively suitable NWSR's and VRM Class I areas would be limited to designated routes. ACEC's would be designated either limited to designated routes or closed (except Mendi Gore Playa with 148 acres designated open) (see Table 3-12). Public land outside of designated WSA's, ACEC's, VRM Class I areas, and designated and administratively suitable NWSR corridors would be designated open to OHV use except as described below where sensitive wildlife, soil, plant, cultural, scenic, water, and other resources are at risk due to OHV activity. Emergency OHV closures would be used as a last resort if other management actions should fail. Opportunities for OHV organized events would be maximized. OHV use designations under Alternative A are depicted on Map OHV-1 in the Draft SEORMP/EIS; refer to Table 3-10 for a summary of OHV use designations by resource area.

Table 3-10.—*Off-highway vehicle use designations by alternative (acres)* [1]

Alternative	Open	Limited	Closed	Total
Malheur Resource Area				
A	1,667,461	321,035	30,247	2,018,743
B	1,254,986	729,162	34,595	2,018,743
C	1,549,084	452,762	16,897	2,018,743
D	493,925	1,507,441	17,377	2,018,743
D2	494,332	1,507,035	17,377	2,018,743
E	0	2,018,743	0	2,018,743
PRMP	1,228,832	774,420	15,490	2,018,743
Jordan Resource Area				
A	1,599,664	1,016,519	336	2,616,519
B	1,405,169	1,210,753	598	2,616,519
C	1,487,424	1,128,759	336	2,616,519
D	842,719	1,722,739	1,062	2,616,519
D2	741,992	1,873,465	1,062	2,616,519
E	0	2,616,241	278	2,616,519
PRMP	1,386,284	1,229,949	336	2,616,519

[1] Includes FERC acres.

Other OHV Use Designations by Resource Area

MRA: OHV management specified in the approved "South Alkali Management Plan" (1995) would be implemented. Vehicle use would be limited along the Oregon Trail corridor. Abandoned or reverted railroad rights-of-way would be designated closed unless specifically authorized as open or limited, as determined on a segment-by-segment and case-by-case basis following appropriate assessment. Special status plant sites in the Succor Creek SRMA and vicinity, would have OHV use limited to designated routes. The Red Butte area would be Closed to OHV use.

JRA: The Bretz landslide area and Buckskin Communication Site area would be closed to motorized use except by authorization. OHV use in the Saddle Butte Lava Flow would be limited to designated routes.

Alternative B

Within both resource areas, vehicular use within WSA's, existing and suitable NWSR's and VRM Class I areas are limited to designated routes. OHV management as developed in current land use plans and subsequent *Federal Register* notices, listed in Appendix I, would remain in effect. OHV organized events are allowed when consistent with protection of resource values. Current OHV use designations are depicted on Map OHV-2 in the Draft SEORMP/EIS; Table 3-10 summarizes OHV use designations by resource area.

Other OHV Use Designations by Resource Area

MRA: OHV use designations of the approved "South Alkali Management Plan" (1995) would be implemented. OHV use closures have been implemented to protect certain VRM Class I and II areas, recreation values, special status plants, and unique geologic features. OHV use has been limited to existing routes in some areas to protect cultural sites, big game

habitat, sage grouse areas, raptor concentration areas, high scenic values, wild horses, fisheries, recreation values, WSA's, special status plants, and portions of the Oregon National Historic Trail corridor. Seasonal OHV use limitations have been implemented to protect long billed curlew nesting habitat, big game winter ranges, raptor nests, and sage grouse leks. Abandoned or reverted railroad rights-of-way would be managed for OHV use in the same manner as adjacent public land.

JRA: OHV use has been limited to existing routes in the following areas: all MFP-determined riparian management areas; the Sand Springs, Sheepshead, and Coyote Lake HMA's; and the Whitehorse Basin ACEC. OHV use is limited to designated routes in the following areas: Saddle Butte Lava Flow (including the Saddle Butte ACEC) and the Jordan Craters and Owyhee River ACEC's.

Alternative C

Within both resource areas, vehicular use within WSA's, existing and administratively suitable NWSR's and VRM Class I areas is limited to designated routes. Refer to Map OHV-3 in the Draft SEORMP/EIS for OHV use designations under this alternative, and to Table 3-10 for a summary of OHV use designations by resource area.

OHV use designations common to both resource areas would remain as in Alternative A, with some VRM Class II areas designated as Limited. OHV organized events would be allowed when consistent with protecting resource values.

Other OHV Use Designations by Resource Area

MRA: OHV management specified in the approved South Alkali plan would be implemented. Abandoned or reverted railroad rights-of-way would be designated closed unless specifically authorized as open or limited, as determined on a segment-by-segment, case-by-case basis following appropriate assessment. Vehicle use would be limited along the Oregon National Historic Trail. OHV use would be limited to designated routes in a visually sensitive area adjacent to Succor Creek State Park, three special status plant areas near Harper, two near Succor Creek, and an area containing special status plants and noxious weeds south of Vale. The existing Red Buttes closed area would be altered to include a portion of the Owyhee Views ACEC.

JRA: OHV management would be the same as under Alternative A with these additions: three extensions would be added to existing area designated for limited OHV use; and boundaries of areas classified as limited or closed would be adjusted (based on road locations) to eliminate small, unmanageable islands of open areas. For the area within the Owyhee NWSR corridor designated limited to designated routes, the Owyhee Springs area would be extended 1 mile west, and the Three Forks area would be extended about 2 miles northeast. The limited to designated routes restriction of Willow Creek WSA would be extended about 6 miles northwest.

Alternative D

Within both resource areas, vehicular use within WSA's, existing and administratively suitable NWSR's, and VRM Class I areas would be limited to designated routes. Areas designated as limited to designated routes are expanded beyond those identified under Alternative C. The areas designated as limited to existing routes are expanded to include VRM Class II areas; specific cultural, botanical, or administrative sites; most of the important wildlife habitat; and high-density recreation use areas. OHV organized events would be restricted to existing or designated roads and trails. OHV use designations are displayed on Map OHV-4 in the Draft SEORMP/EIS; Table 3-10 summarizes OHV use designations by resource area.

Other OHV Use Designations by Resource Area

MRA: The same for limited to designated routes as described under Alternative C. The area of designated routes associated with the Oregon National Historic Trail would be larger than described under Alternative C. The Red Butte Closed area would be the same as under Alternative C.

JRA: No other specific changes in OHV use designations from those described as common to all resource areas under this alternative.

Alternative D2

Within both resource areas, motorized vehicle use would be managed the same as under Alternative D, and as depicted on Map OHV-4 in the Draft SEORMP/EIS, except for the following descriptions. Table 3-10 summarizes OHV use designations by resource area.

In both resource areas, within areas with an OHV use designation of limited to existing routes, motorized vehicle supported camping, unless otherwise posted to meet other resource objectives, may occur up to 150 traveled feet off of an existing road. The landing of private aircraft within WSA's would be limited to the existing inventoried vehicular ways, as defined under IMPLWR, and would require prior BLM authorization. NWSR's would be closed to the landing of aircraft, consistent with the approved 1993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan." The exception would be when conducting aerial searcvh and/or rescue activities with BLM approval within WSA's and designated NWSR corridors.

Other OHV Use Designations by Resource Area

MRA: Same as Alternative D, with the following exceptions: an area adjacent to the south boundary of the Keeney Pass segment of the Oregon Trail ACEC would be OHV use designated as limited to designated routes. The current seasonal use limitation within the South Alkali Management Area would be designated limited to existing routes yearlong.

JRA: Same as Alternative D, with the following exceptions: certain additional portions of the Campbell, Jackie's Butte Summer, Eiquren, Louse Canyon Community and Star Valley Community grazing allotments would be designated to limited to existing routes.

Alternative E

Within both resource areas, vehicular use in WSA's, existing and suitable NWSR's and VRM Class I areas would be limited to designated routes. No public land would be designated as open to OHV use (see Map OHV-5 in the Draft SEORMP/EIS). Organized OHV events would not be authorized. Table 3-10 summarizes OHV use designations by resource area.

Other OHV Use Designations by Resource Area

MRA: Vehicle use would be limited to designated routes, as under Alternative A, for the Oregon National Historic Trail and for the special status plant habitats at high risk. The southern portion of the South Alkali area would be limited to designated routes, the same as under all other alternatives. The Red Butte/Owyhee closed area of Alternatives A–D would be designated limited to designated routes, like the rest of the Dry Creek Buttes WSA (OR3-56). Abandoned or reverted railroad rights-of-way would be designated closed unless specifically authorized as limited, as determined on a segment-by-segment, case-by-case basis following appropriate assessment. The remainder of the resource area would be designated limited to existing routes.

JRA: Areas designated as either limited to designated routes or closed would be the same as those under Alternative C, except there are no ACEC's in Alternative E. Therefore, those ACEC areas would be designated as limited to existing routes, as would the remainder of the resource area.

Proposed RMP

Refer to Map OHV-PRMP for OHV use designations and to Table 3-10 for a summary of OHV use designations by resource area. Within areas with an OHV use designation of limited to existing routes, motorized vehicle-supported camping, unless otherwise posted to meet other resource management objectives, may occur up to 150 traveled feet off an existing road. The landing of private aircraft within WSA's would be limited to the existing inventoried vehicular ways, as defined under IMPLWR, and would require prior BLM authorization. NWSR's would be closed to the landing of aircraft, consistent with the approved 1993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan." The exception would be when conducting aerial search and/or rescue activities with BLM approval within WSA's and designated NWSR corridors.

Other OHV Use Designations by Resource Area

MRA: OHV management specified in the approved "South Alkali Management Plan" (1995) would be implemented with the area designated as a seasonal use limitation within the South Alkali Allotment changed to limited to existing routes yearlong. Vehicle use would be limited along the Oregon Trail corridor. An area adjacent to the south boundary of the Keeney Pass segment of the Oregon Trail ACEC would be OHV use designated as Limited to designated routes. Abandoned or reverted railroad rights-of-way would be designated closed unless specifically authorized as open or limited, as determined on a segment-by-segment and case-by-case basis following appropriate assessment. OHV use would be limited to designated routes in the visually sensitive Succor Creek SRMA adjacent to Succor Creek State Park, as would three special status plant areas near Harper, two near Succor Creek, and an area containing special status plants and noxious weeds south of Vale. The routes proposed closed within the Owyhee Below the Dam ACEC are on file in the Vale District Office (these routes are too short to depict on Map OHV-PRMP). Certain VRM Class II areas outside of SMA's would be OHV use designated as limited to existing routes.

Except for where designated closed or as limited to designated routes, the following public lands (as described by certain pastures and grazing allotments) located west and northeast of Vale, Oregon, and east of the Owyhee River and Owyhee Reservoir to the Idaho state line, would be designated limited to existing routes: Terry Basin and Juniper Basin pastures of the Black Butte Allotment (00304); North Racehorse and South Racehorse Pastures in the Black Butte Allotment (00308); South Chicken Creek Pasture of Allotment No. 4; and the Mesa B.C. (10201_01/Harper Seeding (10201_02) Pastures of Allotment No. 2 (10201); South Alkali (20100); Alkali Springs (20101); King Field Individual (00136); Blackjack (10501), Lower Owyhee (10502); Three Fingers (10503); Spring Mountain (10504); McCain Springs (10505); Birch Creek (10506); Board Corrals (10507); Rockville (10508); Mahogany Mountain (10509); Schnable Creek (10510); Tunnel Canyon (10512); and that portion of Strodes Basin (0519) within Oregon (administered by Boise, Idaho, BLM District).

JRA: The Bretz landslide area and Buckskin Communication Site area would be closed to motorized use except by authorization. OHV use in the Saddle Butte Lava Flow would be limited to designated routes. For the area within the Owyhee NWSR corridor designated as limited to designated routes, the Owyhee Springs area would be extended 1 mile west, and the Three Forks area would be extended about 2 miles northeast. The limited to designated routes designation of Willow Creek WSA would be extended about 6 miles northwest. Certain additional portions of the Campbell, Jackie's Butte Summer, Eiquren, Louse Canyon Community and Star Valley Community grazing allotments would be designated as limited to existing routes.

Visual Resources

Objective: Manage public land actions and activities in a manner to be consistent with visual resource management (VRM) class objectives.

Rationale: Section 102(8) of FLPMA declares that public land will be managed to protect the quality of scenic values and, where appropriate, to preserve and protect certain public land in its natural condition. NEPA, section 101(b), requires Federal agencies to "assure for all Americans... esthetically pleasing surroundings." Section 102 of NEPA requires agencies to "utilize a systematic, interdisciplinary approach which will ensure the integrated use of ... Environmental Design Acts in the planning and decision making" process. Guidelines for the identification of VRM classes on public land are contained in "BLM Manual Handbook 8410-1," Visual Resource Inventory. The establishment of VRM classes on public land is based on an evaluation of the landscapes scenic qualities, public sensitivity toward certain areas (such as certain special management areas, travel corridors and landscape settings), and the location of affected land from primary travel corridors (distance zoning).

Monitoring: Use the visual contrast rating system, described in BLM Manual 8400, where appropriate, when assessing proposals for projects on public land. Periodically assess, and as needed revise and implement, measures of visual mitigation/rehabilitation activities conducted for surface disturbing activities. Also see Appendix W.

Alternative A

Visual resources within ACEC's would be managed as displayed on Table 3-12. WSA's would be designated VRM Class II. Should a WSA not be congressionally designated as wilderness, the area of the WSA would remain VRM Class II. Management of the existing NWSR's (Main, West Little, and North Fork Owyhee) would be VRM Class I. The administratively suitable Owyhee River Below the Dam would be managed as VRM Class II. The remainder of the planning area would be managed as inventoried for this PSEORMP/FEIS. The Dry Creek Gorge and Owyhee Views ACEC areas described under Alternative C and Succor Creek SRMA would be managed as VRM Class II. Manage public land under VRM classifications as indicated in Table 3-11.

Alternative B

Management would continue under existing MFP or other plan decision VRM classifications. Visual resources in existing ACEC's would be managed as displayed in Table 3-12. WSA's would remain managed under VRM Class II. Management of the Main, West Little, and North Fork Owyhee NWSR's would continue under VRM Class I. Manage public land under VRM classifications as indicated in Table 3-11.

Alternative C

Visual resources in ACEC's would be managed as displayed in Table 3-12. WSA's would be managed under VRM Class II. Upon designation of wilderness, those areas released from further consideration would remain as managed under VRM Class II, unless inventory shows it to be Class I. Management of the Main, West Little, and North Fork Owyhee NWSR's would continue under VRM Class I. The South Fork Indian Creek study river in MRA would be managed as a VRM Class II. All other areas would be managed as inventoried for this PSEORMP/EIS. Public land would be managed under VRM classifications as indicated in Table 3-11 (see Map VRM-1 in the Draft SEORMP/EIS).

Table 3-11.—*Visual Resource Management classes of public land by alternative (acres)* [1]

Alternative	Class I	Class II	Class III	Class IV
Malheur Resource Area				
A	5,059	430,131	206,269	1,377,238
B	6,055	420,842	198,272	1,393,529
C	27,554	425,662	202,046	1,363,436
D	314,065	168,323	182,900	1,353,409
D2	313,862	164,861	183,573	1,356,447
E	283,130	9,219	0	0
PRMP	309,600	144,412	199,078	1,365,456
Jordan Resource Area				
A	74,081	996,870	440,692	1,104,133
B	74,001	995,820	440,730	1,105,253
C	76,190	995,398	440,634	1,103,554
D	970,368	77,701	440,214	1,100,010
D2	999,106	76,787	449,159	1,099,903
E	997,127	0	0	0
PRMP	998,359	72,823	440,160	1,104,616

[1] Includes FERC acres.

Alternative D

Visual resources in ACEC's would be managed as displayed in Table 3-12. Management of WSA's and the Main, West Little, and North Fork Owyhee NWSR's would be managed under VRM Class I. Administratively suitable NWSR's with a potential classification of wild or scenic would be managed as Class II, unless managed as Class I under other resource prescription (such as WSA's, ACEC's/RNA's). Succor Creek SMRA would be managed as VRM Class II. Other areas would be managed as inventoried for this PSEORMP/FEIS. Public land would be managed under VRM classifications as indicated in Table 3-11.

Alternative D2

Visual resources would be managed the same as under Alternative D, except for the following: Visual resources in ACEC's would be managed as displayed in Table 3-12. Administratively suitable study rivers with a tentative wild classification would be managed as VRM Class I. Manage as VRM Class III, when needed, those administrative sites, recreation sites and other specific sites requiring developed support facilities to meet public health and safety requirements or to enhance approved resource based recreation use opportunities.

Alternative E

Natural processes would occur with minimal human intervention. Existing VRM classes would be removed except for WSA's and the Main, West Little, and North Fork Owyhee NWSR's, which would be managed under VRM Class I. The Oregon National Historic Trail and Mickey Hot Springs ACEC's would be managed under VRM Class II (Table 3-12).

Proposed RMP

Public lands within the planning area would be managed as depicted on Map VRM-PRMP. Table 3-11 shows VRM classifications. Visual resources in ACEC's would be managed as displayed in Table 3-12. WSA's, managed in accordance with current policy, would be managed under VRM Class I, subject to any change to current policy. Upon congressional designation of wilderness, any area congressionally released from further wilderness consideration would be managed under VRM Class II, unless inventory shows it to be Class I. Management of the Main, West Little, and North Fork Owyhee NWSR's and administratively suitable study rivers with a tentative wild classification would be managed as VRM Class I. The corridor of the South Fork Indian Creek study river in MRA would be managed as VRM Class II. Manage as VRM Class III, when needed, those administrative sites, recreation sites, and other specific sites requiring developed support facilities to meet public health and safety requirements or to enhance approved resource based recreation use opportunities.

Areas of Critical Environmental Concern

Objective: Retain existing and designate new areas of critical environmental concern (ACEC's)/research natural areas (RNA's) where relevance and importance criteria are met and special management attention is required to protect the values identified.

Rationale: Section 202(c)(3) of FLPMA mandates that priority be given to the designation and protection of ACEC's. 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. Further guidance and evaluation criteria are found at 43 CFR Part 1610.7-2.

Monitoring: ACEC's 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. Appendix W contains additional monitoring guidelines.

Description of management directives: ACEC's/RNA's would be designated and managed under each alternative as outlined in Table 3-12. The section following the table describes each existing and potential ACEC/RNA and its management under each alternative. The descriptions are organized by resource area. Maps ACEC-1M, -1J, -2M, and -2J in the Draft SEORMP/EIS show existing and potential ACEC's under the various alternatives.

Management common to all alternatives: If retained or designated as an ACEC or ACEC/RNA, the areas described below would be managed to maintain or enhance their relevant and important values. Current and proposed management actions would be evaluated for their effects in maintaining or enhancing the ACEC values. These actions may include forest management practices; livestock grazing management (including timing and intensity of grazing); construction of range, wildlife, and recreation projects; prescribed burning; western juniper control practices and other vegetation treatments; management of recreational activities and wild horses; and animal damage control practices. Acquisition of subsurface minerals and private land inholdings through willing seller(s) would be pursued, if applicable, to protect relevant and important values or to improve manageability. Any land acquired from private parties or relinquished by the BOR adjacent to the ACEC may become part of the ACEC if relevant and important values are present, and would be managed following special management described below. For development of locatable minerals, any surface-disturbing actions beyond casual exploration would require a plan of operations if an area is designated as an ACEC. Opportunities to manipulate vegetation would be limited, particularly in ACEC/RNA's, whose purpose is to maintain and promote natural values and processes. Following wildfires, ACEC/RNA's would be allowed to revegetate naturally.

Table 3-12.—*Specific management for existing and potential ACEC's/RNA's* [1]

	Alter-native	ACEC acres	Rights-of-way	Off-highway vehicles	Visual resource manage-ment	Plant collecting	Road mainten-ance	Leasable minerals	Locatable minerals	Saleable minerals
Malheur Resource Area										
Existing										
Honeycombs ACEC/RNA [2]	A	12,469	AV	C	II	O	NA	NSO	W	C
	B	12,469	AV	C	I/II [2]	O	NA	NL	O	C
	C	15,847	AV	L	II	L	L	NSO	W	C
	D	15,847	E	L	I	L	L	NSO	W	C
	D2	15,847	E	L	I	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	15,847	AV	L	I	L	L	NSO	W	C
Leslie Gulch ACEC [2]	A	11,673	E [3]	L	II	L	L	NSO	W	C
	B	11,673	E [3]	L	I/II [2]	L	L	NSO/NL [2]	O [4]	C
	C	11,673	E [3]	L	II	L	L	NSO	W	C
	D	11,673	E [3]	L	I/II [5]	L	L	NSO	W	C
	D2	11,673	E [3]	L	I/II [5]	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	11,673	E [3]	L	I/II [5]	L	L	NSO	W	C
Mahogany Ridge ACEC/RNA [2]	A	317	AV	C	II	O	NA	NSO	O	O
	B	317	O/AV [2]	O/L [2]	II/IV [2]	O	NA	O/NL [2]	O	O/C [2]
	C	682	AV	L	II	L	L	NSO	W	C
	D	1,557	AV	L	II	L	L	NSO	W	C
	D2	1,557	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	682	AV	L	II	L	L	NSO	W	C
Stockade Mountain ACEC/RNA	A	653	AV	L	III	O	L	O	O	O
	B	653	O	O	IV	O	O	O	O	O
	C	1,118	AV	L	III	L	L	O	W	C
	D	3,054	AV	L	II	L	L	NSO	W	C
	D2	3,054	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	1,767	AV	L	III	L	L	O	W	C

Table 3-12.—*Specific management for existing and potential ACEC's/RNA's* [1] *(continued)*

	Alter-native	ACEC acres	Rights-of-way	Off-highway vehicles	Visual resource manage-ment	Plant collecting	Road mainten-ance	Leasable minerals	Locatable minerals	Saleable minerals
Potential										
Black Canyon ACEC/RNA	A	2,644	AV	L	II/III [6]	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	2,644	AV	L	II/III [6]	L	L	O	O	C
	D	2,795	AV	L	II	L	L	NSO	W	C
	D2	2,795	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	2,644	AV	L	II/III [6]	L	L	O	O	C
Castle Rock ACEC [2]	A	3,280	AV	L	II	L	O	NSO	W	C
	B	0	No ACEC/RNA designated							
	C	14,599	AV	L	II	L	O	NSO	W/O [7]	C/O [8]
	D	22,799	AV	L	II	L	O	NSO	W/O [7]	C/O [8]
	D2	22,799	AV	L	II	L	O	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	22,799	AV	L	II	L	O	NSO	W/O [7]	C/O [8]
Coal Mine Basin ACEC/RNA	A	755	AV	L	III	O	O	O	O	O
	B	0	No ACEC/RNA designated							
	C	755	AV	L	II	L	L	NSO	W	C
	D	755	E	L	II	L	L	NSO	W	C
	D2	755	E	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	755	AV	L	II	L	L	NSO	W	C
Dry Creek Gorge ACEC [2]	A	0	No ACEC/RNA designated							
	B	0	No ACEC/RNA designated							
	C	16,082	AV	L	II	O	L	NSO	W	C
	D	16,402	E	L	I	L	L	NL	W	C
	D2	16,402	E	L	I	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	16,082	AV	L	II	O	L	NSO	W	C

Table 3-12.—*Specific management for existing and potential ACEC's/RNA's* [1] *(continued)*

	Alter-native	ACEC acres	Rights-of-way	Off-highway vehicles	Visual resource manage-ment	Plant collecting	Road mainten-ance	Leasable minerals	Locatable minerals	Saleable minerals
Hammond Hill Sand Hills ACEC/RNA [2]	A	2,678	AV	L	III	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	3,712	AV	L	III	L	L	O	W	C
	D	3,712	E	L	II	L	L	NSO	W	C
	D2	3,712	E	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	3,712	AV	L	III	L	L	O	W	C
Lake Ridge ACEC/RNA [2]	A	3,825	AV	L	III	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	3,825	AV	L	II	L	L	OWS	O	C
	D	5,502	AV	L	II	L	L	NSO	O	C
	D2	5,502	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	3,825	AV	L	II	L	L	OWS	O	C
North Fork Malheur River ACEC [2]	A	950	AV	C	II	O	NA	O	O	C
	B	0	No ACEC/RNA designated							
	C	1,810	E	L	I	L	L	NSO	W	C
	D	1,810	E	L	I	L	L	NSO	W	C
	D2	1,810	E	L	I	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	1,810	E	L	I	L	L	NSO	W	C
North Ridge Bully Creek ACEC/RNA	A	1,213	AV	L	III	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	1,569	AV	L	III	L	L	OWS	O	C
	D	2,257	AV	L	II	L	L	NSO	O	C
	D2	2,257	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	1,569	AV	L	III	L	L	OWS	O	C

Table 3-12.—*Specific management for existing and potential ACEC's/RNA's* [1] *(continued)*

	Alter-native	ACEC acres	Rights-of-way	Off-highway vehicles	Visual resource manage-ment	Plant collecting	Road mainten-ance	Leasable minerals	Locatable minerals	Saleable minerals
Oregon National Historic Trail ACEC-Keeney Pass Segment	A	1,032	AV	L	II	O	L	NSO	W	C
	B	0	No ACEC/RNA designated							
	C	3,179	AV	L	II/III [9]	L	L	NSO	W/O [10]	C/O [11]
	D	3,179	AV	L	II/III [9]	L	L	NSO	W	C/O [11]
	D2	3,179	AV	L	II/III [9]	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	3,154	AV	L	II/III [9]	L	L	NSO	W/O [10]	C/O [11]
Oregon National Historic Trail ACEC-Tub Mountain Segment	A	1,296	AV	L	II	O	L	O	W	C
	B	0	No ACEC/RNA designated							
	C	5,902	AV	L	II	L	L	NSO	W/O [10]	C/O [11]
	D	5,902	AV	L	II	L	L	NSO	W	C/O [11]
	D2	5,902	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	5,902	AV	L	II	L	L	NSO	W/O [10]	C/O [11]
Oregon National Historic Trail ACEC-Birch Creek Segment	A	119	AV	L	II	O	O	O	W	C
	B	0	No ACEC/RNA designated							
	C	119	AV	L	II	O	O	NSO	W	C
	D	119	AV	L	II	O	O	NSO	W	C
	D2	119	AV	L	II	O	O	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	119	AV	L	II	O	O	NSO	W	C
Ott Mountain ACEC/RNA	A	1,022	AV	C	III	O	NA	O	O	O
	B	0	No ACEC/RNA designated							
	C	1,407	AV	C	II	L	NA	O	W	C
	D	1,407	AV	C	II	L	NA	NSO	W	C
	D2	1,407	AV	C	II	L	NA	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	0	No ACEC/RNA designated							

Table 3-12.—*Specific management for existing and potential ACEC's/RNA's* [1] *(continued)*

	Alter-native	ACEC acres	Rights-of-way	Off-highway vehicles	Visual resource manage-ment	Plant collecting	Road mainten-ance	Leasable minerals	Locatable minerals	Saleable minerals
Owyhee River Below the Dam ACEC [2]	A	11,239	AV/O [12]	L	II/III [13]	L	O	O	W/O [14]	C/O [15]
	B	0	No ACEC/RNA designated							
	C	11,239	AV	L	II	L	O	NSO/O [16]	W/O [14]	C/O [15]
	D	11,239	E	L	II	L	O	NSO	W	C
	D2	11,239	E	L	II	L	O	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	11,239	AV	L	II	L	O	NSO/O [16]	W/O [14]	C/O [15]
Owyhee Views ACEC [2]	A	0	No ACEC/RNA designated							
	B	0	No ACEC/RNA designated							
	C	86,973	E/AV [17]	C/L [18]	I/II [19]	L	L	NSO	W	C
	D	86,973	E	C/L [18]	I	L	L	NSO	W	C
	D2	86,973	E	C/L [18]	I	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	52,506	E/AV [17]	C/L [18]	I	L	L	NSO	W	C
South Alkali Sand Hills ACEC	A	0	No ACEC/RNA designated							
	B	0	No ACEC/RNA designated							
	C	3,520	AV	L	III	L	L	NSO	W	C
	D	5,552	AV	L	II	L	L	NSO	W	C
	D2	5,552	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	3,520	AV	L	III	L	L	NSO	W	C
South Bull Canyon ACEC/RNA	A	792	AV	L	III	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	1,364	AV	L	III	L	L	O	O	C
	D	1,364	AV	L	II	L	L	NSO	W	C
	D2	1,364	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	792	AV	L	III	L	L	O	O	C

Table 3-12.—*Specific management for existing and potential ACEC's/RNA's* [1] *(continued)*

	Alter-native	ACEC acres	Rights-of-way	Off-highway vehicles	Visual resource manage-ment	Plant collecting	Road mainten-ance	Leasable minerals	Locatable minerals	Saleable minerals
South Ridge Bully Creek ACEC/RNA	A	841	AV	L	III	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	841	AV	L	III	L	L	OWS	O	C
	D	1,965	AV	L	II	L	L	NSO	O	C
	D2	1,965	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	620	AV	L	III	L	L	OWS	O	C
Spring Mountain ACEC/RNA	A	1,002	AV	C	III	L	NA	O	O	O
	B	0	No ACEC/RNA designated							
	C	1,002	AV	C	III	L	NA	O	O	C
	D	1,501	AV	C	II	L	NA	NSO	W	C
	D2	1,501	AV	C	II	L	NA	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	1,002	AV	C	III	L	NA	O	O	C
Jordan Resource Area										
Existing										
Jordan Craters ACEC/RNA [2]	A	28,689	E	L	I	L	L	O	O	C
	B	29,785	O/AV [2]	L	I	L	O	O/NL [2]	O	C
	C	31,370	E	L	I	L	L	NSO	O	C
	D	35,212	E	L	I	L	L	NSO	W	C
	D2	35,212	E	L	I	L	L	NL	W	C
	E	0								
	PRMP	31,370	E	L	I	L	L	NSO	O	C
Owyhee River ACEC [2]	A	0	No ACEC/RNA designated							
	B	41,505	AV	L	I	O	L	NL	W	C
	C	0	No ACEC/RNA designated							
	D	0	No ACEC/RNA designated							
	D2	0	No ACEC/RNA designated							
	E	0	No ACEC/RNA designated							
	PRMP	0	No ACEC/RNA designated							

Table 3-12.—*Specific management for existing and potential ACEC's/RNA's* [1] *(continued)*

	Alter-native	ACEC acres	Rights-of-way	Off-highway vehicles	Visual resource manage-ment	Plant collecting	Road mainten-ance	Leasable minerals	Locatable minerals	Saleable minerals
Saddle Butte ACEC [2]	A	0	No ACEC/RNA designated							
	B	6,096	O/AV [2]	L	II/IV [2]	O	O	O/NL [2]	O	C
	C	7,056	AV	L	II	L	L	O	O	C
	D	7,056	AV	L	II	L	L	NSO	O	C
	D2	7,056	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	7,056	AV	L	II	L	L	O	O	C
Whitehorse Basin ACEC [2]	A	0	No ACEC/RNA designated							
	B	1,977	O/AV [2]	O/L [2]	II/IV [2]	O	O	O/NL [2]	O	C
	C	0	No ACEC/RNA designated							
	D	2,260	AV	L	II	L	L	NSO	W	C
	D2	2,260	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	0	No ACEC/RNA designated							
Potential										
Dry Creek Bench ACEC/RNA [2]	A	736	AV	L	II	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	1,616	AV	L	II	L	L	O	O	C
	D	1,741	AV	L	II	L	L	NSO	W	C
	D2	1,741	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	1,616	AV	L	II	L	L	O	O	C
Little Whitehorse Creek Exclosure ACEC/RNA [2]	A	58	E	C	II	L	NA	NSO	W	C
	B	0	No ACEC/RNA designated							
	C	58	E	C	II	L	NA	NSO	W	C
	D	783	E	C	II	L	NA	NSO	W	C
	D2	783	E	C	II	L	NA	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	58	E	C	II	L	NA	NSO	W	C

Table 3-12.—*Specific management for existing and potential ACEC's/RNA's* [1] *(continued)*

	Alter-native	ACEC acres	Rights-of-way	Off-highway vehicles	Visual resource manage-ment	Plant collecting	Road mainten-ance	Leasable minerals	Locatable minerals	Saleable minerals
Mendi Gore Playa ACEC/RNA [2]	A	148	AV	O	II	L	O	O	O	O
	B	0	No ACEC/RNA designated							
	C	148	AV	L	II	L	L	NSO	O	C
	D	4,829	AV	L	II	L	L	NSO	W	C
	D2	4,829	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	148	AV	L	II	L	L	NSO	O	C
Palomino Playa ACEC/RNA	A	64	AV	L	II	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	642	AV	L	II	L	L	NSO	O	C
	D	847	AV	L	II	L	L	NSO	W	C
	D2	847	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	642	AV	L	II	L	L	NSO	O	C
Three Forks ACEC/RNA [2]	A	0	No ACEC/RNA designated							
	B	0	No ACEC/RNA designated							
	C	0	No ACEC/RNA designated							
	D	579	E	L	I	L	L	NL	W	C
	D2	579	E	L	I	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	0	No ACEC/RNA designated							
Toppin Creek Butte ACEC/RNA [2]	A	3,996	AV	L	II	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	3,996	AV	L	II	L	L	O	O	C
	D	4,644	AV	L	II	L	L	NSO	W	C
	D2	4,644	AV	L	II	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
	PRMP	3,996	AV	L	II	L	L	O	O	C

[1] Abbreviations:

AV = avoidance area: granting rights-of-way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way may be granted if there is minimal conflict with identified resource values and impacts can be mitigated.

C = closed to mineral material removal, and/or OHV use.

E = exclusion area: rights-of-way would not be granted within the area.

L = limited: limitations applicable to OHV use, plant collection, and road maintenance.

OHV use: under Alternatives A, C, and D, D2, and Proposed RMP, OHV use would be limited to designated routes; under Alternative B, OHV use is limited to existing roads and trails. Plant collecting: plant materials, including common species, may be collected by permit only. Road maintenance: maintenance would be limited to the existing roadway; shoulder barrow/ditch construction would be limited to only that necessary to ensure public safety and serviceability of the road.

NL = not available for mineral leases.

NA = not applicable.

NSO = no surface occupancy. Open to mineral leasing subject to NSO stipulations.

O = open. The activity is allowed in the area. NEPA compliance and clearances for cultural resources and threatened and endangered species required for some activities. Mineral activity is subject to standard stipulations (where appropriate), NEPA compliance, and application of site-specific controls.

OHV = off-highway vehicles.

OWS = open with special stipulations. Open to mineral leasing activities subject to controlled surface use, seasonal timing restrictions, and/or restricted or no uses in avoidance areas (such as riparian areas, live water, areas with special wildlife or plant features, or sensitive viewsheds).

ROW = right-of-way.

VRM = visual resource management. VRM classes are defined in Appendix H.

W = withdrawal. Areas recommended (to the Secretary of the Interior) for withdrawal from operation of the mining laws (locatable mineral entry).

[2] All or a portion of this existing or potential ACEC falls within an additional or proposed SMA that currently may have restricted management for activities such as OHV, VRM, or mineral management. This ACEC must meet the minimum management requirements for the SMA (such as WSA, NWSR). Alternatives as displayed are management prescriptions associated with the relevant and important values of the ACEC. For Alternative B, VRM class follows IMPLWR guidance for those portions of the existing ACEC that are within WSA's.

[3] E = Valid existing right-of-way would remain in effect.

[4] O = Withdrawal process initiated and currently being reviewed.

[5] I/II = Areas outside vehicular corridor VRM I; VRM II on remainder.

[6] II/III = Class II in area inventoried as VRM II; VRM III on remainder.

[7] W/O = Withdrawal on 3,280 acres; open on remainder.

[8] C/O = Closed on 3,280 acres; open on remainder.

[9] II/III = VRM II within corridor; VRM III on remainder.

[10] W/O = Withdrawal within corridor; open on remainder.

[11] C/O = Closed within corridor; open on remainder.

[12] AV/O = Avoidance within viewshed; open on remainder.

[13] II/III = VRM II within viewshed; VRM III on remainder.

[14] W/O = Withdrawal within viewshed; open on remainder.

[15] C/O = Closed within viewshed; open on remainder.

[16] NSO/O = No-surface-occupancy stipulation applies within viewshed; open outside of viewshed.

[17] E/AV = Exclusion in area managed as VRM I; avoidance on remainder.

[18] C/L = Closed west of reservoir as depicted on OHV maps; limited on remainder.

[19] I/II = Area closed to OHV managed as VRM I; remainder as VRM II.

Small areas may be seeded with native species, if the relevant and important values of the ACEC/RNA would be enhanced. Nonnative species would not be used in an ACEC/RNA for vegetation rehabilitation. 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. Where management for a designated ACEC limits motorized and mechanical vehicles to designated roads and trails, the use of these vehicles off designated trails to maintain existing improvements and for livestock handling may be allowed within the ACEC after a case-by-case assessment and determination of need.

Management prescriptions were developed in Alternatives A, C, D, D2, and Proposed RMP independently of WSA and NWSR considerations. However, in all alternatives where applicable, IMPLWR would be followed until Congress designates these areas as wilderness or releases them from further wilderness consideration. If the WSA is not Congressionally designated as wilderness, the prescriptions for each designated ACEC would be followed.

Malheur Resource Area

Existing

Honeycombs ACEC/RNA (Existing and Potential Addition)

Description and values: The existing 12,469-acre Honeycombs ACEC/RNA is located on the east edge of Owyhee Reservoir about 20 miles south of Vale. The ACEC/RNA has high scenic values derived from the unusual geologic structure and colorful desert soils of volcanic origin. Special status plant species and the presence of California bighorn sheep contribute to the value of the area as an ACEC/RNA.

The relevant and important values for the existing ACEC/RNA include scenery, geologic formations, bighorn sheep and habitat, four special status plant species (sterile milkvetch, Ertter's senecio, grimy ivesia, and Owyhee clover), and big sagebrush/needleandthread grass on cinders plant community which meets a vegetation cell need identified by Oregon Natural Heritage Program (ONHP). The proposed addition of 3,378 acres includes land that is similar to the existing ACEC/RNA and that adds two important sites of grimy ivesia.

A portion of the Honeycombs WSA (3-77A) comprises 100 percent of the existing ACEC/RNA and 99 percent of the potential addition. This WSA has been recommended suitable by BLM for wilderness designation and is currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from a WSA until Congress makes a decision on wilderness designation. Within the existing ACEC/RNA, the Honeycombs WSA is a component of the existing Owyhee River Complex SRMA.

The ACEC/RNA and proposed addition are located within one livestock grazing allotment. A north-south dirt road borders the current eastern boundary and is maintained by BLM for high-clearance and 4-wheel drive vehicles. The ACEC/RNA and potential addition includes a portion of one livestock grazing allotment. The Three Fingers HMA for wild horses is also located within and surrounding this ACEC/RNA.

The existing and proposed ACEC/RNA has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, a moderate potential for the occurrence of oil and gas and geothermal resources, and a low to moderate potential for the occurrence of uranium. It has a low potential for the occurrence of all other locatable and leasable minerals. While there are no mining claims currently located in the existing and proposed ACEC/RNA, there has been past interest, especially between 1989 and 1993, largely in the eastern portion of the ACEC/RNA; consequently, it has a moderate potential for the development of hot springs and epithermal-related gold/silver/mercury deposits. Although the

proposed ACEC/RNA is located within an area of high heat, a lack of nearby hot springs and apparent absence of shallow (<3,000 feet deep) sources of thermal water indicate a low potential for the development of geothermal resources. Likewise, a lack of nearby oil and gas occurrences and an absence of production within the planning unit indicate a low potential for oil and gas development. While there is a possibility of mineable quantities of uranium, a lack of interest in this commodity and an absence of a significant domestic uranium industry indicate a low potential for development of this commodity.

Alternative A

***Specific management*:** The existing ACEC/RNA would be retained at 12,469 acres and managed as outlined in Alternative B below, except that development of mineral leasing would be subject to the NSO stipulation. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to relevant and important values.

Rationale: Existing management would continue to protect scenic quality, bighorn sheep and their habitat, special status plant species, and vegetation communities within the identified area.

Alternative B

Specific management: The existing 12,469-acre ACEC/RNA would be retained. Existing management outlined in BLM's IMPLWR would apply to that portion of the ACEC/RNA also designated as a WSA, including VRM Class II and closure to development of saleable minerals and leasable minerals. The recommendations from the Southern Malheur MFP for locatable minerals withdrawal and closure to OHV use would be retained. The entire area would be open to plant collection. Fire suppression and rehabilitation would be in accordance with IMPLWR guidance.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

***Specific management*:** The 3,378 acres along the north, east, and south boundaries would be added to the ACEC/RNA for a total of 15,847 acres. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHVs would be limited to designated roads and trails. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Development of leasable minerals would be subject to the NSO stipulation. The area would be under VRM Class II. The ACEC/RNA would be withdrawn from locatable mineral activities and closed to saleable minerals development. BOR land relinquished between the reservoir and ACEC/RNA boundaries would become part of the ACEC/RNA. Livestock use would continue based on existing permit stipulations and approved AMP's. Any changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for their impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: Although existing management actions have partially protected values, the proposed management within the extended area for minerals, livestock, and other surface-disturbing activities would fully protect the existing area and additional representations of the relevant and important values. The area's soils are highly fragile, being quickly and permanently disturbed by minimal surface activities. This alternative would adequately protect this resource. Other management as proposed would maximize protection of all the valued resources.

Alternative D

***Specific management*:** Under this alternative, 15,847 acres would be designated as an ACEC/RNA, and the area would be managed the same as under Alternative C, except that it would be under VRM Class I, and the entire ACEC/RNA would be excluded from rights-of-way. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that VRM Class I and exclusion from rights-of-way provide additional protection for the relevant and important values.

Alternative D2

***Specific management*:** Under this alternative, 15,847 acres would be designated as an ACEC/RNA, and the area would be managed the same as under Alternative D, except that there would be no leasable minerals activities.

Rationale: Same as Alternative D, except that no leasable minerals activities would provide additional protection for the relevant and important values.

Alternative E

***Specific management*:** No ACEC/RNA would be designated.

***Rationale*:** No special management would be needed to protect the relevant and important values because most actions that affect these values would be prohibited or highly restricted.

Proposed RMP

***Specific management*:** The 3,378 acres along the north, east, and south boundaries would be added to the ACEC/RNA for a total of 15,847 acres. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHVs would be limited to designated roads and trails. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Development of leasable minerals would be subject to the NSO stipulation. The area would be under VRM Class I. The ACEC/RNA would be withdrawn from locatable mineral activities and closed to saleable minerals development. BOR land relinquished between the reservoir and ACEC/RNA boundaries would become part of the ACEC/RNA. Livestock use would continue based on existing permit stipulations and approved AMP's. Any changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for their impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: Although existing management actions have partially protected values, the proposed management within the extended area for minerals, livestock, and other surface-disturbing activities would fully protect the existing area and additional representations of the relevant and important values. The area's soils are highly fragile, being quickly and permanently disturbed by minimal surface activities. Proposed management would adequately protect this resource. Other management as proposed would protect all the valued resources.

Leslie Gulch ACEC (Existing)

***Description and values*:** The existing 11,673-acre Leslie Gulch ACEC is located near the southeastern part of Owyhee Reservoir. The vegetationaly diverse and highly scenic area is an attractive destination for visitors seeking a variety of wildland experiences.

Relevant and important values include high scenic values associated with the colorful ash talus cliff, bighorn sheep and habitat, and five special status plant species, which include Packard's mentzelia, grimy ivesia, sterile milkvetch, Ertter's senecio, and Owyhee clover. A detailed management plan was written for the area and signed in 1995.

Portions of three WSA's are located within and comprise approximately 92 percent of the existing ACEC. Portions of the Upper Leslie Gulch WSA (3-74), Honeycombs WSA (3-77A), and Slocum Creek WSA (3-75) located within the ACEC have been recommended as suitable for wilderness designation by BLM. The WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation in WSA's are generally precluded until Congress makes a decision on wilderness designation. Leslie Gulch ACEC was withdrawn from mineral entry by Public Land Order 7412 (*Federal Register*, Vol. 64, No.184, September 23, 1999) with the withdrawal effective as of September 23, 1999.

Alternative A

***Specific management*:** Under this alternative, 11,673 acres would be retained as an ACEC. Management would continue as outlined in the 1995 "Leslie Gulch ACEC Management Plan" (LGMP) as described in Alternative C below.

Rationale: Because of the recent date of the management plan, which provides protection for the relevant and important values, no further management changes would be proposed for this ACEC.

Alternative B

***Specific management*:** The existing ACEC boundaries and current management as described in the recent ACEC management plan would be retained.

Rationale: Current management under the existing plan provides protection for the relevant and important values.

Alternative C

***Specific management*:** Under this alternative, 11,673 acres would be retained as an ACEC. All management as identified and prescribed in the LGMP would be retained. Management as described in the plan includes, but is not limited to, the following actions: rights-of-way would not be granted. OHV use would be limited to designated roads and trails. The ACEC would be under VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to that necessary to control runoff, minimize soil erosion, and ensure public

safety. The area would be limited or closed to all mineral activity, including mineral leasing (under NSO stipulations), mineral material sale, and locatable mineral exploration and development. The area would be closed to livestock grazing. Proposed projects in the area, particularly recreational development, would follow management plan guidance.

Rationale: Because of the recent date of the management plan, which provides excellent protection for the relevant and important values, no further management changes would be proposed for this ACEC.

Alternative D

Specific management: The existing ACEC boundaries (11,673 acres) and current management, as described in the ACEC management plan as outlined in Alternative C above, would be retained except that areas outside the vehicular corridor would be under VRM Class I.

Rationale: Because of the recent date of the management plan, which provides protection for the relevant and important values, no further management changes would be proposed for this ACEC except that the VRM Class I would contribute to providing maximum protection for the relevant and important values.

Alternative D2

Specific management: The existing ACEC boundaries (11,673 acres) and current management, as described in the ACEC management plan as outlined in Alternative C above, would be retained except that areas outside the vehicular corridor would be under VRM Class I, and there would be no leasable minerals activities.

Rationale: Because of the recent date of the management plan, which provides protection for the relevant and important values, no further management changes would be proposed for this ACEC except that the VRM Class I and no leasable minerals activities would provide maximum protection for the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, 11,673 acres would be retained as an ACEC. All management as identified and prescribed in the LGMP would be retained. Management as described in the plan includes, but is not limited to, the following actions. Rights-of-way would not be granted. OHV use would be limited to designated roads and trails. The ACEC would be under VRM Class II, except the areas outside the vehicular corridor would be under VRM Class I. Plant collecting would require a permit. Road maintenance would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety. The area would be limited or closed to all mineral activity, including mineral leasing (under NSO stipulations), mineral material sale, and locatable mineral exploration and development. The area would be closed to livestock grazing. Proposed projects in the area, particularly recreational development, would follow management plan guidance.

Rationale: Because of the recent date of the management plan, which provides protection for the relevant and important values, no further management changes would be proposed for this ACEC except that the VRM Class I would contribute to providing maximum protection for the relevant and important values.

Mahogany Ridge ACEC/RNA (Existing and Potential Addition)

Description and values: The existing 317-acre Mahogany Ridge ACEC/RNA is located on the northern and northeastern slope of Mahogany Mountain west of U.S. Highway 95 and north of Jordan Valley, Oregon. The existing ACEC/RNA includes undisturbed stands of mountain mahogany trees on parcels of the northern and western slopes of Mahogany Ridge, and it fills a vegetation cell need for mountain mahogany-sagebrush and mountain mahogany-Oregon grape complex identified by ONHP. The proposed addition to this ACEC/RNA, which incorporates a portion of Mahogany Mountain near Gunsight Pass, would increase the vegetation diversity of the ACEC/RNA by including a higher-elevation mountain big sagebrush-mountain mahogany/slender wheatgrass-bluebunch wheatgrass community.

The relevant and important values in the existing ACEC/RNA and potential addition include habitat for the broad-tailed hummingbird and other neotropical migratory birds, a special status plant species (Owyhee clover), and the mountain mahogany-big sagebrush vegetation communities identified by ONHP.

A portion of the Upper Leslie Gulch WSA (3-74) constitutes 75 percent of the existing ACEC/RNA and 15 percent of the potential, expanded ACEC/RNA. This WSA has been recommended suitable by BLM for wilderness designation and is currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded until Congress makes a decision on wilderness designation.

The ACEC/RNA and potential addition are located within one livestock grazing allotment.

The existing and proposed ACEC/RNA has a moderate to high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate potential for the occurrence of uranium, oil and gas and geothermal resources, and a low potential for the occurrence of all other locatable and leasable minerals. No mining claims are currently located within the existing and proposed ACEC/RNA; however, there has been a substantial amount of past interest, largely between 1985 and 1989; consequently, the potential for the development of hot springs and epithermal-related gold/silver/mercury deposits is high. While mineable quantities of uranium may occur within the area, a lack of interest in the commodity and an absence of a domestic uranium industry indicate a low potential for development of this commodity. Although the area is within a zone of high heat flow, a lack of nearby surface thermal features (such as hot springs) and an apparent absence of shallow (<3,000 feet deep) sources of thermal water indicate a low potential for the development of geothermal resources. Likewise, an absence of nearby sources of oil and gas and a lack of production indicate a low potential for the development of petroleum products.

Alternative A

Specific management: The existing ACEC/RNA would be retained at 317 acres. Saleable minerals would remain available for development on a case-by-case basis, and development of leasable minerals would be subject to NSO stipulation. The area would remain open for locatable minerals and plant collecting, be an avoidance area for rights-of-way, and in accordance with VRM Class II. No roads or trails currently exist in the unit, and it would be closed to OHV use. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: This alternative would afford some protection to the most critical areas where the relevant and important values occur. Most uses would be allowed in the surrounding areas.

Alternative B

***Specific management*:** The existing 317-acre ACEC/RNA would be retained, and the WSA portion of the area would be managed as outlined in IMPLWR, including VRM Class II and closure to development of saleable and leasable minerals. Outside the WSA boundaries, management would continue as in the past, including open to OHV use and mineral development, as well as management under VRM Classes II and IV. Livestock use would continue based on existing grazing permit stipulations and the approved AMP. Areas outside the WSA would be open to all fire suppression and rehabilitation activities.

Rationale: Existing management activities to date have maintained most of the values.

Alternative C

Specific management: The existing 317-acre ACEC/RNA would be retained, and an additional 365 acres would be added to include a better representation of the identified plant communities. Rights-of-way would be granted within the ACEC/RNA only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be VRM Class II. Plant collecting would require a permit. Development of leasable minerals would be subject to the NSO stipulation. The ACEC/RNA would be closed to development of locatable minerals and saleable minerals. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be managed using a variety of methods, including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: Although existing management has partially protected values of the area, the increase in size of the ACEC/RNA and proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would enhance an extended representation of the relevant and important values.

Alternative D

***Specific management*:** The existing ACEC/RNA would be retained, and 1,240 acres would be added to include the full range and variations of the identified plant communities. Management would be as outlined in Alternative C. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the added acreage would provide further protection for a wide range of the relevant and important values in the entire area.

Alternative D2

***Specific management*:** The existing ACEC/RNA would be retained, and 1,240 acres would be added as described in Alternative D. Management would be as outlined in Alternative D, except that there would be no leasable minerals activities.

Rationale: Same as Alternative D, except that no leasable minerals activities would provide additional protection for the area.

Alternative E

***Specific management*:** No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the relevant and important values because most actions that would affect these values would be prohibited or highly restricted.

Proposed RMP

Specific management: The existing 317-acre ACEC/RNA would be retained, and an additional 365 acres would be added to include a better representation of the identified plant communities. Rights-of-way would be granted within the ACEC/RNA only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be VRM Class II. Plant collecting would require a permit. Development of leasable minerals would be subject to the NSO stipulation. The ACEC/RNA would be closed to development of locatable minerals and saleable minerals. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be managed using a variety of methods, including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: Although existing management has partially protected values of the area, the increase in size of the ACEC/RNA and proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would enhance an extended representation of the relevant and important values.

Stockade Mountain ACEC/RNA (Existing and Potential Addition)

Description and values: The existing 653-acre Stockade Mountain ACEC/RNA is located approximately 55 miles southwest of Vale, Oregon, near Crowley. The addition would protect more acreage of western juniper/big sagebrush/bluebunch wheatgrass and low sagebrush/Sandberg bluegrass communities which are cells identified by ONHP. The target communities include a portion of the top of Stockade Mountain where extensive western juniper communities are found, as well as additional acres of steep northeast-facing slopes that include big sagebrush and low sagebrush communities. The addition would enhance the representation of the western juniper natural communities and add low sagebrush communities that would partially fill a previously unfilled vegetation cell.

The relevant and important values in this ACEC/RNA include wildlife habitat and an old growth western juniper/big sagebrush/bunchgrass community identified by ONHP.

The existing ACEC/RNA and addition are located within one livestock grazing allotment. Primitive dirt roads provide access to and through the area.

The proposed ACEC/RNA has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, a moderate to high potential for the occurrence of uranium, a moderate potential for the occurrence of geothermal resources, and a low

potential for the occurrence of all other leasable and locatable minerals. While there are no mining claims currently located within the boundaries of the proposed ACEC/RNA, a substantial amount of interest was expressed between 1989 and 1994, when most of the area was covered with mining claims; consequently, there is a high potential for the development of hot springs and epithermal-related gold/silver/mercury deposits. Mineable quantities of uranium may occur in the area, but an absence of demonstrated interest in the commodity and a lack of a significant domestic uranium industry indicate a low potential for uranium development. Although the ACEC/RNA is within an area of high heat flow, an absence of nearby surface thermal features (such as hot springs) and an apparent lack of shallow (<3,000 feet deep) thermal waters indicate a low potential for development of geothermal resources.

Alternative A

Specific management: The existing ACEC/RNA would be retained at 653 acres and managed the same as Alternative C, except that plant collecting would not require a permit and the area would remain open to all minerals activities. Leasable minerals activities would be open with standard stipulations. OHVs would be limited to designated roads and trails. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded areas where relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

***Specific management*:** The existing ACEC/RNA would be retained at 653 acres and managed as in the past, including open to OHV use, plant collecting, and road maintenance. The area would be under VRM Class III and IV, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area. Some degradation from OHVs has occurred due to exploration activities for locatable minerals.

Alternative C

Specific management: The existing 653-acre ACEC/RNA would be retained and 465 acres added to include a full range of representative communities in the area. Rights-of-way would be granted within the ACEC/RNA only if there is minimal conflict with identified resource values and impacts can be mitigated. The ACEC/RNA would be under VRM Class III. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would remain open to leasable minerals activities. The entire ACEC/RNA would be withdrawn from locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or

enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially protected values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would provide an appropriate degree of management of and protection for the relevant and important values. The increased acreage provides a more complete representation of the valued resources in this area.

Alternative D

***Specific management*:** The existing 653-acre ACEC/RNA would be retained, and an additional 2,401 acres would be added to include the maximum range and representation of plant communities. Proposed management would be the same as Alternative C above, except that the area would be under VRM Class II, and leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C except that under VRM Class II and leasable mineral management provides additional protection for the area.

Alternative D2

***Specific management*:** The existing 653-acre ACEC/RNA would be retained, and an additional 2,401 acres would be added to include the maximum range and representation of plant communities. Proposed management would be the same as Alternative D above, except that there would be no leasable minerals activities.

Rationale: Same as Alternative D except that no leasable minerals activities would provide additional protection for the area.

Alternative E

***Specific management*:** No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: The existing 653-acre ACEC/RNA would be retained and 1,114 acres added to include a full range of representative communities in the area. Rights-of-way would be granted within the ACEC/RNA only if there is minimal conflict with identified resource values and impacts can be mitigated. The ACEC/RNA would be under VRM Class III. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would remain open to leasable minerals activities. The entire ACEC/RNA would be withdrawn from locatable minerals activities and closed to saleable minerals development. Livestock use would

continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially protected values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would provide an appropriate degree of management of and protection for the relevant and important values. The increased acreage provides a more complete representation of the valued resources in this area.

Potential

Black Canyon ACEC/RNA (Potential)

Description and values: The Black Canyon ACEC/RNA, located north of the Malheur River above Jonesboro, Oregon, occupies the drainage of Black Canyon, a steep south-facing canyon that drains the uplands directly above the mainstem of the Malheur River. The drainage consists of an intermittent to perennial stream flowing just enough to develop riparian vegetation in the steep canyon. The uplands surrounding the drainage are sparsely vegetated due to the shallow soils and dry south-facing aspect.

The relevant and important values for which the ACEC/RNA is being proposed are the following vegetation cells identified by the ONHP: stiff sagebrush/Sandberg bluegrass, western juniper/big sagebrush/bluebunch wheatgrass, riparian community dominated by coyote willow with Pacific willow, and first to third order stream system in sagebrush zone.

A main east-west road traverses the north end of the ACEC/RNA, and a trail goes to Willow Spring. The maximum extent of the ACEC/RNA includes portions of two livestock grazing allotments.

Based on evaluations of the stream's corridor, a segment of the stream which flows through the area was determined to be eligible but not suitable for possible inclusion in NWSRS (see Chapters 2 and 3 NWSR's).

The proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate potential for the occurrence of both uranium and geothermal resources, and a low potential for the occurrence of all other leasable and locatable minerals. There is no BLM record that mining claims were ever located within the boundaries of the proposed ACEC/RNA, and no demonstrated interest in either precious metals/mercury or uranium; consequently, the potential for development is low. Although the proposed ACEC/RNA is within an area of high heat flow, an absence of nearby hot springs and an apparent lack of shallow (<3,000 feet deep) thermal waters indicate a low potential for development of geothermal resources.

Alternative A

***Specific management*:** Under this alternative, 2,644 acres would be designated as an ACEC/RNA, and managed the same as in Alternative C except that the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other

solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical area where the relevant and important values have been identified.

Alternative B

***Specific management*:** Under this alternative, no ACEC/RNA would be designated. All existing management activities would continue as in the past, including open OHV use, plant collection and rights-of-way activities, VRM Class II and IV guidance, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

Specific management: Under this alternative, 2,644 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. The ACEC/RNA would be VRM Class II and III as identified during the VRM inventory for visual resources in the planning area. Plant collecting would require a permit. The area would be open to leasable and locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for saleable minerals, livestock, OHV, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

***Specific management*:** Under this alternative, 2,795 acres would be designated as an ACEC/RNA. The area would be managed as described in Alternative C above, except the ACEC/RNA would be VRM Class II and withdrawn from locatable minerals activities. Leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: The protection and opportunities for the enhancement of the area's relevant and important values would be fully realized with the added acreage and additional management guidance for VRM and locatable and leasable minerals activities.

Alternative D2

***Specific management*:** Under this alternative, 2,795 acres would be designated as an ACEC/RNA. The area would be managed as described in Alternative D above, except there would be no leasable minerals activities, and no livestock use would be authorized.

Rationale: Same as Alternative D, except that no leasable minerals activities and no livestock use would maximize protection of the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, 2,644 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. The ACEC/RNA would be VRM Class II and III as identified during the VRM inventory for visual resources in the planning area. Plant collecting would require a permit. The area would be open to leasable and locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for saleable minerals, livestock, OHV, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Castle Rock ACEC (Potential)

Description and values: The potential Castle Rock ACEC, located north of Juntura and Beulah Reservoir, includes public land adjacent to and including Castle Rock. This massive volcanic spire dominates the landscape and surrounding viewshed in all directions. The surrounding topography drops 2,000–3,000 feet within a distance of 3 miles. Because of the diversity of habitats in close proximity, representatives of nearly two-thirds of the wildlife species in the planning area spend some time in this potential ACEC during the year. Stands of ponderosa pine, Douglas fir, and mountain mahogany are located adjacent to open sagebrush-grasslands. The wildlife diversity is exemplified by the existence of desert-type bird species such as sage thrashers nesting less than 1 mile from blue grouse, which are associated with forested habitats.

The relevant and important values identified for this potential ACEC are scenic, cultural, historic, and wildlife habitat. The scenic value surrounding Castle Rock is rated as a VRM Class II with "A" quality scenery and high sensitivity. Cultural values are associated with both prehistoric and historic use of the area as an important landmark for American Indians,

as well as emigrants traveling through the area. Wildlife values are associated with the abrupt elevational change which has resulted in a unique area with many habitat types in close proximity to each other.

Portions of the Castle Rock (3-18) and Beaver Dam Creek (3-27) WSA's are located within the maximum extent of the potential ACEC and cover 29 percent of the area. The Castle Rock WSA is located in the area immediately adjacent to the Castle Rock spire and to the west and south of Castle Rock. The Beaver Dam Creek WSA is located in the northeastern corner of the potential ACEC as proposed under Alternative D. The BLM has recommended that these WSA's not be congressionally designated as wilderness. Until Congress makes a determination on wilderness status, WSA's are managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded until Congress makes wilderness designation decisions.

A north-south county gravel road bisects the potential ACEC, providing the main cross-country route for travel from Juntura to Ironside. The slopes of Castle Rock are drained by Hunter Creek, Spring Creek, and Jerry Canyon. Lost Creek and the Little Malheur River flow to the north and west of the proposed ACEC. There are several 2-track and 4-wheel drive vehicle routes leading into various drainages, and several undeveloped camping locations. Numerous barbed wire/steel post livestock fences and a wildlife exclosure are within the ACEC. The proposed ACEC includes portions of four livestock grazing allotments with variable grazing practices authorized by permit.

The potential ACEC has a variable potential for hot springs and epithermal-related gold/silver/mercury deposits, ranging from low to high; most of the area has a moderate potential. It has a moderate potential for the occurrence of geothermal resources, a low to moderate potential for the occurrence of uranium and vein gold, and a low potential for the occurrence of all other locatable and leasable minerals.

No mining claims are currently located within the proposed ACEC or immediate vicinity, although there has been some past interest, mainly between 1985 and 1989; consequently, it has a moderate potential for the development of precious metals, particularly hot springs gold/silver. Although the proposed ACEC is within an area of high heat flow, a lack of nearby hot springs and an apparent absence of shallow (<3,000 feet deep) sources of thermal water indicate a low potential for the development of geothermal resources. Mineable quantities of uranium may occur in the area, but an apparent lack of interest in the commodity and an absence of a significant domestic uranium industry indicate a low potential for the development of uranium. Likewise, an absence of nearby sources of oil and gas and a lack of current production indicate a low potential for the development of petroleum products.

Alternative A

Specific management: Under this alternative, 3,280 acres surrounding Castle Rock would be designated as an ACEC. Management would be the same as in Alternative C. Forest management practices would be limited to those actions necessary to maintain or enhance the relevant and important values. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical area where the relevant and important values, particularly American Indian concerns, have been identified.

Alternative B

Specific management: No ACEC would be designated, and the area would be managed as outlined in IMPLWR for the WSA portion of the area including VRM Class II and closure to saleable minerals and leasing activities. Outside of the WSA, all management would continue as in the past, including open OHV use, plant collection activities, road maintenance, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

***Specific management*:** Under this alternative, 14,599 acres surrounding Castle Rock would be designated as an ACEC. The increased acreage would add critical wildlife habitat, high quality scenic viewshed, and provide for American Indian religious concerns. Rights-of-way would be granted only if there is minimal conflict with the identified relevant and important values and impacts could be mitigated. Existing rights-of-way would not be affected, and all areas would be VRM Class II. OHV use would be limited to designated roads and trails. Plant collecting would be authorized by permit only. Forest management practices such as prescribed burning, thinning, and western juniper control would be limited only to those actions necessary to maintain or enhance the relevant and important values. Road maintenance would be allowed. Mineral leases would be subject to the NSO stipulation. The 3,280 acres surrounding Castle Rock would be withdrawn from locatable minerals activities, and the remaining area would be open. Saleable minerals development would be closed on the same 3,280 acres and open within the remainder of the ACEC. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Projects which may be proposed in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the additional acreage and proposed management for minerals, VRM, OHV, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect a more complete representation of the relevant and important values.

Alternative D

***Specific management*:** Under this alternative, 22,799 acres would be designated as an ACEC. Specific prescriptions would be the same as in Alternative C. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the additional acreage would provide further protection for American Indian religious concerns and provide a wide representation of critical wildlife habitat values.

Alternative D2

***Specific management*:** Under this alternative, 22,799 acres would be designated as an ACEC. Prescriptions would be the same as in Alternative D, except there would be no leasable, locatable, or saleable minerals activities, and no livestock use would be authorized.

Rationale: Same as Alternative D, except that no minerals activities or livestock use would provide maximum protection for the relevant and important values.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, 22,799 acres surrounding Castle Rock would be designated as an ACEC. The increased acreage would add critical wildlife habitat and high quality scenic viewshed and would provide for American Indian religious concerns. Rights-of-way would be granted only if there is minimal conflict with the identified relevant and important values and impacts could be mitigated. Existing rights-of-way would not be affected, and all areas would be VRM Class II. OHV use would be limited to designated roads and trails. Plant collecting would be authorized by permit only. Forest management practices such as prescribed burning, thinning, and western juniper control would be limited only to those actions necessary to maintain or enhance the relevant and important values. Road maintenance would be allowed. Mineral leases would be subject to the NSO stipulation. The 3,280 acres surrounding Castle Rock would be withdrawn from locatable minerals activities, and the remaining area would be open. Saleable minerals development would be closed on the same 3,280 acres and open within the remainder of the ACEC. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Projects which may be proposed in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the additional acreage and proposed management for minerals, VRM, OHV, forest management, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect a more complete representation of the relevant and important values.

Coal Mine Basin ACEC/RNA (Potential)

Description and values: The potential Coal Mine Basin ACEC/RNA lies on the Oregon/Idaho border between Marsing, Idaho, and Jordan Valley, Oregon. The extensive and colorful ash beds in Coal Mine Basin contain diverse plant communities; two special status plant species (smooth mentzelia and Cusick's chaenactis), which were former Category 2 candidate species being considered for listing under the ESA; highly scenic vistas; and fossils of both vertebrate animals and plants. The area has been recognized by BLM offices in both Oregon and Idaho as representing excellent examples of typical Succor Creek ash habitat for the two special status plant species, as well as a full complement of the more

common, but also highly restricted, ash species. The towering ash cliffs, the colorful ash formations, and unique outcrops provide unusual scenic vistas for the area.

The relevant and important values for which the area is being proposed as an ACEC/RNA are two special status plant species, ash communities, and paleontological resources.

An area directly adjacent to Oregon's portion of the basin is being proposed as an ACEC/RNA in the Owyhee RMP in the BLM Boise District in Idaho. The potential ACEC/RNA includes a portion of one livestock grazing allotment. Fences and an unimproved road occur within the area.

The proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits and zeolite, a moderate potential for the occurrence of geothermal resources and oil and gas, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with BLM that mining claims have ever been located within the boundaries of the potential ACEC/RNA, and no demonstrated interest in precious metals/mercury, uranium, or zeolite development; consequently, the potential for development is low. Although the proposed ACEC/RNA is within an area of high heat flow, an absence of nearby hot springs and an apparent lack of shallow (<3,000 feet deep) thermal waters indicate a low potential for the development of geothermal resources. Likewise, an absence of nearby sources of oil and gas and a lack of current production in the planning unit indicate a low potential for development of petroleum products.

Alternative A

Specific management: Under this alternative, 755 acres would be designated as an ACEC/RNA. Management would be the same as in Alternative C, except that the area would be open for all minerals activities, under VRM Class III, open for all road maintenance activities, and open for plant collections. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

***Rationale*:** Some protection would be afforded the relevant and important values of the fragile ash communities within the area.

Alternative B

Specific management: There would be no ACEC/RNA designation, and management would continue as in the past, including open to OHV use, plant collecting and road maintenance activities. The area would be VRM Class III and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values of this area.

Alternative C

Specific management: Approximately 755 acres would be designated as an ACEC/RNA. Right-of-ways would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. The ACEC/RNA would be under VRM Class II guidance. Plant collecting would

require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable activities would be subject to the NSO stipulation, including the low grade seams of coal found in the area. The area would be withdrawn from locatable minerals activity and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

***Rationale*:** While existing management actions have partially served to protect values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values, including the unusual scenic vistas found in this area. The ash habitats are highly fragile, are quickly and permanently disturbed by minimal activities across their surfaces, and require maximum protection to preserve their values.

Alternative D

***Specific management*:** Under this alternative, 755 acres would be designated as an ACEC/RNA. Proposed management would be the same as for Alternative C, except the area would be excluded from rights-of-way. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing generally would be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as for Alternative C, except that the management for rights-of-way would provide additional protection for the area.

Alternative D2

***Specific management*:** Under this alternative, 755 acres would be designated as an ACEC/RNA. Proposed management would be the same as for Alternative D, except there would be no leasable minerals activities, and no livestock use would be authorized.

Rationale: Same as for Alternative D, except that the management for leasable minerals and no livestock use would provide additional protection for the area and maximize protection from impacts of livestock on special status plants and their habitat.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Approximately 755 acres would be designated as an ACEC/RNA. Right-of-ways would be granted only if there is minimal conflict with identified resource

values and impacts can be mitigated. OHV use would be limited to designated roads and trails. The ACEC/RNA would be under VRM Class II guidance. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable activities would be subject to the NSO stipulation, including the low grade seams of coal found in the area. The area would be withdrawn from locatable minerals activity and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

***Rationale*:** While existing management actions have partially served to protect values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values, including the unusual scenic vistas found in this area. The ash habitats are highly fragile, are quickly and permanently disturbed by minimal activities across their surfaces, and require maximum protection to preserve their values.

Dry Creek Gorge ACEC (Potential)

Description and values: Dry Creek Gorge is located south of Vale, Oregon, and west of Owyhee Reservoir. The deep canyon of Dry Creek contrasts sharply with the surrounding plateau of the Owyhee Uplands, which notably enhances the scenery of the area and offers a wide variety of landforms and contrasts between the highly colorful soils and dark basaltic forms along its length. The series of deep, elongated pools, formed in glass-rich rhyolites, is a unique geologic phenomenon resulting from the preferential erosion of a glass-rich vitrophyre zone in the rhyolite domes found along the stream course. Two special status species, inland redband trout and the Columbia spotted frog, inhabit the area.

The relevant and important values identified in this potential ACEC are scenery, special status fish and amphibian species and associated habitat, and rare geologic features.

Based on an evaluation of river-related resource values, those segments of the river within the proposed ACEC, with adjacent BLM-administered land, have been determined eligible for possible inclusion in the NWSRS. Most of the eligible study stream has been determined suitable for potential inclusion in the NWSRS (see Chapters 2 and 3, Wild and Scenic Rivers).

Portions of the Dry Creek (3-55) and Dry Creek Buttes (3-56) WSA's are located within the proposed ACEC and cover 64 percent of the ACEC at its maximum proposed acreage. BLM has recommended that these WSA's not be designated as wilderness. Until Congress makes a determination on wilderness status, WSA's are managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded until Congress makes a decision on wilderness designation.

Numerous north-south 2-track and 4-wheel drive vehicle routes cross this potential ACEC, and there are numerous barbed wire/steel post fences and developed springs for livestock. There are five livestock grazing allotments within the potential ACEC.

The proposed ACEC has a moderate potential for the discovery of hot springs and epithermal-related gold/silver/mercury deposits, uranium, oil and gas, and geothermal resources, but a low potential for the discovery of all other locatable and leasable minerals.

While there are no current mining claims within the proposed ACEC, much of the surrounding area, particularly toward the east end, has had a substantial amount of interest, and a number of mining claims were staked, largely between 1986 and 1993; consequently, the potential for development is considered to be moderate. Mineable quantities of uranium may occur in the area; however, a lack of apparent interest and an absence of a significant domestic industry indicates a low potential for development. Although the potential ACEC is within an area of high heat flow with evidence of past geothermal activity (such as hydrothermal alteration of the surrounding rocks), a lack of nearby hot springs indicates a low potential for development of geothermal resources. Likewise, a lack of nearby oil and gas occurrences and an absence of production within the planning area indicate a low potential for the development of oil and gas.

Alternative A

***Specific management*:** No ACEC would be designated, and the area would be managed the same as Alternative B, except that 16,082 acres would be VRM Class II.

***Rationale*:** Some protection would be afforded through VRM Class II to the most critical areas where the relevant and important values have been identified. However, the area would remain open to existing uses.

Alternative B

Specific management: No ACEC would be designated. Outside the WSA, management would continue as in the past, including open OHV use, VRM Class II, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. Areas outside WSA's would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 16,082 acres would be designated as an ACEC. Rights-of-way would be granted only if there is minimal conflict with the identified relevant and important values and impacts could be mitigated; OHV use would be limited to designated roads and trails; and the area would be VRM Class II. No permit would be required for plant collecting. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Fluid leasable minerals activities would be subject to NSO stipulations. The area would be withdrawn from locatable minerals activities and closed to minerals materials activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

***Rationale*:** While existing management actions have provided protection of some values of the area, the management for minerals, proposed rights-of-way, livestock, and other surface-disturbing activities would adequately protect relevant and important values.

Alternative D

***Specific management*:** The 16,402-acre ACEC would be managed the same as under Alternative C, except the ACEC would be VRM Class I, and would be excluded from rights-of-way and leasable minerals activities. Plant collection would be by permit only. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the additional acreage, VRM Class I, closure to rights-of-way and leasable minerals, and limited plant collections would provide additional protection for the relevant and important values of the area.

Alternative D2

***Specific management*:** The 16,402-acre ACEC would be managed the same as under Alternative C.

Rationale: Same as Alternative C.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, 16,082 acres would be designated as an ACEC. Rights-of-way would be granted only if there is minimal conflict with the identified relevant and important values and impacts could be mitigated; OHV use would be limited to designated roads and trails; and the area would be VRM Class II. No permit would be required for plant collecting. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Fluid leasable minerals activities would be subject to NSO stipulations. The area would be withdrawn from locatable minerals activities and closed to minerals materials activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

***Rationale*:** While existing management actions have provided protection of some values of the area, the management for minerals, proposed rights-of-way, livestock, and other surface-disturbing activities would adequately protect relevant and important values.

Hammond Hill Sand Hills ACEC/RNA (Potential)

Description and values: The potential Hammond Hill Sand Hills ACEC/RNA is located in a remote part of the Owyhee Plateau country, west of Owyhee Reservoir and south of Dry

Creek. The potential ACEC/RNA occupies a series of low hills and dry washes dominated by sagebrush. It was selected to represent a series of plant communities that are found on sandy soils. The area is distinctly composed of very loose, sandy, silty soils derived from decomposed volcanic ash. Several dry washes bisect the area and run water during and immediately after rain, but not enough to be considered ephemeral streams.

The relevant and important values identified in this potential ACEC/RNA are the big sagebrush-antelope bitterbrush/Indian ricegrass and big sagebrush-greasewood/Indian ricegrass vegetation cells identified by ONHP.

A portion of one WSA is located within and comprises approximately 12 percent of the maximum extent of the potential ACEC/RNA. Dry Creek Buttes WSA (3-56) has been recommended by BLM not to be congressionally designated as wilderness. The WSA is currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded until Congress makes a decision on wilderness designation.

Several dirt roads through the area are maintained by the BLM as needed. The potential ACEC/RNA includes a portion of one livestock grazing allotment.

The proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, a moderate potential for the occurrence of uranium, oil and gas and geothermal resource, but a low potential for the occurrence of all other locatable and leasable minerals.

At present, there are 15 mining claims located in the proposed ACEC/RNA, mainly for gold associated with hot springs. Consequently, there is a high potential for the development of this commodity. As there is no significant domestic uranium industry, and no apparent interest in the commodity, the potential for development is low. Although the proposed ACEC/RNA is within an area of high heat flow, a lack of nearby hot springs and apparent absence of shallow (<3,000 feet deep) sources or thermal water indicate a low potential for development of geothermal resources. Likewise, a lack of nearby oil and gas occurrences and an absence of current production indicate a low potential for oil and gas development.

Alternative A

Specific management: Under this alternative, 2,678 acres would be designated as an ACEC/RNA, and managed the same as Alternative C, except that the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

***Specific management*:** No ACEC/RNA would be designated, and the area would be managed as outlined in IMPLWR for the WSA portion, including management under VRM Class II and closure to saleable minerals and leasable minerals activities. Public land not congressionally designated as wilderness would be open to minerals activities and new rights-of-way. Outside the WSA, all management would continue as in the past, including

open OHV use, VRM Class IV, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and the approved allotment management plan. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

***Specific management*:** Under this alternative, 3,712 acres would be designated as an ACEC/RNA. Rights-of-way would be granted if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. VRM would be Class III. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be withdrawn from locatable minerals activities, closed to saleable minerals development, and remain open to leasable minerals activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to help protect values of the area, the proposed management for minerals, visual resources, OHV, livestock, rights-of-way, and other surface-disturbing activities would provide a more appropriate degree of management and protection for the relevant and important values. The increased acreage and other associated management provide additional protection for a full range of the valued resources in this area.

Alternative D

***Specific management*:** Under this alternative, 3,712 acres would be designated as an ACEC/RNA. Management would be as in Alternative C, except that the area would be excluded from rights-of-way and under VRM Class II. Leasable mineral activities would be subject to NSO stipulations. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as in Alternative C; the protection and opportunities for enhancement of the area's relevant and important values would be more fully realized with the more stringent VRM guidance and proposed management for rights-of-way and leasable minerals.

Alternative D2

***Specific management*:** Under this alternative, 3,712 acres would be designated as an ACEC/RNA. Management would be as in Alternative D, except that there would be no leasable mineral activities.

Rationale: Same as in Alternative D, except that no leasable mineral activities would provide additional protection for the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, 3,712 acres would be designated as an ACEC/RNA. Rights-of-way would be granted if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. VRM would be Class III. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be withdrawn from locatable minerals activities, closed to saleable minerals development, and remain open to leasable minerals activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to help protect values of the area, the proposed management for minerals, visual resources, OHV, livestock, rights-of-way, and other surface-disturbing activities would provide a more appropriate degree of management and protection for the relevant and important values. The increased acreage and other associated management provide additional protection for a full range of the valued resources in this area.

Lake Ridge ACEC/RNA (Potential)

Description and values: The potential Lake Ridge ACEC/RNA is located southeast of Juntura, Oregon, along Tim's Peak road on a broad plateau dissected by steep canyons, with Tim's Peak rising to the north. A naturally occurring waterhole provides a perennial source of water. The proposed ACEC/RNA is dominated by low sagebrush plant communities with both low sagebrush/bluebunch wheatgrass and low sagebrush/Idaho fescue present.

The relevant and important values identified in this potential ACEC/RNA are the low sagebrush/bluebunch wheatgrass community and low sagebrush/Idaho fescue community vegetation cells identified by ONHP. Sage grouse, which frequent the area, and several leks have also been identified as a relevant and important value.

Portions of two WSA's are located within and comprise approximately 74 percent of the maximum extent of the proposed ACEC/RNA. Gold Creek (3-33) and Camp Creek (3-31) WSA's are recommended by BLM as suitable for wilderness designation. The WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded until Congress makes a decision on wilderness designation.

The potential ACEC/RNA includes a portion of one livestock grazing allotment. An east-west gravel road traverses the area proposed as an ACEC/RNA in Alternative D.

The proposed ACEC/RNA has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate potential for the occurrence of geothermal resources, a low to moderate potential for the occurrence of uranium, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with the BLM that mining claims have ever been located within the boundaries of the proposed ACEC/RNA, and no demonstrated interest in precious metals/mercury or uranium deposits; consequently, the potential for development is low. While the proposed ACEC/RNA is located within an area of high heat flow, an absence of nearby hot springs and an apparent lack of shallow (<3,000 feet deep) indicate a low potential for the development of geothermal resources.

Alternative A

***Specific management*:** Approximately 3,825 acres would be designated as an ACEC/RNA, and managed the same as under Alternative C, except that the area would be open to all minerals activities and would be under VRM Class III. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to these values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical areas where the valued resources have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

***Specific management*:** No ACEC/RNA would be designated, and management would continue as in the past. Management prescriptions as outlined in IMPLWR for the WSA portion of the area would apply, including VRM Class II and closure to saleable minerals and leasable minerals activities. Public land not congressionally designated as wilderness would be open to minerals development and new rights-of-way. Areas outside WSA's or not congressionally designated as wilderness would be managed for open OHV use, under VRM Class IV, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. Areas outside of the WSA would continue to be open for fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

Specific management: Under this alternative, 3,825 acres would be designated as an ACEC/RNA. Right-of-ways would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. The entire area would be under VRM Class II. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be open with special stipulations subject to seasonal/timing restrictions, restricted or no uses in avoidance areas for sage grouse. The area would be open for locatable minerals activities and closed for saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant

and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values on the critical portions of the area. More stringent management for visual resources and limiting leasable minerals and saleable minerals activities would provide additional protection of the valued resources in this area.

Alternative D

***Specific management*:** Under this alternative, 5,502 acres would be designated as an ACEC/RNA, and managed the same as Alternative C, except that leasable minerals activities would be subject to NSO stipulations. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as in Alternative C, except that leasable mineral management would provide additional protection for the area. Management would be extended in the larger area to include a full range of the valued resources within the area.

Alternative D2

***Specific management*:** Under this alternative, 5,502 acres would be designated as an ACEC/RNA, and managed the same as Alternative D, except that there would be no leasable or locatable minerals activities, and no livestock use would be authorized in the ACEC/RNA.

Rationale: Same as in Alternative D, except that no leasable or locatable minerals activities and no livestock use would provide further protection for the area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, 3,825 acres would be designated as an ACEC/RNA. Right-of-ways would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. The entire area would be under VRM Class II. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be open with special stipulations subject to seasonal/timing restrictions, restricted or no uses in avoidance areas for sage grouse. The area would be open for locatable minerals activities and closed for saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in

grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values on the critical portions of the area. More stringent management for visual resources and limiting leasable minerals and saleable minerals activities would provide additional protection of the valued resources in this area.

North Fork Malheur River ACEC (Potential)

Description and values: The North Fork Malheur River potential ACEC is located northwest of Juntura, Oregon. The canyon bottom is narrow, and numerous basalt rock outcrops, pinnacles, spires, cliff/rim walls and talus slides add variety and interest to the narrow, steep canyon slopes. Ponderosa pine stands are distributed throughout the area. A variety of diverse, rich color combinations present in the soil, rock, vegetation and water provide a harmony of visual contrast. A view of the river from the rim of the canyon provides an outstanding scenic picture of the surrounding natural diverse terrain and variety of vegetation. Redband trout, a special status species, are present throughout the river. Bull trout, also a special status species, are present at least seasonally throughout the area. Their numbers have declined regionally and within the North Fork Malheur River watershed as a result of habitat degradation. Bull trout have been listed as threatened by USFWS under ESA. The Federal candidate species, Columbia spotted frog, has also been found along this river. The potential ACEC contains a regionally important diversity of resident or indigenous wildlife species. Of particular significance are 14 species of wildlife within the river corridor that have special management status. The potential ACEC is also a transition zone between forest and range wildlife habitats of eastern Oregon. These “edge” areas, where different and distinct upland plant communities merge, support and enhance the diversity of habitat niches in a small area in contrast to isolated range or forest types alone. The river’s permanent source of water further enriches wildlife habitat quality by supporting a wide variety of vegetation communities associated with the riparian zone. This river segment’s landform consists of steep canyon walls with vertical relief of more than 500 feet.

The relevant and important values identified in this potential ACEC are scenery, two special status fish and their habitat, and a special status amphibian and habitat.

The potential ACEC is within the Upper North Fork Malheur River Scenic Quality Evaluation Unit of the Vale District under BLM’s VRM program. Based on evaluations of the river corridor, those segments of the river within the potential ACEC have been determined eligible and suitable for possible inclusion in NWSR System (see Chapters 2 and 3, Wild and Scenic Rivers).

The steep-walled canyon limits access to the river in most places. Roads are primitive 2-track, usually 4-wheel drive, located at the north end of the maximum extent of the potential ACEC. Portions of three livestock grazing allotments are located within the potential ACEC.

The proposed ACEC has a moderate to high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate potential for the occurrence of uranium and geothermal resources, and a low potential for the occurrence of all other locatable and leasable minerals. There is no record with BLM that mining claims have ever been located within the borders of the proposed ACEC, and no apparent interest in mineral

development in the immediate area; consequently, the proposed ACEC has a low potential for mineral development.

Alternative A

Specific management: Under this alternative, 950 acres would be designated as an ACEC. The boundaries would be canyon rim to canyon rim as seen from the bottom of the canyon. Proposed management would be the same as in Alternative C, except the area would be closed to OHV use, under VRM Class II, open to locatable and leasable mineral activities, and open to plant collecting. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as a reduction in livestock numbers and changes in grazing season, would also be considered. Livestock projects which may be proposed in the area would be evaluated for impacts.

***Rationale*:** Some protection would be afforded the most critical area where the relevant and important values have been identified.

Alternative B

***Specific management*:** No ACEC would be designated and management would continue as in the past, including granting rights-of-way, open OHV use, plant collecting, and under VRM Class II. The area would be open to all mineral activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

Specific management: Under this alternative, 1,810 acres would be designated as an ACEC. The increased acreage includes an existing roadway within the boundaries of the ACEC. Rights-of-way would not be granted, OHV use would be limited to designated roads and trails, and the ACEC would be under VRM Class I. Plant collecting would require a permit. Forest management practices would be limited only to those actions necessary to maintain or enhance the relevant and important values. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to a controlled surface use stipulation whereby the authorized officer may restrict or prohibit surface occupancy or use unless the operator and authorized officer arrive at an acceptable plan for the mitigation of anticipated impacts to the visual resources. The ACEC would be withdrawn from locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

***Rationale*:** While existing management actions have partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Under this alternative, 1,810 acres would be designated as an ACEC, and the ACEC would be managed the same as Alternative C, except leasable minerals activities would be subject to NSO stipulations. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as in Alternative C, except with addition management for rights-of-way and livestock, further protection would be added for the maximum extent of the valued resources in the area.

Alternative D2

Specific management: Under this alternative, 1,810 acres would be designated as an ACEC, and the ACEC would be managed the same as Alternative D, except that there would be no leasable minerals activities, and no livestock use would be authorized in the ACEC.

Rationale: Same as in Alternative D, except that no leasable minerals activities and no livestock use would provide maximum protection for the area.

Alternative E

***Specific management*:** No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities would be prohibited or severely restricted under this alternative.

Proposed RMP

Specific management: Under this alternative, 1,810 acres would be designated as an ACEC. The increased acreage includes an existing roadway within the boundaries of the ACEC. Rights-of-way would not be granted, OHV use would be limited to designated roads and trails, and the ACEC would be under VRM Class I. Plant collecting would require a permit. Forest management practices would be limited only to those actions necessary to maintain or enhance the relevant and important values. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to NSO stipulations. The ACEC would be withdrawn from locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

***Rationale*:** While existing management actions have partially served to protect values of the area, the proposed management for minerals, plant collecting, forest management, livestock, rights-of-way and other surface-disturbing activities would more adequately protect the relevant and important values.

North Ridge Bully Creek ACEC/RNA (Potential)

Description and values: The potential North Ridge Bully Creek ACEC/RNA is located west of Westfall, Oregon, along the ridge that separates Clover Creek drainage to the north and Bully Creek drainage to the south. The potential ACEC/RNA encompasses a number of grassland communities that occur both as distinct communities as well as intermixed within a larger mosaic of types.

The relevant and important values for which the potential ACEC/RNA is being proposed are the big sagebrush/Thurber needlegrass community and big sagebrush-threetip sagebrush/ Idaho fescue community vegetation cells identified by ONHP. Sage grouse and their associated habitat have also been identified as a relevant and important value.

Several dirt roads and barbed wire/steel post fences crisscross the potential ACEC/RNA, which also includes a portion of one livestock grazing allotment.

The proposed ACEC/RNA has a moderate potential for the occurrence of geothermal resources, a low to moderate potential for the occurrence of oil and gas, and a low potential for the occurrence of locatable and all other leasable minerals. There is no record with BLM that mining claims have ever been located within the borders of the proposed ACEC/RNA, and no apparent interest in mineral development in the immediate area; consequently, the proposed ACEC/RNA has a low potential for mineral development.

Alternative A

***Specific management*:** Under this alternative, 1,213 acres would be designated as an ACEC/ RNA, and managed the same as in Alternative C, except that the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: Under this alternative, no ACEC/RNA would be designated, and management would continue as in the past, including open OHV use, VRM Class IV guidance, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

***Specific management*:** Under this alternative, 1,569 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. The ACEC/RNA would be VRM Class III. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be would be open with special stipulations subject to seasonal/timing restrictions, restricted or no uses in avoidance areas for sage grouse. Locatable minerals activities would be open, but the area would be closed for saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values. The increased acreage and other associated management provide protection of a more complete representation of the valued resources in this area.

Alternative D

***Specific management*:** Under this alternative, 2,257 acres would be designated as an ACEC/RNA. All management activities would be as described in Alternative C, except the area would be VRM Class II, and leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, with added protection through VRM Class II objectives, and NSO for leasable minerals. With the additional acreage, additional protection would be extended to a full range of the valued resources within the area.

Alternative D2

***Specific management*:** Under this alternative, 2,257 acres would be designated as an ACEC/RNA. Management activities would be as described in Alternative D, except there would be no leasable or locatable minerals activities, and no livestock use would be authorized in the ACEC/RNA.

Rationale: Same as Alternative D, except that no leasable or locatable minerals activities and no livestock use would provide maximum protection for the area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, 1,569 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. The ACEC/RNA would be VRM Class III. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be would be open with special stipulations subject to seasonal/timing restrictions, restricted or no uses in avoidance areas for sage grouse. Locatable minerals activities would be open, but the area would be closed for saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values. The increased acreage and other associated management provide protection of a more complete representation of the valued resources in this area.

Oregon Trail ACEC-Keeney Pass Segment (Potential)

Description and Values: The Keeney Pass segment of the potential Oregon Trail ACEC is located approximately 6 miles south of Vale on Lytle Boulevard. The Oregon Trail was the principal travel corridor for America's westward migration and expansion during the 19th century and became the most famous of western trails used by explorers, fur traders, missionaries, emigrants, and gold seekers. The trail was the primary route from Fort Boise to Vale. The scenic values of this ACEC are associated with the historical landscape integrity of the area. The rolling hills, covered with sagebrush, grasses and dust have changed little since the emigrants passed through this country and contribute to the overall scenic and recreational value.

The relevant and important values identified in this ACEC are historic; scenic; and a special status plant species, Cronquist's stickseed.

Lytle Boulevard, a 2-lane asphalt county road, parallels and in some places overlies the Oregon Trail into Vale. It is the main road for traffic traveling south to Nyssa and Adrian in Oregon, Homedale in Idaho, and to U.S. Highway 95. At BLM's Keeney Pass Interpretive Site, interpretive panels and a foot trail accommodate visitors along the Oregon Trail. The segment at Keeney Pass covers a total of 1 mile of intermittent ruts, 100 feet to 0.5-mile

long. These ruts are all that remain of the original route crossing 8 miles on BLM land in Malheur County.

Currently, the 1989 "Oregon National Historic Trail Management Plan" prescribed a sequence of long- and short-term management actions for the protection, preservation, interpretation and public recreation use of the Oregon National Historic Trail. On November 10, 1978, Congress designated the Oregon Trail as a National Historic Trail by an amendment (Public Law 95-625) to the "National Trails System Act" (Public Law 90-543). The Act, which directs the Secretary of Interior to administer the Oregon National Historic Trail, identifies and protects the Oregon Trail, along with its historic remnants and artifacts, for public use and enjoyment. The National Park Service (NPS) has the responsibility to administer the Oregon National Historic Trail, providing oversight and assistance to other Federal agencies. Direct management of the Oregon Trail rests within the individual Federal agency having jurisdiction over the land including sites and segments. These Federal agencies are responsible for providing NPS with an opportunity to review management actions for the Oregon Trail. The Oregon Trail is an identified SRMA. Management decisions provide for Oregon Trail protection within a 0.5-mile wide corridor and informational signing. The 1981 NPS Oregon Trail management plan provides general guidance for the future protection, development, interpretation and management by lead agencies having direct management responsibility for the Oregon Trail. The NPS plan recommends specific protection and interpretation for Keeney Pass in the Vale District.

The Oregon Trail in the vicinity of Keeney Pass, which includes a 4-mile route of the Oregon Trail with intermittent wagon ruts, is a historic district enrolled in 1979 on the National Register of Historic Places as the Oregon Trail Historic District (Lytle Pass Area). A 0.5-mile wide corridor has been established to avoid and minimize surface disturbances along the Oregon Trail.

A portion of one grazing allotment lies within this segment of the potential ACEC. One livestock watering reservoir is located outside the corridor and is presently dry. Numerous projects are scattered throughout this segment of the Oregon Trail, including cattleguards, barbed wire/steel posts fences, livestock watering troughs, pipelines, waterwells, fiber optic cable line, crested wheatgrass seedings, and 2-track and 4-wheel drive routes.

This segment of the proposed ACEC has a high potential for the occurrence of uranium, and geothermal resources, a predominately moderate potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate potential for the occurrence of oil and gas and a low potential for all other leasable and locatable minerals. No mining claims are currently located within this segment, but interest was especially high between 1988 and 1992 when most of the segment was covered with mining claims; consequently, the potential for development of hot springs and epithermal-related gold/silver/mercury deposits is moderate. As this segment of the proposed ACEC is located within and immediately adjacent to the Vale Known Geothermic Resource Area (KGRA), which has had recent interest in geothermal energy, the potential for development of this commodity is high. While mineable quantities of uranium may occur in the area, a lack of demonstrated interest in the commodity and an absence of a significant domestic uranium industry indicate a low potential for development. Although traces of hydrocarbons have been reported in the vicinity of the proposed ACEC, an absence of demonstrated interest in the commodity and a lack of production in the planning area indicate a low potential for the development of petroleum products. An existing minerals pit is located outside the viewshed at Keeney Pass.

Alternative A

Specific management: This segment of the ACEC would be 1,032 acres, the width of the existing NPS corridor (1,320 feet each side of Oregon Trail or a total width of 2,640 feet) through Keeney Pass. Management would be the same as Alternative C, except that plant

collecting would not require a permit, and visual resources would be under VRM Class II. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Protection would be afforded the most critical area where the values have been identified, while permitting other uses to occur in the surrounding area.

Alternative B

***Specific management*:** No ACEC would be designated. Existing designated multipurpose utility corridors would continue to be available for use. The ONHTMP covers the management within the 1,032 acres. The plan dictates that the protective corridor would be VRM Class II, and where existing intrusions make Class II management impractical, managed as Class III; the location of range improvements would be planned so that the historic landscape of the Oregon Trail is not diminished; and off-road motorized vehicle use would be limited to designated roads and trails within the protective corridor. The plan also states nonmotorized trekking on trail remnants would be generally permitted under stipulated conditions; new rangeland facilities would be designed and placed to be visually unobtrusive within the protective corridor; minerals leases within the protective corridor would be issued with NSO stipulations. Under the plan, the area would be closed to saleable minerals developments; heavy equipment use for wildfire suppression activities would be avoided on and within 200 feet of trail remnants; rangeland drills would not be used within 200 feet of trail remnants; and revegetation using native plant species by aerial broadcast would be the preferred post-fire rehabilitation method within the protective corridor; livestock use would continue based on existing grazing permit stipulations and approved AMP's. Management outside the 1,032 acres would include open to OHV use, open to minerals activities, and under VRM Class III.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 3,179 acres would be included within the ACEC boundaries and managed the same as under Alternative B, except plant collecting would require a permit, the area outside the corridor and viewshed would be open to saleable minerals development, and the corridor would be withdrawn from locatable minerals activities. Rights-of-way would be granted within the ACEC only if there is minimal conflict with identified values and impacts can be mitigated. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. Road maintenance on roads other than the Lytle Boulevard asphalt road would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety.

Rationale: While existing management has partially served to protect values of the area, the additional acreage and the proposed management for minerals, plant collecting, and livestock would more adequately protect the relevant and important values.

Alternative D

***Specific management*:** Same as for Alternative C, except that the entire area would be withdrawn from locatable mineral exploration development.

Rationale: Same as for Alternative C, with the added protection from locatable mineral activity.

Alternative D2

***Specific management*:** Same as for Alternative D, except that there would be no leasable minerals activities and OHV use would be limited to designated roads and trails.

Rationale: Same as for Alternative D, except that no leasable minerals activities and OHV limitations would provide additional protection for the relevant and important values.

Alternative E

Specific management: Under this alternative, no ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, 3,154 acres would be designated as an ACEC. Existing designated multipurpose utility corridors would continue to be available for use. The ONHTMP covers the management within the 1,032-acre corridor. The plan dictates that the protective corridor would be VRM Class II, and where existing intrusions make Class II management impractical, managed as Class III; the location of range improvements would be planned so that the historic landscape of the Oregon Trail is not diminished; and off-road motorized vehicle use would be limited to designated roads and trails within the protective corridor. The plan also states nonmotorized trekking on trail remnants would be generally permitted under stipulated conditions; new rangeland facilities would be designed and placed to be visually unobtrusive within the protective corridor; minerals leases within the protective corridor would be issued with NSO stipulations. Under the plan, the corridor would be closed to saleable minerals developments; heavy equipment use for wildfire suppression activities would be avoided on and within 200 feet of trail remnants; rangeland drills would not be used within 200 feet of trail remnants; and revegetation using native plant species by aerial broadcast would be the preferred post-fire rehabilitation method within the protective corridor; livestock use would continue based on existing grazing permit stipulations and approved AMP's. Management outside the 1,032 acres would include OHV use limited to designated roads and trails, open to minerals activities outside the viewshed, and under VRM Class III.

Rationale: While existing management has partially served to protect values of the area, the additional acreage and the proposed management for minerals, rights-of-way, plant collecting, OHV, and livestock would more adequately protect the relevant and important values.

Oregon Trail ACEC–Tub Mountain Segment (Potential)

Description and values: The Tub Mountain segment of the potential Oregon Trail ACEC is located about 6 miles northeast of Vale, Oregon, off Highway 20 and 5th Avenue East, and follows the county road from Alkali Spring to Lone Willow Spring. The Oregon Trail was the principal travel corridor for America's westward migration and expansion during the 19th century and became the most famous of western trails used by explorers, fur traders, missionaries, emigrants and gold seekers. Charcoal samples obtained from a hearth excavated in 1993 yielded radiocarbon dates of AD 1680–1760 and 1800–1940. The segment from Alkali Spring to Lone Willow Spring consists of low rolling hills and highly eroded drainages covered with sagebrush and bunchgrasses. This route was the primary route of travel

from Vale to Farewell Bend. Management decisions provide for Oregon Trail protection within a 0.25-mile wide corridor and informational signing for the Tub Mountain segment of the Oregon Trail. The BLM maintains one interpretive site at Alkali Spring which was the "nooning" spot for wagon trains leaving Vale.

The relevant and important values are historic, cultural, and scenic. The scenic values of this potential ACEC are associated with the integrity of the historical landscape. The rolling hills, covered with sagebrush, grasses, and dust, remain relatively unchanged since the emigrants passed through this country and contribute to the overall scenic value.

The potential ACEC segment is bisected by a county road maintained and bladed by Malheur County, and there are several 2-track and 4-wheel drive routes, numerous barbed wire/steel post fences, livestock watering troughs, water wells, corrals, and reservoirs.

This segment of the potential ACEC includes portions of one grazing allotment.

This segment of the proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, and uranium, a moderate to high potential for the occurrence of geothermal resources, a low to moderate potential for the occurrence of oil and gas, and a low potential for the occurrence of all other locatable and leasable minerals. No mining claims are currently located within the boundaries of this segment. Interest was high between 1986 and 1993 and several mining claims were located, mainly in the eastern portion of the segment, indicating a high potential for the development of hot springs and epithermal-related gold/silver/mercury deposits. Mineable quantities of uranium may occur within the potential ACEC and surrounding area, but a lack of demonstrated interest and an absence of a significant domestic uranium industry indicate a low potential for development. Likewise, an absence of nearby sources of oil and gas and a lack of production indicate a low potential for the development of petroleum products.

Alternative A

Specific management: Under this alternative, 1,296 acres would be designated as an ACEC, covering 660 feet on each side of the Oregon Trail. Management would be the same as Alternative C, except that the area would be open for plant collecting. Surface-disturbing activities would be limited to areas outside the viewshed as seen from the Oregon Trail. The ACEC would be withdrawn from locatable minerals activities and remain open for leasable minerals activities. The area would be closed to saleable minerals developments. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Protection would be afforded the most critical area where the values have been identified, while permitting all uses to occur in the surrounding area.

Alternative B

***Specific management*:** No ACEC would be designated. Management would continue as in the past, including management as outlined in the 1995 "South Alkali Management Plan." OHV use would remain limited to designated roads and trails as specified under emergency limitations recorded in the *Federal Register* in 1992, and as outlined in the management plan. The area would be under VRM Class III and IV, and open to all minerals activities and plant collecting. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

***Rationale*:** Existing management to date has maintained some of the values of the area.

Alternative C

***Specific management*:** Under this alternative, 5,902 acres would be designated for this segment of the ACEC. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated; OHV use would be limited to designated roads and trails; and the ACEC would be VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety. Locatable minerals would be withdrawn within the viewshed or 0.5-mile either side of the Oregon Trail. Minerals materials development would be allowed only outside of the viewshed, and leasable minerals activities would be subject to the NSO stipulation. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Livestock use may be adjusted where adverse impacts are identified. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to help protect values of the area, the additional acreage and proposed management for minerals, plant collecting, and livestock would more adequately protect the relevant and important values.

Alternative D

Specific management: Same as Alternative C, except that the entire area would be withdrawn from locatable mineral exploration and development.

Rationale: Same as Alternative C, with the added protection from locatable mineral activity.

Alternative D2

Specific management: Same as Alternative D, except that there would be no leasable minerals activities.

Rationale: Same as Alternative D, except that no leasable minerals activities would provide additional protection for the relevant and important values.

Alternative E

***Specific management*:** No ACEC would be designated.

***Rationale*:** No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, 5,902 acres would be designated for this segment of the ACEC. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated; OHV use would be limited to designated roads and trails; and the ACEC would be VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety. Locatable minerals would be withdrawn within the viewshed or 0.5-mile either side of the Oregon Trail. Minerals materials development would be allowed only outside of the viewshed, and leasable minerals activities would be subject to the NSO stipulation. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and

would be permitted if values would be maintained or enhanced. Livestock use may be adjusted where adverse impacts are identified. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to help protect values of the area, the additional acreage and proposed management for minerals, OHV, plant collecting, and livestock would more adequately protect the relevant and important values.

Oregon Trail ACEC–Birch Creek Segment (Potential)

Description and values: The Birch Creek segment of the potential Oregon Trail ACEC is located about 2 miles south of Farewell Bend, Oregon, west of U.S. Highway 84. The Oregon Trail was the principal travel corridor for America's westward migration and expansion during the 19th century and became the most famous of western trails used by explorers, fur traders, missionaries, emigrants and gold seekers. The segment at Birch Creek was a camping area before coming to the Snake River at Farewell Bend. A wagon rut swale is still discernible where the trail crossed the hills on public land. The scenic value of this potential ACEC is associated with the historical landscape integrity of the area. The rolling hills and view to the north of Farewell Bend and the Snake River have not changed since the emigrants passed through this country and contribute to the overall scenic value. The BLM maintains an interpretive site with a fenced exclosure around the ruts, interpretive panels, a foot trail adjacent to the ruts, and parking turnout.

The relevant and important values are historic and scenic.

The potential ACEC is bisected by a county-maintained gravel road, has a reservoir, and rights-of-way for access to private land. Accessibility from Interstate 80 North at Farewell Bend increases the attractiveness of this recreation site for the public, and the existing gravel road allows visits by large groups in buses as well as 2-wheel drive vehicles. This segment of the potential ACEC includes a portion of one livestock grazing allotment.

This segment of the proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate to high potential for the occurrence of uranium, moderate potential for the occurrence of geothermal resources, and a low potential for all other locatable and leasable minerals. No mining claims are located within the boundaries of this segment, and very little interest has been expressed in the immediate vicinity. However, a substantial amount of interest has been expressed to the south, both in the mid-to late-1980's and currently; consequently, this segment has a high potential for the development of hot springs and epithermal-related gold/silver/mercury deposits. Mineable quantities of uranium may occur in the area, but an apparent lack of interest in the commodity and an absence of a significant domestic uranium industry indicate a low potential for the development of uranium. The area is within a zone of high heat flow and within 3 miles of a thermal spring; consequently, the potential for the development of low-temperature, direct heat use of geothermal resources is moderate.

Alternative A

Specific management: Under this alternative, 119 acres would be designated as an ACEC, and managed the same as Alternative C, except that the area would be open for leasable minerals activity. Surface-disturbing activities would be limited to areas outside the viewshed as seen from the Oregon Trail. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical area where the relevant and important values have been identified.

Alternative B

***Specific management*:** No ACEC would be designated, and management would continue as in the past including open OHV use, plant collecting, and rights-of-way activities, VRM Class IV guidance and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to fire suppression and rehabilitation activities.

Rationale: Existing management to date has maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 119 acres would be included within the ACEC boundaries. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use in the area would be limited to designated roads and trails, and the area would be VRM Class II. The area would remain open to current road maintenance activities, and would also be open to plant collecting. The ACEC would be withdrawn from locatable minerals activities and closed to saleable minerals development. Leasable minerals activity would be subject to the NSO stipulation. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, visual resources, OHV, livestock, rights-of-way and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

***Specific management*:** Same as Alternative C above.

Rationale: Same as Alternative C above.

Alternative D2

***Specific management*:** Same as Alternative D above, except that there would be no leasable minerals activities.

Rationale: Same as Alternative D above, except that no leasable minerals activities would provide additional protection for the relevant and important values.

Alternative E

***Specific management*:** No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, 119 acres would be included within the ACEC boundaries. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use in the area would be limited to designated roads and trails, and the area would be VRM Class II. The area would remain open to current road maintenance activities, and would also be open to plant collecting. The ACEC would be withdrawn from locatable minerals activities and closed to saleable minerals development. Leasable minerals activity would be subject to the NSO stipulation. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, visual resources, livestock, rights-of-way and other surface-disturbing activities would more adequately protect the relevant and important values.

Ott Mountain ACEC/RNA (Potential)

Description and values: The potential ACEC/RNA is northwest of Juntura, Oregon, at the border of the BLM Vale and Burns Districts near the Malheur National Forest. The area is generally forested with ponderosa pine and includes stands of mountain mahogany and western juniper, and fills the cell need as identified by ONHP for ponderosa pine-western juniper/sagebrush-antelope bitterbrush vegetation mosaic in the Owyhee Uplands. Little habitat retaining the old growth characteristics of ponderosa pine that are represented in the potential ACEC/RNA remains in this transition zone between the broad sagebrush expanses to the south and east and the forested environments to the north and west.

The relevant and important values identified for this potential ACEC/RNA include a relict community of old growth ponderosa pine in the transition zone of the Blue Mountain Physiographic Province with the Owyhee Uplands; naturally high value wildlife habitat within the transition zone; and sensitive wildlife species.

This area is relatively free from human intrusions. Developments within the potential ACEC/RNA are primitive 2-track roads and barbed wire/steel post livestock fence lines. The ACEC/RNA includes portions of two livestock grazing allotments.

The proposed ACEC/RNA has a moderate potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, uranium and geothermal resources, and a low potential for all other locatable and leasable minerals. There is no BLM record that mining claims have ever been located within the borders of the proposed ACEC/RNA, indicating an apparent lack of interest in mineral development. Therefore, the proposed ACEC/RNA has a low potential for the development of mineral resources.

Alternative A

Specific management: Under this alternative, 1,022 acres would be designated as an ACEC/RNA, and managed the same as in Alternative C, except that area would be under VRM Class III. The area would be open to plant collecting and all minerals activities. This area is closed to OHV use. Timber harvest would be allowed to maintain or enhance relevant and important values. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated

and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical area where the relevant and important values have been identified.

Alternative B

Specific management: No ACEC/RNA would be designated, and management would continue as in the past, including open OHV use, plant collection and rights-of-way activities, potential timber harvest, VRM Class IV, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has maintained some of the values of the area.

Alternative C

***Specific management*:** Under this alternative, 1,407 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. Off-highway vehicle use would closed in this area. The ACEC/RNA would be managed under VRM Class II guidance. Plant collecting would require a permit. Locatable minerals would be open, but the area would be closed to saleable minerals development and withdrawn from locatable minerals activities. Forest management practices would be limited only to those actions necessary to maintain or enhance the relevant and important values. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained and enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way, plant collecting, logging and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

***Specific management*:** Under this alternative, 1,407 acres would be designated as an ACEC/RNA and managed as described in Alternative C above, except that leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as in Alternative C above, except that management for leasable minerals activities would provide additional protection for a more complete representation of the relevant and important values.

Alternative D2

***Specific management*:** Under this alternative, 1,407 acres would be designated as an ACEC/RNA and managed as described in Alternative D above, except that there would be no leasable minerals activities.

Rationale: Same as in Alternative D above, except that no leasable minerals activities would provide additional protection for the relevant and important values.

Alternative E

***Specific management*:** No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, no ACEC would be designated. Other management would continue as in the past, including open OHV use, plant collection and rights-of-way activities, VRM Class IV, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Management as described in Forestry and Woodlands would be compatible with the relevant and important values of the area, and no additional special management would be necessary.

Owyhee River Below the Dam ACEC (Potential)

Description and values: The potential ACEC includes public land of the Owyhee River canyon and its associated viewshed located just north of the Owyhee Dam. The potential ACEC includes the viewshed of BLM-administered land from near the dam to downstream approximately 13 road miles to near the siphon site. This corridor contains the controlled flowing Owyhee River with its associated predominately narrow canyon bottom and picturesque canyon slopes and walls. Paralleling the river, a two-lane asphalt county road bisects the potential ACEC. This is the main road that recreating visitors use to get to the area, which includes the popular Owyhee Reservoir. BLM's Snively Hot Springs and the interpretive site of the existing Lower Owyhee Canyon Watchable Wildlife Area currently have limited recreation support facilities to accommodate visitors within the corridor. The river corridor receives some of the highest recreational use in the planning area and is being assessed in this plan as a possible SRMA. The BOR's approved Owyhee Reservoir RMP (April 1994) emphasizes cooperative efforts with BLM for the protection of important resource values and enhancement of recreation opportunities and uses within the river canyon. The BLM adheres to conditions of a national agreement in the management of FERC-administered land located within the potential ACEC.

The relevant and important values of the potential ACEC include high scenic values of diverse landscape elements in a substantially natural setting, a special status plant species (Mulford's milkvetch), the rare presence of a black cottonwood gallery in a riverine system, and the combined wildlife values of diverse habitat types supporting a large number of wildlife species and an important migratory corridor for neotropical birds.

Other developments within the potential ACEC include several bladed dirt roads leading mostly out of the river canyon bottom from the county asphalt road, and several indiscrimi-

nate short two-track primitive vehicle routes on the canyon bottom along the river. There is evidence of past minerals material extraction along the river's floodplain. There are two communication relay sites, and a high voltage power line crosses the canyon corridor. The southeast portion of the potential ACEC has telephone, power line, road and irrigation water tunnel rights-of-way associated with the BOR's Owyhee Irrigation Project. Portions of four livestock management allotments are within the potential ACEC.

Controlled releases from Owyhee Dam have variable effects on the riparian ecosystem along the river corridor. Based on evaluations of the river corridor, those segments of the river within the potential ACEC, with adjacent BLM-administered land, have been determined eligible and suitable for possible inclusion in NWSR System (see Chapters 2 and 3, Wild and Scenic Rivers).

The proposed ACEC has a moderate to high potential for the discovery of hot springs and epithermal-related gold/silver/mercury deposits and geothermal resources, and a moderate potential for the occurrence of uranium and oil and gas. It has a low potential for all other leasable and locatable minerals.

While there are no current mining claims located within the potential ACEC, the surrounding area, especially the Grassy Mountain area, located some 3 miles to the northwest, has been the focus of intensive exploration in recent years, mainly for hot springs gold, largely between 1986 and 1994; consequently, it has a moderate to high potential for development of hot springs and epithermal gold/silver/mercury deposits. Although there has been little interest in geothermal resources in the proposed ACEC, the presence of two hot springs indicate moderate to high potential for the development of low temperature, direct-use geothermal resources. Mineable quantities of uranium may occur within the boundaries of the proposed ACEC; however, a lack of interest in the commodity and an absence of a significant domestic industry suggests a low potential for development of uranium. Likewise, a lack of known occurrences and an absence of production indicate a low potential for the development of oil and gas resources.

Alternative A

***Specific management*:** Under this alternative, 11,239 acres would be designated as an ACEC with the boundaries the same as in Alternative C below. Management would be the same as in Alternative C, except the ACEC would be open to new rights-of-way within VRM Class III areas and remain open to leasable minerals activities. The visual foreground area, as viewed from the asphalt county road, would be VRM Class II, with the remainder of the ACEC as VRM Class III. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: A level of protection would be afforded to relevant and important values of the area, while allowing for rights-of-way, certain minerals activities, and livestock grazing activities and projects which would not necessarily fully maintain or enhance those values.

Alternative B

***Specific management*:** No ACEC would be designated, and existing management would continue within the river corridor. The OHV use designation of limited to existing roads and trails and VRM Class II classification would be retained within much of the river corridor. Compared to proposed ACEC boundaries under Alternative C, some outer portions of the area would be open to OHV use and be VRM Class IV. The entire area would remain open to such activities as new rights-of-way, all minerals exploration and development, plant collecting, and road maintenance. Informal cooperation with livestock operators would

continue to be pursued to lessen livestock impacts within the canyon. Upon assessment on a case-by-case basis, improvements and developments associated with Snively Hot Springs Recreation Site and the Lower Owyhee River Watchable Wildlife corridor would continue. The area would remain open to fire suppression and rehabilitation activities.

Rationale: Existing management has maintained some of the relevant and important values of the area.

Alternative C

***Specific management*:** Under this alternative, 11,239 acres would be designated as an ACEC. New rights-of-way would be granted only if there is minimal conflict with the identified relevant and important resource values and adverse impacts could be mitigated. Existing rights-of-way would not be affected. Provisions would be included to enable the performance of operations and issuance of rights-of-way needed to adequately manage and maintain existing authorized facilities and the BOR's Owyhee Irrigation Project. Motorized vehicle use would be limited to designated roads and trails; some existing trails would be closed, and their location would be on file in the Vale District Office. The area would be VRM Class II. Plant collecting would require a permit. The area would be open to road maintenance. Leasable minerals activities would be subject to the NSO stipulation within a defined foreground viewshed, while the remaining area would be open with standard stipulations. The foreground viewshed would also be withdrawn from locatable minerals activities, with the remainder of the area open. The ACEC would be open to saleable minerals development, but with such activities within the defined foreground restricted to those past extraction sites and to the extent needed to allow for their rehabilitation. Proposed recreation site improvements or developments would be allowable where resource protection, public safety, health, and/or enhanced recreation experience would be provided while maintaining or enhancing relevant and important ACEC values. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Grazing would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to help protect values of the area, the management for minerals, proposed rights-of-way, livestock operations, and other surface-disturbing activities would provide a more appropriate degree of management of, and protection for, the relevant and important values.

Alternative D

***Specific management*:** Under this alternative, 11,239 acres would be designated as an ACEC. The boundaries of the proposed ACEC would be the same as in Alternative C. Proposed management would be the same as in Alternative C, except that leasable minerals activities would be subject to the NSO stipulation within the entire ACEC, and the entire ACEC would be withdrawn from locatable minerals activities and closed to saleable minerals activities, as well as being excluded from new rights-of-way. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

***Rationale*:** Same as Alternative C, except that the management for rights-of-way and minerals activities would provide additional protection and opportunities for a full enhancement of the area's relevant and important values.

Alternative D2

***Specific management*:** Under this alternative, 11,239 acres would be designated as an ACEC. The boundaries of the proposed ACEC would be the same as in Alternative D. Proposed management would be the same as in Alternative D, except that there would be no leasable and locatable minerals activities, and no livestock use would be authorized in the area.

Rationale: Same as Alternative D, except that no minerals activities and no livestock use would provide maximum protection and opportunities for a full enhancement of the area's relevant and important values.

Alternative E

***Specific management*:** No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most actions which would impact the relevant and important values would be prohibited or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, 11,239 acres would be designated as an ACEC. New rights-of-way would be granted only if there is minimal conflict with the identified relevant and important resource values and adverse impacts could be mitigated. Existing rights-of-way would not be affected. Provisions would be included to enable the performance of operations and issuance of rights-of-way needed to adequately manage and maintain existing authorized facilities and the BOR's Owyhee Irrigation Project. Motorized vehicle use would be limited to designated roads and trails; some existing trails would be closed, and their location would be on file in the Vale District Office. The area would be VRM Class II. Plant collecting would require a permit. The area would be open to road maintenance. Leasable minerals activities would be subject to the NSO stipulation within a defined foreground viewshed, while the remaining area would be open with standard stipulations. The foreground viewshed would also be withdrawn from locatable minerals activities, with the remainder of the area open. The ACEC would be open to saleable minerals development, but with such activities within the defined foreground restricted to those past extraction sites and to the extent needed to allow for their rehabilitation. Proposed recreation site improvements or developments would be allowable where resource protection, public safety, health, and/or enhanced recreation experience would be provided while maintaining or enhancing relevant and important ACEC values. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Grazing would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to help protect values of the area, the management for minerals, proposed rights-of-way, OHV, livestock operations, and other surface-disturbing activities would provide a more appropriate degree of management of, and protection for, the relevant and important values.

Owyhee Views ACEC (Potential)

Description and values: The potential Owyhee Views ACEC includes 86,973 acres of public land adjacent to BOR's 53-mile long Owyhee Reservoir and certain land adjacent to the lower most portion of the congressionally designated Owyhee NWSR. The potential ACEC consists of the landscape as observed from the reservoir and certain maintained roads in the area. Nearby existing or potential ACEC's (Leslie Gulch, Honeycombs, Dry Creek Gorge and Owyhee Below the Dam) and the existing Owyhee Wild and Scenic River management area are not included in this potential ACEC. The highly picturesque landscape is rugged and largely dissected with ridges and steep slopes, vertical canyon walls and isolated, towering buttes of the Owyhee River canyonlands. Multiple deep-cut and highly scenic side canyons are cut by ephemeral drainages which extend to the reservoir.

The relevant and important values of the potential ACEC include the high scenic properties associated with the area's virtually unaltered landscape, special status bighorn sheep and habitat, and special status plant species (sterile milkvetch, Ertter's senecio, and Owyhee clover). The visual sensitivity of the area is elevated due to the current level and expected future increases of recreation use, both on the reservoir and within the ACEC. Another special status plant species (*Cusick's chaenactis*) is suspected to grow in the area.

Portions of seven WSA's are located within and comprise approximately 76 percent of the potential ACEC. Dry Creek Buttes (3-56) and Wild Horse Basin (3-77B), are recommended by BLM not to be congressionally designated as wilderness. Those portions of Owyhee Breaks (3-59), Blue Canyon (3-73), Slocum Creek (3-75), Honeycombs (3-77A), and Lower Owyhee Canyon (3-110) WSA's located within the ACEC are recommended suitable for wilderness designation. The WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation in WSA's are generally precluded until Congress makes wilderness designation decisions. Within the potential ACEC, the Honeycombs, Slocum Creek, Blue Canyon and Owyhee Breaks WSA's, and the interconnecting public land of these WSA's are components of the existing Owyhee River Complex SRMA.

The BOR manages Owyhee Reservoir and its associated threaded corridor of acquired private and withdrawn public land that encompass the reservoir. Following 4 years of extensive public involvement, the BOR approved its "Owyhee Reservoir RMP/EIS" in 1994. The agency established a citizens task force to assist in development of the "Owyhee Reservoir RMP/EIS." Proposals for management of the RMP/EIS reflect the task force's recommendation that the reservoir's setting should remain in a substantially unaltered, natural state. As the largest reservoir in Oregon, the absence of substantial development within its highly scenic and visually sensitive canyon setting remains an attractive attribute for recreation users. There is an increasing trend of dispersed recreation use within the potential ACEC. Activities include hiking, big and small game hunting, backpacking, photography, wildlife and potential wild horse observation, and geologic and general sightseeing.

The potential ACEC includes portions of eight livestock grazing allotments and a portion of the Three Fingers Wild Horse HMA is within the area.

The proposed ACEC has a moderate to high potential for the occurrence, and development, of precious metals (particularly hot springs related gold deposits). Interest was especially high between 1986 and 1992, with most of the exploration occurring within the Dry Creek Buttes WSA. Mining claims were also located in other portions of the proposed ACEC, mainly within the Wild Horse Basin, Blue Canyon and Owyhee Breaks WSA's. Presently, two picture jasper operations are the only minerals development activities occurring within the proposed ACEC.

Alternative A

***Specific management*:** No ACEC would be designated and the area would be managed the same as Alternative B except that 86,973 acres would be under VRM Class II objectives.

Rationale: Limited protection would be afforded through VRM Class II and the OHV closure to the most critical areas where the relevant and important values have been identified. The area would remain open to all other uses.

Alternative B

***Specific management*:** No ACEC would be designated, and the area would be managed as in the past. Public land not congressionally designated as wilderness would be open to minerals activities and new rights-of-way. Existing OHV designations which affect the reservoir's viewshed include portions of two existing closed areas; approximately 200 acres designated as open; and the remainder of the area limited to existing roads and trails. The majority of the reservoir's viewshed would be under VRM Class II with some upper slopes of Wild Horse Basin and Oxbow Basin as VRM Class III. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. Areas outside of WSA's would remain open for fire suppression and rehabilitation activities.

***Rationale*:** Existing management, particularly that on surface-disturbing activities associated with WSA's, has helped to maintain portions of the existing natural landscape features of the Owyhee Reservoir's viewshed and some of the special status plant species, while various multiple resource use opportunities such as mineral activity, rights-of-way, and motorized vehicle use is variable within the viewshed. Future conditions would be dependent, in part, on Congressional wilderness decisions.

Alternative C

***Specific management*:** Under this alternative, 86,973 acres would be designated as an ACEC. Within VRM Class II areas, new rights-of-way would be granted only if there is minimal conflict with the identified relevant and important values and impacts could be mitigated. Existing rights-of-way would not be affected. The designated OHV closed area would be the same as under Alternative B, and the OHV use within the remainder of the area would be limited to designated roads and trails. The OHV designated closed area would be VRM Class I, with the remainder of the proposed ACEC being VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to a controlled surface use stipulation whereby the authorized officer may restrict or prohibit surface occupancy or use unless the operator and authorized officer arrive at an acceptable plan for the mitigation of anticipated impacts to the visual resources. The area would be closed to saleable minerals development and withdrawn from locatable minerals activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods, including but not limited to, fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, rights-of-way, plant collecting, visual resources,

livestock operations, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

***Specific management*:** Under this alternative, 86,973 acres would be designated as an ACEC, the same as Alternative C. The area would be managed the same as Alternative C, except the area would be excluded from new rights-of-way and managed under VRM Class I. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: The protection and opportunities for enhancement of the area's important and relevant values would be fully realized by maintaining the existing landscape in a virtually unaltered state.

Alternative D2

***Specific management*:** Under this alternative, 86,973 acres would be designated as an ACEC. The area would be managed the same as Alternative D, except there would be no leasable minerals activities.

Rationale: The protection and opportunities for enhancement of the area's important and relevant values would be most fully realized by maintaining the existing landscape with no minerals activities.

Alternative E

***Specific management*:** No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most actions which would impact the relevant and important values would be prohibited or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, 52,506 acres would be designated as an ACEC. New rights-of-way would be granted only if there is minimal conflict with the identified relevant and important values and impacts could be mitigated. Existing rights-of-way would not be affected. An OHV closed area would be located in the southwest portion of the ACEC, and the OHV use within the remainder of the area would be limited to designated roads and trails. The area would be VRM Class I. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to NSO stipulations. The area would be closed to saleable minerals development and withdrawn from locatable minerals activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods, including but not limited to, fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Portions of two WSA's would be located with the ACEC: Dry Creek Buttes (3-56) and Wild Horse Basin (3-77B).

Rationale: The protection and opportunities for enhancement of a significant portion of the area's important and relevant values would be fully realized by maintaining the existing landscape in a virtually unaltered state and with VRM Class I management.

South Alkali Sand Hills ACEC (Potential)

Description and values: The potential South Alkali Sand Hills ACEC is located northeast of Vale, northwest of Ontario, Oregon, and west of Henry Gulch, and encompasses several ridges and drainages within the low, hilly country. The potential ACEC was selected to represent prime habitat and critical populations for special status plant species, Mulford's milkvetch and Cronquist's stickseed, which are found on sandy soils in small, localized areas within a portion of the Vale District near the town of Vale. The area represents the greatest concentration known for both species growing together on a global basis.

The relevant and important values for which the potential ACEC is being proposed are the two special status plant species and their habitat.

Two dirt roads run along the two main ridges of the potential ACEC. A portion of one livestock grazing allotment occurs within the potential ACEC.

The proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, uranium and geothermal resources, a moderate potential for the occurrence of oil and gas, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with BLM that mining claims were ever located within the boundaries of the proposed ACEC and no demonstrated interest in either hot springs precious metals or uranium; consequently, the potential for development is low. The proposed ACEC is within 2 miles of the Vale KGRA, which has had recent interest in geothermal development; consequently, the potential for development is high. Although traces of oil have been reported from the proposed ACEC, a lack of demonstrated interest in the commodity, as well as a lack of current production, indicate a low potential for the development of petroleum products.

Alternative A

***Specific management*:** No ACEC/RNA would be designated.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative B

Specific management: No ACEC would be designated, and management would continue as in the past, including management as outlined in the recently signed "South Alkali Management Plan" (1995). OHV use would remain limited to designated roads and trails as specified under emergency limitations, which were recorded in the *Federal Register* in 1992 and as outlined in the management plan. The area would be VRM Class III and IV and open to plant collection and all minerals activities. Livestock use would continue based on existing grazing permit stipulations and the approved management plan. The area would continue to be open to fire suppression and rehabilitation activities within the guidelines of the management plan.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

***Specific management*:** Under this alternative, approximately 3,520 acres would be designated as an ACEC, and management would remain as described in the "South Alkali Management Plan" (1995). Actual size of the ACEC would depend on location of the Sand Hills East Pasture; the entire Sand Hills East Pasture would become the South Alkali Sand Hills ACEC. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. The ACEC would be VRM Class III. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation. The area would be withdrawn from locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved management plans. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

***Specific management*:** Under this alternative, 5,552 acres would be designated as an ACEC and managed the same as Alternative C. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the increased acreage would provide additional management, protection, and opportunities for enhancement for nearly all critical habitat and known sites for both special status plant species in the South Alkali Sand Hills.

Alternative D2

***Specific management*:** Under this alternative, 5,552 acres would be designated as an ACEC and managed the same as Alternative D, except that there would be no leasable minerals activities, and no livestock use would be authorized.

Rationale: Same as Alternative D, except that no leasable minerals activities and no livestock use would provide maximum protection for the relevant and important values.

Alternative E

***Specific management*:** Under this alternative, no ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, approximately 3,520 acres would be designated as an ACEC, and management would remain as described in the "South Alkali Management Plan" (1995). Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. The ACEC would be VRM Class III. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation. The area would be withdrawn from locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved management plans. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

South Bull Canyon ACEC/RNA (Potential)

Description and values: The potential South Bull Canyon ACEC/RNA is located south of the Malheur River approximately 6 miles to the southeast of Juntura, Oregon, along the road that leads to Creston and Turnbull lakebeds. The landscape consists of a series of small drainages off of a low north-south ridge with relatively deep soils and large surface rocks. The gently sloped hills are covered by a mix of plant communities in generally high seral conditions.

The relevant and important value for which the potential ACEC/RNA is being proposed is the big sagebrush-antelope bitterbrush/Idaho fescue vegetation cell as identified by ONHP.

Several dirt roads, barbed wire/steel post fences, and reservoirs for livestock water are found within the potential ACEC/RNA, which also includes a portion of two livestock grazing allotments.

The proposed ACEC/RNA has a moderate potential for the occurrence of geothermal resources, and a low potential for the occurrence of all other leasable and locatable minerals. Although the proposed ACEC is located within an area of high heat flow, an absence of nearby surface thermal features (such as hot springs) and an apparent lack of shallow (<3,000 feet deep) thermal waters indicate a low potential for the development of geothermal resources. There is no record with BLM that mining claims are located within the boundaries of the proposed ACEC/RNA and no demonstrated interest in locatable mineral development; consequently, the potential for development is low.

Alternative A

***Specific management*:** Under this alternative, 792 acres would be designated as an ACEC/RNA and would include some of the best ecological conditions within the area. Proposed management would be the same as Alternative C except that the area would remain open to all road maintenance activities and all minerals activities. Existing livestock use and any

proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical area where the relevant and important values have been identified, while permitting uses to occur in the surrounding area.

Alternative B

***Specific management*:** No ACEC/RNA would be designated, and management would continue as in the past, including open to OHV use, plant collection and road maintenance. The area would be VRM Class IV and would be open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained the values of the area.

Alternative C

***Specific management*:** Under this alternative, 1,364 acres would be designated as an ACEC/RNA. The ACEC/RNA would include a full range of vegetation communities and their subtle variations across the landscape. Rights-of-way would be granted only if there would be minimal conflict with the identified resource values and impacts could be mitigated. Plant collecting would require a permit. The area would be VRM Class III. OHV use would be limited to designated roads and trails. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be closed to saleable minerals development, while remaining open for leasable and locatable minerals. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to help protect values of the area, the proposed management for saleable minerals, plant collection, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values. The increased acreage provides a more complete protection of a full range of the valued resources in this area.

Alternative D

Specific management: Same as Alternative C, except that the area would be VRM Class II, withdrawn from locatable minerals activities, and leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that with VRM Class II management guidance and minerals management, additional protection would be extended to the valued resources.

Alternative D2

Specific management: Same as Alternative D, except there would be no leasable minerals activities.

Rationale: Same as Alternative D, except that no leasable minerals activities would provide additional protection for the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, 792 acres would be designated as an ACEC/RNA. The ACEC/RNA would include a full range of vegetation communities and their subtle variations across the landscape. Rights-of-way would be granted only if there would be minimal conflict with the identified resource values and impacts could be mitigated. Plant collecting would require a permit. The area would be VRM Class III. OHV use would be limited to designated roads and trails. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be closed to saleable minerals development, while remaining open for leasable and locatable minerals. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to help protect values of the area, the proposed management for saleable minerals, plant collection, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values. The acreage encompassed in the ACEC provides protection for a full range of the valued resources in this area.

South Ridge Bully Creek ACEC/RNA (Potential)

***Description and values*:** The potential South Ridge Bully Creek ACEC/RNA is located west of Westfall, Oregon, along the ridge that separates Clover Creek drainage to the north and Bully Creek drainage to the south. The potential ACEC/RNA encompasses a number of grassland communities that occur as distinct entities intermixed within a larger mosaic of types in excellent ecological condition.

The relevant and important values for which the potential ACEC/RNA is being proposed are the big sagebrush/Thurber needlegrass community and big sagebrush-squaw apple/Idaho

fescue community vegetation cells identified by ONHP. Sage grouse, loggerhead shrikes, and their associated habitat have also been identified as relevant and important values.

Several dirt roads and barbed wire/steel post fences crisscross the potential ACEC/RNA, which also includes a portion of two livestock grazing allotments.

The proposed ACEC/RNA has a moderate potential for the occurrence of geothermal resources and oil and gas, and a low potential for all locatable and all other leasable minerals. There is no record with BLM that mining claims have ever been located within the proposed ACEC/RNA or within the immediate vicinity, and no demonstrated interest in mineral development in the immediate area; consequently, the proposed ACEC/RNA has a low potential for energy and mineral development.

Alternative A

***Specific management*:** Under this alternative, 841 acres would be designated as an ACEC/RNA and managed the same as Alternative C, except that the area would remain open to all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified, while permitting most uses to occur in the surrounding areas.

Alternative B

***Specific management*:** No ACEC/RNA would be designated. All existing management activities would continue as in the past, including VRM Class IV and open to all minerals activities. OHV use is open in most of the area, but due to seasonal sage grouse concerns, is partially limited to existing roads and trails in the southeastern portion of the potential ACEC/RNA. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 841 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. The ACEC/RNA would be VRM Class III. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be open with special stipulations subject to seasonal/timing restrictions, restricted or no use in avoidance areas for sage grouse. Locatable minerals activities would be open, but the area would be closed for saleable minerals. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where

adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

***Specific management*:** Under this alternative, 1,965 acres would be designated as an ACEC/RNA and managed as described in Alternative C, except that the area would be under VRM Class II guidance, and leasable mineral activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, with added protection through leasable minerals and VRM Class II. With the larger acreage, protection would be extended to a more complete range of the valued resources within the area.

Alternative D2

***Specific management*:** Under this alternative, 1,965 acres would be designated as an ACEC/RNA and managed as described in Alternative D, except that there would be no leasable or locatable minerals activities, and no livestock grazing would be authorized in the area.

Rationale: Same as Alternative D, with added protection for the relevant and important values through leasable and locatable minerals management and no livestock.

Alternative E

***Specific management*:** No ACEC/RNA would be designated

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, 620 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. The ACEC/RNA would be VRM Class III. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be open with special stipulations subject to seasonal/timing restrictions, restricted or no use in avoidance areas for sage grouse. Locatable minerals activities would be open, but the area would be closed for saleable minerals. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where

adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way, OHV, and other surface-disturbing activities would more adequately protect the relevant and important values. The ACEC would be in one livestock grazing allotment, and the portion seeded to crested wheatgrass would be eliminated from the ACEC/RNA.

Spring Mountain ACEC/RNA (Potential)

***Description and values*:** The potential Spring Mountain ACEC/RNA is located west of U.S. Highway 95 and north of Jordan Valley, covering a portion of the top of Spring Mountain east of Mahogany Mountain. The top of the mountain is a mix of mountain big sagebrush/ Idaho fescue steppe in areas with deep soils. The northern portion of the potential ACEC/ RNA is composed of steep, talus scree. This area supports stands of western chokecherry, whortleleaf snowberry, Saskatoon serviceberry, and Lewis' mockorange. The scree tops out to a larger, relatively flat tableland dominated by diverse, large low sagebrush scablands.

The relevant and important values for which the potential ACEC/RNA is being proposed are the mountain big sagebrush/Idaho fescue, low sagebrush/bluebunch wheatgrass, and riparian community dominated by peachleaf willow and coyote willow with quaking aspen/ whortleleaf snowberry vegetation cells identified by ONHP. There are several quaking aspen patches associated with springs and north-facing talus slopes within the potential ACEC/ RNA.

The area is relatively free from human intrusions and virtually roadless. The potential ACEC/RNA includes a portion of one livestock grazing allotment.

The proposed ACEC/RNA has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate to high potential for the occurrence of uranium, moderate potential for the occurrence of both geothermal resources and oil and gas, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with BLM that mining claims were ever located within the boundaries of the proposed ACEC/RNA, and no demonstrated interest in either precious metals/mercury or uranium deposits; consequently, the potential for development is low. While the proposed ACEC/RNA is located within an area of high heat flow, an absence of nearby hot springs and apparent lack of shallow (<3,000 feet deep) thermal waters indicate a low potential for the development of geothermal resources. Likewise, an absence of nearby sources of oil and gas and a lack of current production indicate a low potential for development of petroleum products.

Alternative A

***Specific management*:** Under this alternative, 1,002 acres would be designated as ACEC/ RNA and managed the same as Alternative C, except that the area would be open for all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: No ACEC/RNA would be designated, and management would continue as in the past, including open OHV use, under VRM Class IV guidance, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and the AMP. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

***Specific management*:** Under this alternative, 1,002 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. The area would be closed to OHV use. Plant collecting would require a permit. VRM would be under Class III. Leasable and locatable minerals activities would be open, but the area would be closed for saleable minerals. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, visual resources, OHV, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

***Specific management*:** Under this alternative, 1,501 acres would be designated as an ACEC/RNA and managed as described in Alternative C except that the area would be VRM Class II, and leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as under C, except that the increased acreage and other associated management maximizes specific management of the valued resources in this area.

Alternative D2

***Specific management*:** Under this alternative, 1,501 acres would be designated as an ACEC/RNA and managed as described in Alternative D, except that there would be no leasable minerals activities.

Rationale: Same as under Alternative D, except that no leasable minerals activities adds further protection for the area.

Alternative E

***Specific management*:** No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, 1,002 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. The area would be closed to OHV use. Plant collecting would require a permit. VRM would be under Class III. Leasable and locatable minerals activities would be open, but the area would be closed for saleable minerals. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, visual resources, OHV, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Jordan Resource Area

Existing

Jordan Craters ACEC/RNA (Existing and Potential Additions/Deletions)

Description and values: The existing 29,785-acre Jordan Craters ACEC/RNA, established by the Oregon/Washington BLM State Director decision in 1975, is located 18 miles northwest of Jordan Valley and 5 miles southeast of the Owyhee River. The ACEC/RNA has high scenic values associated with the geology; geologically recent extrusive olivine basalt lava flow is one of the primary resource values in the ACEC/RNA. There are additional values for research of plant succession on barren rock, on plant communities in kipukas (relict islands of soil and plants that the lava flow missed), and on rare plants that survive in the vertical cracks in the lava. Also, several State sensitive wildlife species occur in the ACEC/RNA. The area has been the focus of several short and long-term studies on plant communities, geologic processes, and plant physiology with direct implications to BLM management activities. The proposed additions would add at least two more lava emission sources and three lava flows of older and younger ages on which to study plant succession. There also is a threetip sagebrush community with a near climax bunchgrass understory. These additional flows contain lava tubes that serve as maternal sites for the State sensitive western big-eared bat.

The relevant and important values identified for the existing ACEC/RNA are historic, cultural, scenic, wildlife habitat, special status animals and habitat, rare plants (numerous

fern species in a desert environment), terrestrial plant community (threetip sagebrush/ bluebunch wheatgrass), riparian plant community (freshwater pond system), and rare geologic features (multiple age lava flows).

Most of the existing and proposed additions to the ACEC/RNA are located within the Clarks Butte (3-120) and Jordan Craters (3-128) WSA's which comprise 92 percent of the maximum extent of the ACEC/RNA. BLM has recommended the Clarks Butte WSA as not suitable for wilderness designation and has recommended 23,225 acres of the Jordan Craters WSA as suitable for wilderness. WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSA's until Congress makes wilderness designation decisions.

Portions of five grazing allotments are included within the existing and potential ACEC/ RNA boundary. There are no major rights-of-way.

The existing and potential ACEC/RNA has a moderate potential for the occurrence of hot springs gold/silver/mercury deposits and geothermal resources, a low to moderate potential for the occurrence of uranium, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with BLM that mining claims were ever located within the boundaries of the ACEC/RNA and no demonstrated interest in energy or mineral resources, indicating a low potential for development.

Alternative A

Specific management: Under this alternative, 28,689 acres would be designated as an ACEC/RNA. The existing ACEC/RNA would be reduced in size by moving the southern boundary to 20 feet north of road 7304-0-OO, and eliminating the W+ Section 4, east of Park Dam. A disjunct addition to the ACEC/RNA would be made incorporating the S+ of Section 22 and 23, and all of Sections 26, 27, 34, and 35. Proposed management would be the same as for Alternative C below for rights-of-way, OHV, VRM, plant collecting, and locatable and saleable minerals management. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would remain open to leasable minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Projects which may be proposed in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified while permitting most uses to occur in the surrounding area.

Alternative B

Specific management: The existing 29,785-acre ACEC/RNA would be retained and managed as outlined in the ACEC/RNA management plan and in the IMPLWR for the WSA portions which include 91 percent of the area. The ACEC/RNA would be open to rights-of-way outside of WSA's. OHV use would be limited to designated roads and trails. The area would be under VRM Class I; plant collecting would require a permit. Leasable mineral activities would be subject to no lease in WSA's and open elsewhere. The ACEC/RNA would be open to locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. Fire suppression and rehabilitation would be in accordance with IMPLWR guid-

ance. No roads would be maintained to reduce entry and disturbances. No recreational facilities would be developed on the site, and other recreational activities would be discouraged. Interim ACEC/RNA management provisions initiated with the July 1, 1988, district and area manager decision would remain in effect on the proposed 5,440 acre addition.

Rationale: Existing management to date has generally maintained the values of the area.

Alternative C

Specific management: Under this alternative, 31,370 acres would be designated as an ACEC/RNA. The existing ACEC/RNA would be reduced 1,920 acres by eliminating Sections 3, 4, and 5 in the SW corner. The disjunct land in the SW+ Section 14, W+ Section 23, S+ Section 22, all Sections 26, 27, 34 and 35 would be added. Rights-of-way would not be granted. OHV use would be limited to designated roads and trails. The ACEC/RNA would be under VRM Class I guidance. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The ACEC/RNA would be open to locatable minerals activities, closed to saleable minerals activities, and leasable minerals activities would be subject to a controlled surface use stipulation whereby the authorized officer may restrict or prohibit surface occupancy or use unless operator and authorized officer arrive at an acceptable plan for the mitigation of anticipated impacts to the visual resource. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. Fire control would not be initiated to protect public resources within the ACEC/RNA, but if control is necessary to protect private resources outside the boundary, actions would be limited to the designated roads. Seeding would not be permitted unless locally collected plant materials would be used. Recreational uses would be discouraged except for the existing access point at Coffee Pot Craters, and no development would occur until appropriate public safety measures are installed and cave resources are protected. Camping activities on the kipukas would be by permit only.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way and other surface-disturbing activities would more adequately protect the relevant and important values. Proposed adjustments in the ACEC/RNA boundary would retain the most important research areas and add additional future research areas, while land with lower research values would be excluded.

Alternative D

***Specific management*:** Under this alternative, 35,212 acres would be designated as an ACEC/RNA. An additional 5,427 acres contiguous with the southern boundary would be added to the existing ACEC/RNA. Management of this ACEC/RNA would be the same as Alternative C, except the area would be withdrawn from locatable minerals activities, and leasable mineral activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: The larger ACEC/RNA and additional management through mineral withdrawal and the NSO stipulation would increase the protection of the entire spectrum of important resources valuable for research while allowing some uses to continue.

Alternative D2

***Specific management*:** Under this alternative, 35,212 acres would be designated as an ACEC/RNA. An additional 5,427 acres contiguous with the southern boundary would be added to the existing ACEC/RNA. Management of this ACEC/RNA would be the same as Alternative D, except there would be no leasable mineral activities in the area.

Rationale: The same as Alternative D, except that no leasable minerals activities would provide additional protection for the area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, 31,370 acres would be designated as an ACEC/RNA. The existing ACEC/RNA would be reduced 1,920 acres by eliminating Sections 3, 4, and 5 in the SW corner. The disjunct land in the SW+ Section 14, W+ Section 23, S+ Section 22, all Sections 26, 27, 34 and 35 would be added. Rights-of-way would not be granted. OHV use would be limited to designated roads and trails. The ACEC/RNA would be under VRM Class I guidance. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The ACEC/RNA would be open to locatable minerals activities, closed to saleable minerals activities, and leasable minerals activities would be subject to NSO stipulations. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. Fire control would not be initiated to protect public resources within the ACEC/RNA, but if control is necessary to protect private resources outside the boundary, actions would be limited to the designated roads. Seeding would not be permitted unless native plant materials would be used. Recreational uses would be discouraged except for the existing access point at Coffee Pot Craters, and no development would occur until appropriate public safety measures are installed and cave resources are protected. Camping activities on the kipukas would be by permit only.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way and other surface-disturbing activities would more adequately protect the relevant and important values. Proposed adjustments in the ACEC/RNA boundary would retain the most important research areas and add additional future research areas, while land with lower research values would be excluded.

Owyhee River ACEC (Existing and Potential Deletion)

Description and values: The existing Owyhee River ACEC includes 95 miles of river from the Oregon-Idaho border to the uppermost reaches of Owyhee Reservoir near Red Butte. *Federal Register* designation of the ACEC lists the area at 30,400 acres, although firm boundaries were never established subsequent to designation, and the acreage has been modified by geographic information system (GIS) to be 41,505 acres. The boundaries generally have been interpreted to follow those of the designated Owyhee NWSR along the Main Owyhee, which follows the river as described above and generally encompasses a corridor 0.5-mile wide (sometimes less, sometimes more), not to exceed 320 acres per mile.

In l984, Congress designated the Main Owyhee River from the Oregon-Idaho border downstream to the Owyhee Reservoir, excluding the Rome Valley from China Gulch to Crooked Creek, as an NWSR. An NWSR management plan for the Owyhee River was completed by the Vale District in 1986. Two tributaries to the Owyhee River, the West Little Owyhee and the North Fork Owyhee Rivers, were added to the NWSR system in 1988. The ORV's/special attributes which were identified for the Main Owyhee as part of the NWSR designation process included recreation, scenic, geologic, prehistoric and historic cultural, and wildlife. In l993, the "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan" was adopted, outlining management actions necessary to protect and enhance the values for which the rivers were designated.

The relevant and important values associated with this ACEC are essentially the same as the ORV's identified for the river and include scenic, historic, geologic, and cultural values; wildlife habitat; and an ACEC vegetation value for five special status plant species (sterile milkvetch, Ertter's senecio, Three Forks stickseed, Packard's artemisia, and Cusick's chaenactis).

The ACEC/Main Owyhee NWSR passes through four WSA's: the Blue Canyon (OR-3-73), Owyhee Breaks (OR-3-59), Lower Owyhee Canyon (OR-3-110), and Owyhee Canyon (OR-3-195). All the NWSR corridor acreage within these WSA's is recommended by the BLM as suitable for wilderness designation. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSA's until Congress makes wilderness designation decisions. WSA's are currently managed in accordance with BLM's IMPLWR, although specific guidance states that management of river areas which overlap WSA's will meet whichever management standard is higher.

Portions of 15 grazing allotments are included within the ACEC/Main Owyhee NWSR boundary. Because the river is classified as wild and scenic, a 0.25-mile withdrawal each side of the centerline has been established for all mineral activity.

Alternative A

***Specific management*:** Same as Alternative C.

Rationale: Same as Alternative C.

Alternative B

Specific management: The existing 41,505-acre ACEC would be retained and managed as outlined in the current management plan for the Main Owyhee NWSR referenced above. Livestock use would continue based on existing grazing permit stipulations and approved AMP's as they are constrained by the river management plan.

Rationale: The existing situation would remain, and the relevant and important values for which the ACEC was designated would be fully managed under the Main Owyhee NWSR Management Plan**.**

Alternative C

***Specific management*:** The ACEC designation would be dropped, and management would continue as identified and prescribed in the 1993 "Main, West Little, and North Fork National Wild and Scenic Rivers Management Plan," and where appropriate, in accordance with IMPLWR guidance, whichever standard is higher.

Rationale: The current management plan for the Main Owyhee NWSR provides all management necessary to maintain or enhance the relevant and important values identified for the ACEC, making ACEC designation unnecessary.

Alternative D

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Alternative D2

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Alternative E

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Proposed RMP

***Specific management*:** The ACEC designation would be dropped, and management would continue as identified and prescribed in the l993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan," and where appropriate, in accordance with IMPLWR guidance, whichever standard is higher.

Rationale: The current management plan for the Main Owyhee NWSR provides all management necessary to maintain or enhance the relevant and important values identified for the ACEC, making ACEC designation unnecessary.

Saddle Butte ACEC (Existing and Potential Additions/Deletions)

Description and values: The existing 7,056-acre Saddle Butte ACEC is located about 10 miles north of Burns Junction. An 8.5 mile-long lava tube was created during a late Pleistocene volcanic eruption that covered about 80 square miles. The primary value of the ACEC is the sections of the original cave system that have not yet collapsed. The largest of these caves is 3,620 feet long and as much as 80 feet wide and 47 feet tall. These caves are of scientific value in studies of how lava tubes are created, and how they deteriorate and collapse. A secondary value is the population of western big-eared bats, a State sensitive species, that inhabit the caves. The lava tubes also pose a threat to people inside or on top of

the structures when they collapse. Since the existing ACEC was established, a new system of lava tubes was discovered south of the existing ACEC.

The relevant and important values identified for this ACEC are sensitive wildlife species and habitat, rare geologic features, and the lava tube cave system.

Approximately 85 percent of the existing ACEC is located within the Saddle Butte WSA (3-111). With the proposed addition, 87 percent of the ACEC would be within the WSA. The BLM has recommended the Saddle Butte WSA as not suitable for wilderness designation. WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSA's until Congress makes wilderness designation decisions. The Saddle Butte HMA is also located within and surrounding this ACEC. The area includes a portion of one livestock grazing allotment.

The existing and proposed ACEC has a moderate potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits and geothermal resources, and a low potential for all other leasable and locatable minerals. There is no record with BLM of mining claims having ever been located within the boundaries of the ACEC and no demonstrated interest in energy or mineral resources, indicating a low potential for development.

Alternative A

***Specific management*:** The existing ACEC would not be redesignated. The "Federal Cave Resource Protection Act" of 1988 and BLM policies regarding caves on public land and on sensitive wildlife species would be used to manage the relevant and important values. The cave system within the existing ACEC is recognized as a significant geologic and biological resource, and management actions would be undertaken to comply with the "Cave Protection Act." These actions include limiting OHV use to designated roads in the vicinity of the cave system, cooperating with interested publics to develop and locate signs to help reduce impacts, constructing gates to protect any degrading biological resources, and locally restricting seismic activities. Other management would be in accordance with objectives and actions prescribed under this alternative.

Rationale: The "Federal Cave Resource Protection Act" of 1988 would provide some protection of the resources given the isolation of the area and the low amount of current use.

Alternative B

Specific management: The existing 6,096-acre ACEC would be retained. Management as outlined in the IMPLWR would apply to the ACEC within the WSA, and other management would include VRM Class IV and open plant collecting. OHV use would be limited to designated roads and trails. Rights-of-way and leasable minerals activities outside the WSA would be open. The area would be open to locatable minerals activities and closed to saleable minerals activities. Livestock use would continue based on existing grazing permit stipulations and the approved AMP. Public access would be directed away from caves with bats, especially hibernaculums. Warnings would be posted to alert the unwary from entering or traveling on top of the dangerous sections of the cave system. Fire suppression and rehabilitation activities would be in accordance with IMPLWR guidance where applicable and open outside WSA's.

Rationale: Existing management to date has maintained the values of the area. The relevant and important values have been maintained with ACEC status and interim WSA prescriptions, while the cave management regulations have not been used in the past and are untested.

Alternative C

Specific management: Under this alternative, 7,056 acres would be designated as an ACEC. The existing ACEC would be retained and an additional 960 acres would be designated. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Unauthorized spur roads to lava tube entrances would be returned to a natural state, and OHV use would be restricted to designated roads as identified in the WSA inventory. The ACEC would be open to leasable and locatable minerals activities and closed to saleable minerals activities. Seismic activities that may affect caves or bats would not be authorized. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Projects, which may be proposed in the area, would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. If necessary to protect cave contents or human safety, BLM may construct gates to prevent access.

Rationale: While existing management has partially served to protect values of the area, the proposed management within the extended area for minerals, rights-of-way, livestock operations, and other surface-disturbing activities would more adequately protect the relevant and important values. Increasing human use in the area has created new threats that need to be resolved by active management.

Alternative D

Specific management: Under this alternative, 7,056 acres would be designated as an ACEC and managed the same as under Alternative C, except that gates would be constructed at caves used by bats, in conjunction with knowledgeable agencies and scientific organizations, to prevent damage to biological resources. Leasable minerals activities would be subject to the NSO stipulation.

Rationale: Additional actions, such as gating caves containing sensitive biological resources, would help to prevent future damage. Leasable mineral management would increase protection of the valued resources in this sensitive area.

Alternative D2

Specific management: Under this alternative, 7,056 acres would be designated as an ACEC and managed the same as under Alternative D, except that there would be no leasable or locatable minerals activities in the ACEC.

Rationale: Same as Alternative D, except that no minerals activities would provide additional protection for the area.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, 7,056 acres would be designated as an ACEC. The existing ACEC would be retained and an additional 960 acres would be designated. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Unauthorized spur roads to lava tube entrances would be returned to a natural state, and OHV use would be restricted to designated roads as identified in the WSA inventory. The ACEC would be open to leasable and locatable minerals activities and closed to saleable minerals activities. Seismic activities that may affect caves or bats would not be authorized. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Projects, which may be proposed in the area, would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. If necessary to protect cave contents or human safety, BLM may construct gates to prevent access.

Rationale: While existing management has partially served to protect values of the area, the proposed management within the extended area for minerals, rights-of-way, OHV, livestock operations, and other surface-disturbing activities would more adequately protect the relevant and important values. Increasing human use in the area has created new threats that need to be resolved by active management.

Whitehorse Basin ACEC (Existing and Potential Additions/Deletions)

Description and values: The existing ACEC is located northwest of McDermitt, Nevada, in the southwest corner of JRA. The existing ACEC occupies approximately 1,977 acres of the streambanks with a variable buffer strip along 6.75 miles of Antelope Creek, 5.0 miles of Fifteen-Mile Creek, 4.0 miles of Doolittle Creek, 3.0 miles of Cottonwood Creek, 8.0 miles of Little Whitehorse Creek, 6.5 miles of Willow Creek, and 8.5 miles of Whitehorse Creek. When this area was designated as an ACEC in 1983, the streams contained the only known habitat for the Whitehorse cutthroat trout. In 1991, the Whitehorse cutthroat trout were reidentified as Lahontan cutthroat trout, a Federally listed threatened species particularly adapted to the harsh desert environment.

The relevant and important values identified for this ACEC are Lahontan cutthroat trout and their associated habitat.

In the mid-1980's, more than 100 years of seasonlong grazing had caused the deterioration of riparian resources in Whitehorse Basin to the point where the BLM was considering elimination of livestock grazing in the area. Because of habitat degradation and drought, the cutthroat trout had suffered a serious decline in numbers.

In 1989, the BLM signed a rest agreement with permittees which called for livestock removal for 3 years to allow improvement of riparian conditions. Meanwhile the BLM developed alternative livestock grazing strategies, including reduction in season of use, shift to early season use, reduction in AUM's, and construction of range improvement projects. Under section 7 of the ESA, the BLM was required to submit new grazing plans to the USFWS for review to determine jeopardy. A "no jeopardy" biological opinion (BO) was returned.

In 1994, the ODFW estimated the number of Lahontan cutthroat trout to be about 40,000 fish, an increase from past years that was attributable to improved riparian management and cessation of drought. Although some instream habitat in Whitehorse Basin remains marginal, current grazing practices appear to be compatible with riparian recovery and improving fish habitat.

Portions of 4 grazing allotments are located with the ACEC. Approximately 93 percent of the existing ACEC is located within the Trout Creek group of WSA's which includes Willow Creek WSA (3-152), Disaster Peak WSA (3-153), Fifteenmile Creek WSA (3-156), Oregon Canyon WSA (3-157), and Twelvemile Creek WSA (3-162). The BLM has recommended all of the Oregon Canyon WSA and portions of the others as suitable for wilderness designation. WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSA's until Congress makes a decision on wilderness designation.

Alternative A

Specific management: Under this alternative, the existing ACEC designation would be dropped, and Whitehorse Basin would be managed as in the past with emphasis on riparian improvement. The area would be open to rights-of-way, all minerals activities, plant collecting, and road maintenance; have an OHV limited use designation; and be managed under VRM Class II. All fire suppression and rehabilitation activities would be permitted. In riparian areas, locatable and leasable mineral development under standard NSO stipulations would be allowed, but saleable mineral activity would be precluded. Other activities in riparian areas would be managed as in Alternative C in Chapter 3, Water Resources and Riparian/Wetland Areas. Livestock use would continue in Whitehorse Basin based on existing grazing schedules approved through ESA “”Section 7 ” consultation with the USFWS.

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Rationale: Current management has maintained and improved resource values in Whitehorse Basin. Removal of livestock for 3 years to allow improvement of riparian conditions, followed by reduction in season of use, a shift to early season use, a reduction in AUM's, and construction of range improvement projects, has promoted riparian recovery and contributed to an increase in cutthroat numbers. Because all management activities are regulated by the ESA through compliance with BA's and consultations with the USFWS, additional protection of the area with an ACEC designation is unnecessary.

Alternative B

***Specific management*:** Under this alternative, the 1,977-acre existing ACEC would be retained. The boundaries would be modified to remove all private land from the designated area, which would mostly affect Whitehorse Creek below the confluence with Little Whitehorse and Big Whitehorse Creeks. All existing management prescriptions as outlined in IMPLWR would apply to that portion of the ACEC designated as WSA. WSA's are under VRM Class II and are closed to saleable and leasable minerals activities. Outside the WSA, the ACEC would be under VRM Class IV and open to rights-of-way, OHV use, leasable mineral activity, plant collecting, and road maintenance. The ACEC would be withdrawn from locatable minerals development and closed to saleable minerals activities. The area would be open to all fire suppression and rehabilitation activities. Livestock use would continue based on existing grazing schedules approved through ESA “Section 7 ” consultation with the USFWS.

Rationale: Existing management has maintained and improved resource values of the area through activities occurring under the current ACEC designation.

Alternative C

***Specific management*:** Same as Alternative A.

Rationale: Same as Alternative A.

Alternative D

***Specific management*:** Under this alternative, 2,260 acres would be designated as an ACEC. The proposed boundaries would be adjusted to eliminate private land, as in Alternative B, and to add areas with dense populations of Lahontan cutthroat trout in the headwaters of Willow Creek and Little Whitehorse Creek. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit, and the area would be under VRM Class II. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation. The area would be withdrawn from locatable minerals activity and closed to saleable minerals. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: ACEC designation would protect resource values by designated management of potentially detrimental activities, particularly OHV use and project development, would potentially have the most impact and therefore are the most restricted.

Alternative D2

***Specific management*:** Under this alternative, 2,260 acres would be designated as an ACEC and managed the same as Alternative D, except there would be no leasable minerals activities.

Rationale: Same as Alternative D, except no minerals activities would maximize protection of the area.

Alternative E

***Specific management*:** The existing ACEC designation would be dropped.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, the existing ACEC designation would be dropped, and Whitehorse Basin would be managed as in the past with emphasis on riparian improvement. The area would be VRM Class II, have an OHV limited use designation, and be open to rights-of-way, most minerals activities, plant collecting, and road maintenance. All fire suppression and rehabilitation activities would be permitted. In riparian areas, locatable and leasable mineral development under standard NSO stipulations would be allowed, but saleable mineral activity would be precluded. Other activities in riparian areas

would be managed as in Alternative C in Chapter 3, Water Resources and Riparian/Wetland Areas. Livestock use would continue in Whitehorse Basin based on existing grazing schedules approved through ESA "Section 7 " consultation with the USFWS.

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Rationale: Current management has maintained and improved resource values in Whitehorse Basin. Removal of livestock for 3 years to allow improvement of riparian conditions, followed by reduction in season of use, a shift to early season use, a reduction in AUM's, and construction of range improvement projects, has promoted riparian recovery and contributed to an increase in cutthroat numbers. Because all management activities are regulated by the ESA through compliance with BA's and consultations with the USFWS, as appropriate, additional protection of the area with an ACEC designation would be unnecessary.

Potential

Dry Creek Bench ACEC/RNA (Potential)

Description and values: The potential ACEC/RNA is located on the northern edge of the Oregon Canyon Mountains, taking in the upper basin of Dry Creek about 20 miles northwest of McDermitt, Nevada. The area has sizeable patches of mountain mahogany in relatively good condition in association with Saskatoon serviceberry. The mountain mahogany stands in this area are extensive, compared to other stands in the basin, and cover large areas within the steep drainages as well as on the small plateaus that lie at the edge of the drainages.

The relevant and important values for which this potential ACEC/RNA is being proposed are the mountain mahogany/whortleleaf snowberry/Idaho fescue and mountain mahogany/big sagebrush/Idaho fescue Basin and Range Province vegetation cells identified by the ONHP.

A portion of the Twelvemile WSA (3-162) is located within this potential ACEC/RNA and comprises approximately 98 percent of the maximum extent of the potential ACEC/RNA. BLM has recommended 26,240 acres of this WSA as suitable for wilderness. WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSA's until Congress makes a decision on wilderness designation.

A portion of one grazing allotment is located within the potential ACEC/RNA.

The proposed ACEC/RNA has a high potential for the occurrence of uranium and geothermal resources, and low potential for all other leasable and locatable minerals. Mineable quantities of uranium may be present in the area; however, the fact that there is no record of mining claims in the immediate area, and no significant domestic uranium industry, indicates a low potential. There is, however, a moderate to high potential for the development of low-temperature, direct heat uses of geothermal resources.

Alternative A

***Specific management*:** Under this alternative, 736 acres would be designated as an ACEC/RNA and managed the same as in Alternative C, except the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: A representative core of the values needing special protection would be protected by the ACEC/RNA.

Alternative B

Specific management: No ACEC/RNA would be designated, and the area would be managed as outlined in IMPLWR for the WSA portion of the area, including VRM Class II guidance and closure to leasable minerals activities and minerals materials. Outside the WSA, management would continue as in the past. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area outside WSA would continue to be open to all fire suppression and rehabilitation activities.

Rationale: The existing management to date has generally maintained the values of the area.

Alternative C

***Specific management*:** Under this alternative, 1,616 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts could be mitigated. OHV use would be limited to designated roads and trails. The ACEC/RNA would be under VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The ACEC/RNA would be open to locatable and leasable minerals development and closed to minerals materials activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for saleable minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Under this alternative, 1,741 acres would be designated as an ACEC/RNA, and managed the same as Alternative C, except that the area would be withdrawn from locatable mineral activity. Leasable minerals would be subject to NSO stipulations. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the increased acreage and management for leasable and locatable minerals activities would provide additional protection for the maximum extent of the relevant and important values.

Alternative D2

Specific management: Under this alternative, 1,741 acres would be designated as an ACEC/RNA, and managed the same as Alternative D, except that there would be no leasable minerals activities.

Rationale: Same as Alternative D, except that management for leasable minerals activities would provide additional protection.

Alternative E

***Specific management*:** No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, 1,616 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts could be mitigated. OHV use would be limited to designated roads and trails. The ACEC/RNA would be under VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The ACEC/RNA would be open to locatable and leasable minerals development and closed to minerals materials activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for saleable minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Little Whitehorse Exclosure ACEC/RNA (Potential)

***Description and values*:** The potential ACEC/RNA is an exclosure in a narrow canyon of Little Whitehorse Creek about 30 miles northwest of McDermitt, Nevada. The exclosure was constructed in 1972 and represents 24 years of natural recovery for the riparian and aquatic systems that have been excluded from grazing and other impacts.

The relevant and important values for which the potential ACEC/RNA is being proposed are the following vegetation cells identified by the ONHP: first to third order stream, high gradient reach, in sagebrush zone, with mountain alder and redosier dogwood; riparian community dominated by mountain alder and redoiser dogwood, with potential black cottonwood and riparian community dominated by Pacific willow and Wood's rose. Another relevant and important value associated with this potential ACEC/RNA is the presence of Lahontan cutthroat trout, a Federally-listed threatened species located within Little Whitehorse Creek.

Some of the Willow Creek WSA (3- 152) is located within the maximum extent of the potential ACEC/RNA. BLM has recommended 26,130 acres of the Willow Creek WSA as suitable for wilderness. WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSA's until Congress makes a decision on wilderness designation.

A portion of one grazing allotment is included in this potential ACEC/RNA.

The proposed ACEC/RNA has high potential for the occurrence of geothermal resources, a moderate potential for the occurrence of uranium, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with BLM of mining claims within the boundaries of the proposed ACEC/RNA and no demonstrated interest in locatable minerals, indicating a low potential for their development. There is, however, a moderate to high potential for the development of low-temperature, direct heat uses of geothermal resources.

Alternative A

***Specific management*:** Under this alternative, 58 acres would be designated as an ACEC/RNA. The ACEC/RNA would be managed the same as Alternative C.

Rationale: Same as Alternative C.

Alternative B

***Specific management*:** No ACEC/RNA would be designated. All existing management prescriptions as outlined in IMPLWR for the WSA portion of the area would apply, including VRM Class II, no minerals leases would be issued and the area closed to minerals materials. Outside of the WSA, management activities would continue as in the past.

Rationale: The existing management has maintained the values of the exclosure with existing activities restricted under the protection of the 1972 exclosure.

Alternative C

***Specific management*:** Under this alternative, 58 acres would be designated as an ACEC/RNA. The east and west boundaries of this ACEC/RNA would be the canyon rims, and the upstream and downstream ends of the 1972 exclosure fence line would form the north and south boundaries. The ACEC/RNA would be excluded from rights-of-way; the area would be closed to OHV use. The ACEC/RNA would be under VRM Class II. Plant collecting would require a permit. The ACEC/RNA would be withdrawn from locatable mineral activities, closed to saleable minerals activities, and subject to the NSO stipulation for leasable minerals activities. No livestock use would be permitted within the exclosure.

Rationale: The existing management has maintained the values of the area with existing activities occurring under the protection of the exclosure. ACEC/RNA designation would provide the public with a location for study of the riparian values the ACEC/RNA represents and would provide priority protection from activities that may occur in the future.

Alternative D

***Specific management*:** Under this alternative, 783 acres would be designated as an ACEC/RNA. The ACEC/RNA would be managed the same as in Alternative C above.

Rationale: The restriction of activities within the 1972 exclosure and an extended area would give additional protection for the relevant and important values.

Alternative D2

***Specific management*:** Under this alternative, 783 acres would be designated as an ACEC/RNA. The ACEC/RNA would be managed the same as in Alternative D above, except that there would be no leasable minerals activities.

Rationale: Same as Alternative D, except that management for leasable minerals activities would provide additional protection for the area.

Alternative E

***Specific management*:** No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

***Specific management*:** Under this alternative, 58 acres would be designated as an ACEC/RNA. The east and west boundaries of this ACEC/RNA would be the canyon rims, and the upstream and downstream ends of the 1972 exclosure fence line would form the north and south boundaries. The ACEC/RNA would be excluded from rights-of-way; the area would be closed to OHV use. The ACEC/RNA would be under VRM Class II. Plant collecting would require a permit. The ACEC/RNA would be withdrawn from locatable mineral activities, closed to saleable minerals activities, and subject to the NSO stipulation for leasable minerals activities. No livestock use would be permitted within the exclosure.

Rationale: The existing management has maintained the values of the area with existing activities occurring under the protection of the exclosure. ACEC/RNA designation would provide the public with a location for study of the riparian values the ACEC/RNA represents and would provide priority protection from activities that may occur in the future.

Mendi Gore Playa ACEC/RNA (Potential)

Description and values: The potential ACEC/RNA is located within a small enclosed basin approximately 1 mile northeast of Basque Station, Oregon. The dry lakebed located within the basin is dominated by an almost pure stand of winterfat. In addition, there are extensive stands of black sagebrush dominating the foothills, with a variety of bunchgrasses in the understory.

The relevant and important values for which this potential ACEC/RNA has been proposed are the black sagebrush/Sandberg bluegrass scabland and sand dropseed grassland/winterfat community vegetation cells identified by the ONHP.

Under the maximum extent as proposed in Alternative D, a portion of the ACEC would be in the Bowden Hills WSA (3-118) which comprises approximately 20 percent of the potential ACEC/RNA. BLM has recommended the Bowden Hills WSA as not suitable for wilderness designation. WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSA's until Congress makes wilderness designation decisions.

The potential ACEC/RNA includes a portion of one grazing allotment.

The proposed ACEC/RNA has a moderate potential for the occurrence of geothermal resources and a low potential for all other leasable and locatable minerals. There is no record with BLM of mining claims within the borders of the proposed ACEC/RNA and no demonstrated interest in energy or mineral resources, indicating a low potential for development.

Alternative A

***Specific management*:** Under this alternative, 148 acres would be designated as an ACEC/RNA for the winterfat community and managed the same as in Alternative C, except the area would be open for OHV use and all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be preferred for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values. Activities adjacent to the ACEC/RNA that would congregate livestock or cause surface disturbance would be prohibited.

Rationale: The existing management has generally maintained the values of the area, but may not maintain the resources in the future. ACEC/RNA designation and protective management would provide the BLM and the public with a location within the winterfat community for long-term research with security that the site would not change in the future.

Alternative B

***Specific management*:** No ACEC/RNA would be designated, and management would continue as in the past, including open OHV use, plant collection, and rights-of-way activities, under VRM Class IV guidance, and open to all mineral activities outside the WSA areas. Management as outlined in IMPLWR would apply to those areas within WSA's. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. Outside WSA's, the area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained the values of the area.

Alternative C

Specific management: Under this alternative, 148 acres would be designated as an ACEC/RNA for the winterfat community. Rights-of-way would be granted only if there is minimal conflict with resource values and impacts can be mitigated. OHVs would be limited to designated roads and trails. The ACEC/RNA would be VRM Class II, and plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation, and the ACEC/RNA would be open to locatable mineral development and closed to saleable minerals activities. The ACEC/RNA would be closed to organized recreation activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including intensity of use, that could have an impact on the relevant and important values would be carefully evaluated. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts to the relevant and important values. Activities

adjacent to the ACEC/RNA that would congregate livestock or cause surface disturbance to the ACEC/RNA would be prohibited.

Rationale: While existing management actions have partially served to protect the values of the area, the proposed management for minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values within the winterfat community. ACEC/RNA designation would provide BLM and the public with a location for the study of these values.

Alternative D

Specific management: Under this alternative, 4,829 acres would be designated as an ACEC/RNA for both black sagebrush and winterfat communities. The proposed boundary of the ACEC/RNA would include the entire Mendi Gore Basin and surrounding slopes on various aspects. Management of this area would be the same as in Alternative C above, except the area would be withdrawn from locatable minerals developments. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as in Alternative C above, with the added protection of mineral withdrawal. Increasing the size of the ACEC/RNA to the boundaries of the basin would provide additional protection to the maximum extent of the relevant and important values associated with the Mendi Gore Playa and would include the black sagebrush community type.

Alternative D2

Specific management: Under this alternative, 4,829 acres would be designated as an ACEC/RNA. Management of this area would be the same as in Alternative D above, except that there would be no leasable minerals activities.

Rationale: Same as in Alternative D above, with the added protection of no leasable minerals activities.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities impacting the relevant and important values would be prohibited or severely restricted.

Proposed RMP

Specific management: Under this alternative, 148 acres would be designated as an ACEC/RNA primarily for the winterfat community with a small area representing the black sagebrush community. Rights-of-way would be granted only if there is minimal conflict with resource values and impacts can be mitigated. OHVs would be limited to designated roads and trails. The ACEC/RNA would be VRM Class II, and plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation, and the ACEC/RNA would be open to locatable mineral development and closed to saleable minerals activities. The ACEC/RNA would be

closed to organized recreation activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including intensity of use, that could have an impact on the relevant and important values would be carefully evaluated. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts to the relevant and important values. Activities adjacent to the ACEC/RNA that would congregate livestock or cause surface disturbance to the ACEC/RNA would be prohibited.

Rationale: While existing management actions have partially served to protect the values of the area, the proposed management for minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values within the winterfat community and a small area of the black sagebrush community. ACEC/RNA designation would provide BLM and the public with a location for the study of these values.

Palomino Playa ACEC/RNA (Potential)

Description and values: The potential Palomino Playa ACEC/RNA is a dry playa lake near the Saddle Butte Lava fields about 10 miles northwest of Burns Junction, Oregon. The dry lakebed is about a half-mile long and is divided by a rocky finger. The lakebed is composed of shrink-swell clays that hold water throughout the winter and spring and then dries with polygonal cracking patterns forming in the summer. The playa is best known as having one of the largest populations of Davis' peppergrass, a special status perennial plant found only on clay soil playas, in the Owyhee Uplands of Oregon and Idaho. Palomino Playa is considered to be a barren playa because it is not dominated by large shrubs such as silver sagebrush or greasewood. Its soils seem to be composed mostly of clays, which have been products of the decomposition of volcanic ash commonly found in the Owyhee Uplands. Other playa lakes have lake sediment-based soils that have resulted from pluvial lakes in large basins, or the soils have high concentrations of alkali salts from evaporative processes that may be more sandy in texture or more crystalline. The surrounding uplands are in fair condition at Palomino Playa, having sustained grazing for quite some time. They are dominated by a shadscale saltbush-greasewood community at the lowest elevations immediately adjacent to the playa and by Wyoming big sagebrush-greasewood at slightly higher elevations. These elevational differences are actually about 10–20 feet; therefore, community changes mostly relate to alkaline soil conditions. Associated species in the shadscale saltbush/greasewood/sagebrush communities are few as even the grasses are reduced to a few scattered bunches of bottlebrush squirreltail. The noxious weed, halogeton, is common in the salt desert shrub uplands as is the weedy perfoliate pepperweed.

The relevant and important values for which this potential ACEC/RNA is being proposed are the shadscale saltbush/bunchgrass, black greasewood/bunchgrass community mosaic and bare playa community vegetation cells as identified by the ONHP, as well as the special status plant species, Davis' peppergrass.

The potential ACEC/RNA includes a portion of one livestock grazing allotment. It also lies within the Sand Springs HMA.

The proposed ACEC/RNA has moderate potential for the occurrence of geothermal resources, and a low potential for all other leasable minerals, as well as all locatable minerals. There is no record with BLM of mining claims within the boundaries of the proposed ACEC/RNA and no demonstrated interest in energy or mineral resources, indicating a low potential for development.

Alternative A

Specific management: Under this alternative, 64 acres would be designated as an ACEC/RNA and managed the same as under Alternative C, except the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be preferred for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified.

Alternative B

***Specific management*:** Under this alternative, no ACEC/RNA would be designated, and management would continue as in the past, including open OHV use, plant collection, rights-of-way activities, management under VRM Class IV guidance, and open to all mineral activities. Livestock use would continue based on existing grazing permit stipulations and approved AMP's. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values in the area.

Alternative C

***Specific management*:** Under this alternative, 642 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts could be mitigated. OHV use would be limited to designated roads and trails and the existing route through the playa would be closed, if possible. The ACEC/RNA would be VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation. The ACEC/RNA would be open to locatable minerals activities and closed to saleable minerals activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect the values of the area, the increased acreage and proposed management for minerals, livestock, rights-of-way, and other surface-disturbing activities would provide a more appropriate degree of management of and protection for the relevant and important values in this area.

Alternative D

***Specific management*:** Under this alternative, 847 acres would be designated as an ACEC/RNA. All management would be the same as Alternative C, except the ACEC/RNA would

be withdrawn from locatable mineral development. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except the increased acreage and management for locatable minerals activities provides additional protection for the full extent of the relevant and important values in this area.

Alternative D2

***Specific management*:** Under this alternative, 847 acres would be designated as an ACEC/RNA. All management would be the same as Alternative D, except there would be no leasable minerals activity.

Rationale: Same as Alternative D, with the added protection of no leasable minerals activity.

Alternative E

***Specific management*:** No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted. However, the effects of wild horses on vegetation and the playa soils may escalate as horses would replace livestock and may concentrate within the fragile playa area.

Proposed RMP

***Specific management*:** Under this alternative, 642 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts could be mitigated. OHV use would be limited to designated roads and trails and the existing route through the playa would be closed, if possible. The ACEC/RNA would be VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation. The ACEC/RNA would be open to locatable minerals activities and closed to saleable minerals activities. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect the values of the area, the ACEC designation and proposed management for minerals, livestock, OHV, rights-of-way, and other surface-disturbing activities would provide a more appropriate degree of management of and protection for the relevant and important values in this area.

Three Forks ACEC/RNA (Potential)

Description and values: The potential Three Forks ACEC/RNA is located in the Owyhee River Canyon 30 miles south of Jordan Valley and is within the Owyhee NWSR corridor,

established by Congress in 1984. The potential ACEC/RNA is also located within a power site withdrawal under the FERC by BOR. BLM adheres to conditions of a national agreement in the management of FERC-administered land. Limited access points within the wild river corridor for all other users of the public land are concentrated in this small area, creating potential conflicts and threats to the plant community resources. These threats include physical impact from livestock grazing and trailing, physical impact from recreation activities, introduction of noxious weeds by livestock, vehicles and recreational equipment, damage from road maintenance, and changes in fire frequency.

The relevant and important values for which this potential ACEC/RNA is being proposed include terrestrial, aquatic and riparian plant communities identified by the ONHP: bitter cherry, sandbar willow, and rosewood's low elevation riparian community; fourth order or greater stream segment; riparian community dominated by sandbar willow, and Pacific willow. This site offers one of the only access points into the Owyhee Canyon where plant communities can be studied.

Approximately 73 percent of the potential ACEC/RNA is located within the Owyhee River Canyon WSA (3-195). The BLM has recommended 152,040 acres of this WSA as suitable for wilderness. WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSA's until Congress makes wilderness designation decisions.

A portion of one grazing allotment is located within the potential ACEC/RNA.

The proposed ACEC/RNA has moderate potential for the occurrence of geothermal resources, and a low potential for all other leasable minerals, as well as all locatable minerals. There is no record with BLM of mining claims having ever been located within the boundaries of the proposed ACEC/RNA and no demonstrated interest in energy or mineral resources, indicating a low potential for development.

Alternative A

Special management: No ACEC/RNA would be designated, and management would be the same as in Alternative C.

Rationale: Same as Alternative C.

Alternative B

Special management: No ACEC/RNA would be designated; management would be as outlined in the Owyhee NWSR Management Plan and under IMPLWR for the WSA portion of the area. NWSR includes VRM Class I designation, withdrawal from all minerals activities, and protection and enhancement of ORV's such as wildlife and scenic, which directly relate to vegetation. For the WSA portion of the area outside the river corridor, management would include VRM Class II and closure to leasable and salable minerals activities.

Rationale: Existing management has maintained the values of the area.

Alternative C

Special management: No ACEC/RNA would be designated, and the area would continue to be managed under the guidance of the management plan for the Owyhee NWSR.

Rationale: Over 90 percent of the area, including the portion that contains the relevant and important values, would continue to be within the congressionally established wild river

segment, and plant communities are recognized as a key resource for the identified outstandingly remarkable wildlife and scenic values. Management under the 1986 "Owyhee NWSR Management Plan" and other guidance associated with the presence of cultural properties in the area, Executive Orders on developments within flood zones, and the FERC withdrawal would provide extensive protection for the relevant and important values with regard to development of recreation facilities, access routes, and livestock prescriptions.

Alternative D

Special management: Under this alternative, 579 acres would be designated as an ACEC and managed as described in Alternative C, except that plant collecting would be limited to permit only. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be an exclusion area for rights-of-way. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered, consistent with management of the Owyhee NWSR.

Rationale: Opportunities for enhancement of the values associated with the ACEC/RNA would be fully realized with management for plants, road maintenance, and grazing.

Alternative D2

Special management: Under this alternative, 579 acres would be designated as an ACEC and managed as described in Alternative D.

Rationale: Same as Alternative D.

Alternative E

Special management: Same as Alternative C.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or restricted.

Proposed RMP

Special management: No ACEC/RNA would be designated, and the area would continue to be managed under the guidance of the management plan for the Owyhee NWSR.

Rationale: Over 90 percent of the area, including the portion that contains the relevant and important values, would continue to be within the congressionally established wild river segment, and plant communities are recognized as a key resource for the identified outstandingly remarkable wildlife and scenic values. Management under the 1986 "Owyhee NWSR Management Plan" and other guidance associated with the presence of cultural properties in the area, Executive Orders on developments within flood zones, and the FERC withdrawal would provide extensive protection for the relevant and important values with regard to development of recreation facilities, access routes, and livestock prescriptions.

Toppin Creek Butte ACEC/RNA (Potential)

Description and values: The potential Toppin Butte ACEC/RNA is located 30 miles northeast of McDermitt, Nevada, adjacent to the Idaho stateline. The topography includes a

gently sloping hill with a rapidly draining soil. Little water has been available for livestock on the Butte, and the topography still limits livestock use on the upper slopes. Two playas at the base of Toppin Butte contain a bare playa community and a silver sagebrush community that have lesser research potential.

The relevant and important values for which this potential ACEC/RNA has been proposed are the low sagebrush/bluebunch wheatgrass community in excellent condition and low sagebrush/Idaho fescue plant community vegetation cells identified by the ONHP. These plant communities would be specially managed for current and future research. Also identified as relevant and important values are sage grouse and associated habitat for neotropical bird migration.

Portions of two WSA's are located within and comprise 100 percent of the potential ACEC/RNA. Approximately 152,040 acres of the Owyhee River Canyon WSA (3-195) has been recommended by BLM as suitable for wilderness designation. BLM has recommended Lookout Butte WSA (3-194) as not suitable for wilderness designation. WSA's are currently managed in accordance with BLM's IMPLWR. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSA's until Congress makes a decision on wilderness designation.

The potential ACEC/RNA includes a portion of one grazing allotment. Due to the presence of road 6350-0-AO and a water development, the playas have been disturbed and have less value for research, but could be included as comparison study plots for less disturbed playas.

The proposed ACEC/RNA has moderate potential for the occurrence of geothermal resources and a low potential for all other leasable and locatable minerals. There is no record with BLM of mining claims within the boundaries of the ACEC/RNA and no demonstrated interest in energy and mineral resources, indicating a low potential for development.

Alternative A

Specific management: Under this alternative, 3,996 acres would be proposed as an ACEC/RNA. The area would be managed as outlined in Alternative C, except the area would be open to all mineral activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical areas where the valued resources are located.

Alternative B

Specific management: No ACEC/RNA would be designated, and management would continue as in the past. All existing management prescriptions as outlined in IMPLWR would apply, including VRM Class II and closure to minerals materials activities; no minerals leases would be issued. Livestock use would continue based on existing grazing permit stipulations and the approved AMP.

Rationale: Current management to date has generally maintained some of the plant community values of the area; however, several noxious weed species are near the potential ACEC/RNA boundary at this time, and the difficulty of access makes the area currently low priority for treatment.

Alternative C

Specific management: Under this alternative, 3,996 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts could be mitigated. OHV use would be limited to designated roads and trails. The area would be VRM Class II, and plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The ACEC/RNA would be open to locatable and leasable minerals activities and closed to saleable minerals. Surface-disturbance would be deferred while soils are wet, and any future rehabilitation would be with local source native plant species. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. Noxious weeds would be aggressively controlled using limited methods focusing on roads and other disturbed areas in and adjacent to the ACEC/RNA.

Rationale: The most critical vegetation resources would be protected during the life of this plan, while eliminating portions of the potential ACEC/RNA that have received more use and are likely to be disturbed in the future. Most current uses would continue without damage to the resources due to the isolation and natural topography. Aggressive control of weeds would assist in preventing future invasions.

Alternative D

Specific management: Under this alternative, 4,644 acres would be designated as an ACEC/RNA. The area would be managed the same as in Alternative C, except the ACEC/RNA would be withdrawn from locatable mineral activities, and leasable mineral activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: The larger ACEC/RNA contains two additional plant communities that would be available for research, and the playas would be improved by potential reduction in grazing pressure. The increased acreage and additional management on locatable and leasable minerals activities would provide the maximum protection for the full extent of the relevant and important values.

Alternative D2

Specific management: Under this alternative, 4,644 acres would be designated as an ACEC/RNA. The area would be managed the same as in Alternative D, except there would be no leasable minerals activity.

Rationale: Same as Alternative D, except no leasable minerals activity would provide additional protection for the area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Proposed RMP

Specific management: Under this alternative, 3,996 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts could be mitigated. OHV use would be limited to designated roads and trails. The area would be VRM Class II, and plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The ACEC/RNA would be open to locatable and leasable minerals activities and closed to saleable minerals. Surface-disturbance would be deferred while soils are wet, and any future rehabilitation would be with local source native plant species. Livestock use would continue based on existing permit stipulations and approved AMP's. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. Noxious weeds would be aggressively controlled using limited methods, such as backpack hand sprayers, focusing on roads and other disturbed areas in and adjacent to the ACEC/RNA.

Rationale: The most critical vegetation resources would be protected during the life of this plan, while eliminating portions of the ACEC/RNA that have received more use and are likely to be disturbed in the future. Most current uses would continue without damage to the resources due to the isolation and natural topography. Aggressive control of weeds would assist in preventing future invasions.

Wild and Scenic Rivers

Objective: Protect and enhance outstandingly remarkable values (ORV's) of designated national wild and scenic rivers (NWSR's), and provide interim protection of ORV's of rivers found suitable for inclusion in the national wild and scenic river system (NWSRS) until Congress acts.

Rationale: The "National Wild and Scenic Rivers Act" (NWSRA) (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 5(d) 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. Section 10(a) describes the basic management requirement of protecting and enhancing the values that caused the river to be included in the NWSR system. In accordance with BLM policy, all eligible rivers were evaluated for suitability. The planning determination of suitability provides the basis for any decision to recommend legislation. Factors to be considered (see section 4[a] of the NWSRA) in the

suitability determination include: the current status of landownership and use in the area; the reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the NWSR system, and the values which would be foreclosed or diminished if the river is not protected as part of the NWSR system; other agencies, organizations or publics interested in designation or nondesignation; administrative costs; ability of the agency to manage and/or protect the river area; historic or existing rights. Refer to Table 3-13 for suitability by alternative.

Legal considerations specific to existing designated national wild and scenic rivers: The 1993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan" is currently under litigation regarding grazing management. An "Order of Modified Injunction" was filed in the District Court of Oregon on April 28, 2000. The order directed that certain fences and water developments (wells, pipelines and troughs) may be constructed by the grazing permittees to facilitate the elimination of grazing at "areas of concern" identified in the 1993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan." The District Court of Oregon retains jurisdiction over the case until a court ordered EIS is completed, unless its ruling is overturned by a higher court. The new EIS, which would require much data collection to support impact predictions, is projected to be complete in the year 2006. Management of the remainder of the designated Owyhee NWSR's, including grazing management in areas other than the "areas of concern" listed in the river plan EA, would continue under the direction of the plan of 1993.

Monitoring: Monitor use and ORV's within designated and administratively suitable rivers to ensure protection and enhancement of ORV's consistent with the NWSRA. Also see Appendix W.

Management common to all alternatives:

Congressionally Designated Rivers

The basic river management plan goals for the Main, West Little, and North Fork Owyhee NWSR's are to (1) protect and enhance the outstandingly remarkable recreational, scenic, geologic, wildlife, and cultural values of the designated Main Owyhee River; (2) protect and enhance the outstandingly remarkable recreational, scenic, and wildlife values of the designated West Little Owyhee River; (3) protect and enhance the outstandingly remarkable recreational, scenic, and wildlife values of the designated North Fork Owyhee River; (4) ensure protection and enhancement of the values which caused these rivers to be designated without limiting other uses that are consistent with those goals and do not substantially interfere with public use and enjoyment of these values; (5) provide visitor services to enhance the enjoyment of the Owyhee River System while protecting the unique and sensitive resource values of the area; and (6) enhance visitor and land user appreciation of the important resources of these rivers.

Administratively Suitable Rivers

Provide interim protection of the ORV's of administratively suitable rivers while awaiting a determination by Congress. Refer to BLM Manual 8351 for NWSR IMP guidelines.

Alternative A

Congressionally Designated Rivers

Manage the Main, West Little, and North Fork Owyhee NWSR's in accordance with the approved 1993 river management plan. For the Main Owyhee NWSR, the Deary Pasture area of the Jackies Butte Allotment would be closed to livestock grazing (refer to Table 3-6). The range, pasture, and corral portion of the acquired properties known as the Birch Creek

Table 3-13.—*Eligible national wild and scenic study rivers by alternative*

Alternative	Resource area	River	Miles	Acres [1]	Tentative classification
A	Malheur	Owyhee River Below the Dam (M16) [3]	13.5 [2]	3,973	Recreational
B	Malheur	North Fork Malheur River (M17) [3]	3.6	996	Wild
C	Malheur	Dry Creek (M15) [3]	16.8	5,344	Wild
		Owyhee River Below the Dam (M16) [3]	13.5 [2]	3,973	Recreational
		North Fork Malheur River (M17) [3]	3.6	996	Wild
	Jordan	Antelope Creek (J19) [3]	8.6	1,448	Wild
D	Malheur	Cottonwood Creek (M1)	10.5	3,395	Scenic
		Black Canyon Creek (M6)	0.7	236	Wild
		South Fork Indian Creek (M8)	2.0	626	Wild
		Canyon Creek (M9)	3.0	941	Wild
		Malheur River (M12)	13.7 [4]	4,426	Scenic
		South Fork Carter Creek (M14)	2.5	788	Wild
		Dry Creek (M15) [3]	17.6	6,564	Wild
		Owyhee River Below the Dam (M16) [3]	14.7 [5]	4,362	Recreational
		North Fork Malheur River (M17) [3]	3.6	996	Wild
			1.0 [6]	546	Recreational
	Jordan	Whitehorse Creek (J1)	15.2	4,752	Wild
		Doolittle Creek (J2)	2.9	972	Scenic
			5.4	1,592	Wild
		Little Whitehorse Creek (J4)	3.5	1,126	Wild
			8.2	2,664	Scenic
		Cottonwood Creek (J5)	5.8	1,580	Wild
		Willow Creek (J6)	11.3	3,566	Scenic
			4.8	1,485	Recreational
		McDermitt Creek (J7)	4.7	1,397	Wild
			3.4	1,072	Scenic
		North Fork McDermitt Creek (J8)	4.5	1,288	Wild
		Sage Creek (J9)	4.4	1,331	Wild
		Antelope Creek (J10)	9.2	2,847	Wild
		Indian Creek (J14)	2.7	797	Wild
		Oregon Canyon Creek (J15)	13.0	2,352	Wild
		Rattlesnake Creek (J17)	11.3	3,006	Wild
		Antelope Creek (J19) [3]	8.6	1,448	Wild
D2	Malheur	Dry Creek (M15) [3]	16.8	5,344	Wild
		Owyhee River Below the Dam (M16) [3]	13.5 [2]	3,973	Recreational
		North Fork Malheur River (M17) [3]	3.6	996	Wild
	Jordan	Antelope Creek (J19) [3]	8.6	1,448	Wild
E	N/A				
PRMP	Malheur	Dry Creek (M15) [3]	16.8	5,344	Wild
		Owyhee River Below the Dam (M16) [3]	13.5 [2]	3,973	Recreational
		North Fork Malheur River (M17) [3]	3.6	996	Wild
	Jordan	Antelope Creek (J19) [3]	8.6	1,448	Wild

[1] Acres equal 0.5-mile-wide corridor (0.25-mile each side), except on Antelope (J19) which is rim to rim.
[2] Under cooperative study, includes 4.3 river miles of BOR.
[3] These rivers have met the suitability criteria and have been determined to be administratively suitable for inclusion in NWSRS.
[4] Under cooperative study, includes 8.7 river miles of ODFW.
[5] Under cooperative study, includes 5.5 river miles of BOR.
[6] Under cooperative study, includes 0.5 river miles of BOR.

Historic Ranch would be open for grazing permit applications, and designated buildings at the ranch would be leased to a concessionaire for renting to the public for overnight use, consistent with maintaining their historic integrity.

Administratively Suitable Rivers

Approximately 13.5 miles of the Owyhee River Below the Dam would be administratively suitable for designation by Congress as NWSR (see Table 3-13).

Alternative B

Congressionally Designated Rivers

Manage the Main, West Little, and North Fork Owyhee NWSR's in accordance with the approved 1993 river management plan. For the Main Owyhee NWSR, the acquired properties known as the Birch Creek Historic Ranch would be open for grazing permit applications. Feasibility of public rental of the buildings would be pursued. Livestock grazing authorizations for that portion of the Owyhee River corridor known as the Deary Pasture would be withheld until such time as impacts on ORV's and other resource values are mitigated.

Administratively Suitable Rivers

Approximately 3.6 miles of the Congressionally mandated North Fork Malheur Study River would be administratively suitable for designation by Congress as a NWSR with a tentative classification of wild river area. Provide for interim protection of the ORV's while awaiting a determination by Congress.

Provide interim protection of the ORV's of all the eligible streams listed in Table 2-30, until suitability assessments are completed.

Alternative C

Congressionally Designated Rivers

Manage the Main, West Little, and North Fork Owyhee NWSR's in accordance with the approved 1993 river management plan. For the Main Owyhee NWSR, the Deary Pasture area of the Jackies Butte Allotment would be closed to livestock grazing (refer to Table 3-6). The acquired properties known as the Birch Creek Historic Ranch would be closed to application for term grazing permits except for temporary grazing authorizations. These would be issued at the discretion of the BLM for management purposes (including, but not limited to, vegetation manipulation or field management), administrative purposes, and interpretive needs. Livestock trailing would continue under authorization. Designated buildings at the ranch would be available to the public for overnight use and other compatible uses consistent with public safety requirements.

Administratively Suitable Rivers

Approximately 42.5 miles of eligible rivers and streams would be administratively suitable for designation by Congress as NWSR's (see Table 3-13).

Alternative D

Congressionally Designated Rivers

Manage the Main, West Little, and North Fork Owyhee NWSR's in accordance with the approved 1993 river management plan. For the Main Owyhee NWSR, the Deary Pasture

area of the Jackies Butte Allotment would be closed to livestock grazing (refer to Table 3-6). The acquired properties known as the Birch Creek Historic Ranch would be closed to grazing. The BLM would make available the designated buildings at the ranch to nonprofit groups conducting environmental education camps, science camps, research stations, and similar activities and uses.

Administratively Suitable Rivers

Approximately 188 miles of eligible rivers and streams would be administratively suitable for designation by Congress as NWSR's (see Table 3-13). The classification for these rivers would be scenic or recreational.

Alternative D2

Congressionally Designated Rivers

Manage the Main, West Little, and North Fork Owyhee NWSR's in accordance with the approved 1993 river management plan, except that the corridors of the three designated rivers would not be allocated to livestock grazing (see Appendix Q) and the range, pasture, and corral portion of the acquired properties known as the Birch Creek Historic Ranch would not be open for grazing permit applications. Designated buildings at the ranch would be managed as described under Alternative D, consistent with maintaining their historic integrity.

Administratively Suitable Rivers

Approximately 42.5 miles of four administratively suitable rivers would be recommended for designation by Congress as NWSR's (see Table 3-13). Refer to BLM Manual 8351 for NWSR interim management guidelines.

Alternative E

Congressionally Designated Rivers

Manage the Main, West Little, and North Fork Owyhee NWSR's in accordance with the approved 1993 river management plan, except the NWSR's would not be allocated to livestock grazing. For the Main Owyhee River, the buildings at the Birch Creek Historic Ranch would not be available for use. Livestock grazing would be excluded from all public land including the Deary Pasture area and Birch Creek Historic Ranch.

Administratively Suitable Rivers

None of the eligible rivers and streams would be administratively suitable for designation by Congress as NWSR's.

Proposed RMP

Congressionally Designated Rivers

Since the Draft SEORMP was published for public comment, the 1993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan" has been and presently remains under litigation regarding grazing management. An "Order of Modified Injunction" was filed in the District Court of Oregon on April 28, 2000. The order directed that certain fences and water developments (wells, pipelines and troughs) may be constructed by the grazing permittees to facilitate the elimination of grazing at "areas of concern" identified in the 1993 "Main, West Little, and North Fork Owyhee National Wild and

Scenic Rivers Management Plan." The District Court of Oregon retains jurisdiction over the case until a court ordered EIS is completed, unless its ruling is overturned by a higher court. The new EIS, which would require much data collection to support impact predictions, is projected to be complete in the year 2006. Management of the remainder of the designated Owyhee NWSR's, including grazing management in areas other than the "areas of concern" listed in the river plan EA, would continue under the direction of the plan of 1993.

Manage the Main, West Little, and North Fork Owyhee NWSR's in accordance with the approved 1993 river management plan, while remaining in compliance with (1) the judge's opinion and order which affects livestock grazing in the plan's "areas of concern" and (2) resolution of litigation. For the Main Owyhee NWSR, the Deary Pasture area of the Jackies Butte Allotment would be closed to livestock grazing (refer to Table 3-6). Livestock trailing would continue where feasible and in compliance with the District Court of Oregon's direction. The acquired properties known as the Birch Creek Historic Ranch would be closed to application for term grazing permits except for temporary grazing authorizations. These would be issued at the discretion of the BLM for management purposes (including, but not limited to, vegetation manipulation or field management), administrative purposes, and interpretive needs. Designated buildings at the Birch Creek Historic Ranch would be available to the public for overnight use and other compatible uses consistent with public safety requirements. Opportunities for closely supervised concessionaire agreements may be pursued, consistent with protection of ORV's and historic values.

Uses within congressionally designated NWSR's would be restricted or excluded where such uses are determined to degrade ORV's or impair opportunities for enhancement of ORV's.

Administratively Suitable Rivers

Approximately 42.5 miles of eligible rivers and streams would be administratively suitable for designation by Congress as NWSR's (as depicted in Table 3-13). This would include three river segments in MRA: Dry Creek (16.8 miles with a tentative wild classification), Owyhee River Below the Dam (13.5 miles with a tentative recreational classification),and North Fork Malheur River (3.6 miles with a tentative wild classification); and Antelope Creek (8.6 miles with a tentative wild classification) in JRA. These river/stream segments and their associated half-mile wide interim corridors of public lands (a quarter mile either side of their banks) would be provided interim protection of their ORV's while awaiting a designation determination by Congress. Refer to BLM Manual 8351 for NWSR interim management guidelines. Uses within these administratively suitable rivers would be restricted or excluded where such uses are determined to degrade ORV's.

Land Adjacent to Wilderness Study Areas

Objective: BLM-administered land identified in the 1991 "Wilderness Study Report, Oregon" (WSRO) and determined to have wilderness values would be included in adjacent wilderness study areas (WSA's) and managed under the "Interim Management Policy for Land under Wilderness Review" (IMPLWR).

Rationale: Under FLPMA, wilderness preservation is part of BLM's multiple-use mandate, and wilderness is recognized as part of the spectrum of resource values considered in the land use planning process. Under the wilderness review program, the existing designated WSA's are managed in accordance with BLM's IMPLWR. 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 (Public Law 88-577), must be protected and enhanced in all WSA's. The initial task of identifying areas suitable for wilderness preservation has been completed as mandated in FLPMA section 603, and is documented in OWFEIS

and WSRO. In addition, and as identified in the WSRO, there are parcels of public land outside but immediately adjacent to WSA's that have been recommended as suitable for wilderness designation. These areas would be included in the appropriate WSA and managed as WSA's under authority of FLPMA sections 202 and 302. The IMPLWR would apply to these areas while under wilderness consideration by Congress.

Monitoring: Monitoring and surveillance of the parcels of land added to existing WSA's would be done to ensure compliance with IMPLWR.

Alternative A

Certain tracts of land that were identified in the WSRO as non-Federal land identified for possible acquisition (that have since been or may be acquired) or as adjacent Federal land recommended for wilderness would be added to existing WSA's and managed under IMPLWR guidance. This addition would be about 3,280 acres of BLM land and involve three WSA's (see Table 3-14).

Remaining non-Federal land identified for acquisition in the WSRO would be assessed for wilderness characteristics when acquired as public land. If the land under consideration meets wilderness characteristics, then the acquired land would be included as part of an adjacent WSA and be managed to protect their wilderness values under IMPLWR.

Alternative B

Land identified in the WSRO would not be added to existing WSA's nor managed under IMPLWR.

Alternatives C, D, D2 and E

Same as Alternative A.

Table 3-14.—*Land to be added to wilderness study areas identified in the October 1991 "Oregon BLM Wilderness Study Report" that are recommended for wilderness designation (acres)*

Affected WSA's	Affected adjacent BLM lands	Presently affected acquired lands (1991-97)
Malheur Resource Area		
Blue Canyon (3-73)	0	40
Gold Creek (3-33)	2,200	0
Owyhee Breaks (3-59)	0	40
TOTAL	2,200	80
Jordan Resource Area		
Lower Owyhee (3-110)	100	480
Twelvemile Creek (3-162)	980	300
TOTAL	1,080	780
GRAND TOTAL	3,280	860

Proposed RMP

Certain tracts of land that were identified in the WSRO as non-Federal land identified for possible acquisition (that have since been or may be acquired) or as adjacent Federal land recommended for wilderness would be added to existing WSA's and managed under IMPLWR guidance. This addition would be about 3,280 acres of BLM land and involve three WSA's (see Table 3-14). See Map WSA-1 in the Draft SEORMP/EIS for the location of existing WSA's in the planning area.

Remaining non-Federal land identified for acquisition in the WSRO would be assessed for wilderness characteristics when acquired as public land. If the land under consideration meets wilderness characteristics, then the acquired land would be included as part of an adjacent WSA and be managed to protect their wilderness values under the IMPLWR.

Human Uses and Values

Objective: Manage public land and pursue partnerships to provide social and economic benefits to local residents, businesses, visitors, and future generations.

Rationale: Public land accounts for about 75 percent of the land base within the planning area. This land contains many valuable resources, including commodity, aesthetic, and recreational resources. Access to public land, permitted uses, and sale of resources all generate private economic activity, primarily within the local economy, but also at the state, national, and global economic scales. Revenues derived from BLM land are used to fund resource protection and development activities, and portions of these collections are shared with local governments or returned to the U.S. Treasury.

Monitoring: Monitor commodity and recreational uses of public land. Tally collections and identify projects and activities that have been funded by commodity collections in annual planning updates.

Alternative A

Make allocations that maximize opportunities for private individuals and firms to develop natural resource-based industries. Maximize areas open for mining exploration. Approve the highest sustainable number of permits for outfitters and guides. Allow the maximum forage to be consumed by livestock that can be sustained by the resource, while meeting the resource objectives. Support the development of forest and woodland products and markets, approve commercial permits for collections, and make determinations of sustainable yield a priority for each new products identified.

Alternative B

Continue current management, resource allocations, and work cooperatively with private, community, and local government groups to continue to provide for customary uses consistent with other resource objectives.

Alternative C

Work cooperatively with private, community, and local government groups to continue to provide for customary uses consistent with other resource objectives, and to diversify local economies and expand new industries. Support the development of forest and woodland products and markets and approve commercial permits for collections. Uses must be determined to be consistent with other natural resource objectives.

Alternative D

Work with private and community groups and local governments to diversify local economies and expand new industries that are based on natural values and nonconsumptive uses of public land. Continue existing commodity uses to the extent practicable while emphasizing resource values and functioning of natural systems.

Alternative D2

Same as Alternative D.

Alternative E

No commodity uses and minimize human impacts on public land. Management activities required to meet legal obligations, provide environmental protection, and ensure human safety would contribute minimally to the local economy.

Proposed RMP

Work cooperatively with private, community, and local government groups to diversify local economies and expand new industries consistent with other resource objectives. Continue to provide for customary commodity uses when consistent with other resource objectives.

Cultural Resources

Objective 1: Protect and conserve cultural and paleontological resources.

Rationale: The "National Historic Preservation Act" of 1966, as amended, mandates Federal agencies to protect and preserve prehistoric and historic cultural properties that are eligible or potentially eligible for inclusion on the National Register of Historic Places.

On November 10, 1978, Congress designated the Oregon Trail as a national historic trail by an amendment (Public Law 95-625) to the "National Trails System Act" (Public Law 90-543). Under the Act, the Secretary of Interior is directed to administer the Oregon National Historic Trail. The stated purpose of national historic trail designation is to identify and protect the Oregon Trail, along with its historic remnants and artifacts, for public use and enjoyment. The "National Trails System Act" directed the Secretary of the Interior to prepare comprehensive management plans and adopt uniform trail markers. In 1981, the National Park Service completed a management plan for the Oregon Trail which identified important components of the trail; and recommended measures for protection, interpretation, and marking the route. In 1989, the BLM Vale District completed the management plan for the Oregon National Historic Trail across the Vale District. This plan sets forth a prescribed sequence of long and short term management actions for the protection, preservation, interpretation and public recreation use of the Oregon National Historic Trail in the Vale District.

Significant paleontological sites are protected under FLPMA. FLPMA charges the BLM to (1) manage public land in a manner that protects the quality of scientific and other values, and (2) see that land and resources are periodically and systematically inventoried.

Monitoring: Monitor cultural/paleontological resource sites to determine site condition and mitigation needs.

Alternative A

Manage the Oregon National Historic Trail in accordance with the ONHTMP. Maintain and restore historic structures at the Birch Creek Historic Ranch as specified in the SHPO-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.

Protect against illegal artifact collection, site excavation, and vandalism by patrolling potential National Register eligible sites and subregions with established enforcement needs such as the following: Willow Creek Valley, Owyhee River Canyon, Oregon Canyon Mountains, Willow Creek Ruins, and the Oregon National Historic Trail.

Develop a cultural resource monitoring plan to evaluate the success of cultural resource protection measures associated with BLM projects. Limit other uses as necessary to protect the integrity of significant sites and coordinate with SHPO.

Alternative B

Protect against illegal artifact co llection, site excavation, and vandalism by patrolling potential National Register eligible sites and subregions with established enforcement needs such as the following: Willow Creek Valley, Owyhee River Canyon, Oregon Canyon Mountains, Willow Creek Ruins and the Oregon National Historic Trail.

Manage the Oregon National Historic Trail in accordance with the ONHTMP. Coordinate with SHPO on resource protection measures associated with BLM projects. Maintain and restore historic structures at the Birch Creek Historic Ranch as specified in the SHPO-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.

Alternative C

Protect against illegal artifact collection, site excavation, and vandalism by patrolling potential National Register eligible sites and subregions with established enforcement needs such as the following: Willow Creek Valley, Owyhee River Canyon, Oregon Canyon Mountains, Willow Creek Ruins, and the Oregon National Historic Trail.

Develop a cultural resource monitoring plan to evaluate the success of cultural resource protection measures associated with BLM projects.

Manage the Oregon National Historic Trail in accordance with the ONHTMP. Maintain and restore historic structures at the Birch Creek Historic Ranch as specified in the SHPO-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.

Alternative D

Protect against illegal artifact collection, site excavation, and vandalism by patrolling potential National Register eligible sites and subregions with established enforcement needs such as the following: Willow Creek Valley, Owyhee River Canyon, Oregon Canyon Mountains, Willow Creek Ruins, and the Oregon National Historic Trail.

Develop a cultural resource monitoring plan to evaluate the success of cultural resource protection measures associated with BLM projects.

Manage the Oregon National Historic Trail in accordance with the ONHTMP. Maintain and restore historic structures at the Birch Creek Historic Ranch as specified in the SHPO-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.

Alternative D2

Same as for Alternative D.

Alternative E

Same as for Alternative D.

Proposed RMP

Protect against illegal artifact collection, site excavation, and vandalism by patrolling potential National Register eligible sites and subregions with established enforcement needs.

Manage the Oregon National Historic Trail in accordance with the ONHTMP. Maintain and restore historic structures at the Birch Creek Historic Ranch as specified in the SHPO-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.

Objective 2: Increase the public's knowledge of, appreciation for, and sensitivity to cultural and paleontological resources.

Rationale: Cultural and paleontological resources are fragile and irreplaceable when damaged. These resources are disappearing through illegal collection, excavation, and other vandalism. If the public feels it has equity in the Nation's cultural heritage, the resources will be appreciated and better protected from vandalism.

Monitoring: Develop and monitor presentations to the public, educational brochures, interpretive materials, and informational displays for the public.

Alternative A

Through cost-share agreements or with university student volunteers, inventory areas with high potential for fossil resources and manage for scientific as well as public interest values.

Alternative B

Provide on- or off-site interpretation of the Oregon National Historic Trail and Birch Creek Historic Ranch.

Alternative C

Provide on- or off-site interpretation of appropriate sites, including the following: the Chico, California, to Silver City, Idaho, wagon road; the Birch Creek Historic Ranch; Coffee Pot Crater (natural history); and the Oregon National Historic Trail.

Through cost-share agreements or with university student volunteers, inventory areas with high potential for fossil resources and manage for scientific as well as public interest values.

Alternative D, D2, and E

Same as for Alternative C.

Proposed RMP

Provide on- or off-site interpretation of appropriate sites, including the following: the Chico, California, to Silver City, Idaho, wagon road; the Birch Creek Historic Ranch; Coffee Pot Crater (natural history); and the Oregon National Historic Trail.

Inventory areas with high potential for fossil resources and manage for scientific as well as public interest values.

Objective 3: Consult and coordinate with American Indian groups to ensure their interests are considered and their traditional religious sites, landforms, and resources are taken into account.

Rationale: It is Federal policy to consult and coordinate with American Indian groups so that their rights and interests are taken into account when land use decisions are made. In addition, American Indian traditions are addressed in the "National Historic Preservation Act," "Native American Graves Protection and Repatriation Act," the "American Indian Religious Freedom Act," and Executive Order 13007 (Sacred Sites).

Monitoring: Develop procedures to track consultations and document all written, telephone, electronic and in-person communications; review yearly for adequacy.

Alternative A

Consider American Indian requests to practice traditional activities on specific public land not identified in this plan, on a case-by-case basis. Where practicable, allow for traditional uses of such public land by American Indians.

Develop activity plans for American Indian traditional use areas when identified, on a case-by-case basis, in consultation with the affected tribes.

Alternative B

Limit land treatments, the construction of short- or long-term livestock holding facilities, livestock salt grounds, livestock watering troughs, and the harvest of standing trees or portions of standing trees for posts, boughs, or fuelwood within identified American Indian root gathering areas.

Manage American Indian traditional use areas identified on public land to allow for the continuation of such uses. Retain all such areas in Federal ownership.

Consider American Indian requests to practice traditional activities on specific public land not identified in this plan, on a case-by-case basis. Where practicable, allow for traditional uses of such public land by American Indians.

Develop activity plans for American Indian traditional use areas when identified, on a case-by-case basis, in consultation with the affected tribes.

Alternative C, D and D2

Same as for Alternative B.

Alternative E

Same as for Alternative A.

Proposed RMP

Limit land treatments and surface-disturbing activities within identified American Indian root gathering areas.

Protect American Indian traditional use areas identified on public land to allow for the continuation of such uses. Coordinate and consult with American Indian Tribes on protection and management of their identified traditional use areas. Develop activity plans for American Indian traditional use areas when identified, on a case-by-case basis, in consultation with the affected tribes.

Consider American Indian requests to practice traditional activities on specific public land not identified in this plan and allow for traditional uses of such public land by American Indians where consistent with other resource objectives.

Land and Realty

Realty management actions that normally occur regardless of alternative:

1) Meet public needs for use authorizations such as rights-of-way, leases, and permits consistent with other resource objectives. Encourage right-of-way applicants to locate their facilities within designated corridors (Map LAND-1 in the Draft SEORMP/EIS) to minimize impacts to other resource values. Maintain existing communication sites and allow new sites that will be consistent with other resource values. Develop site plans that enhance site quality (see Appendix L). Encourage relinquishment of no longer needed material and borrow sites that were established under title 23 of the "Federal Highway Act."

2) Initiate new withdrawal actions to protect high value resources or government capital investments. Review withdrawals in order to recommend continuations, modifications, revocations, or terminations. Appendix L lists existing withdrawals. When acquiring land, determine on a case-by-case basis whether or not the land should be withdrawn from entry under the public land laws, mining laws, or mineral leasing laws.

3) Acquire and maintain legal public access to public land consistent with other resource objectives. Existing easements and access needs are depicted on Maps LAND-2J and -2M.

Roads may have a major impact on a multitude of physical and biological processes, as indicated in the "Scientific Assessment for the Draft Eastside EIS" (Quigley and Arbelbide 1996). Careful planning of roads is necessary to balance human desires with protection of resource values. A transportation management plan will be developed by the engineering staff(s) to consolidate documents outlining the BLM's philosophy toward transportation management. The plan will not make specific transportation management decisions but will supply general guidance and direction. This document will become the district's final transportation plan upon designation of arterial, collector, local, and land management roads and the completion of transportation management objectives that recommend specific management on individual roads. To ensure that resource objectives are met, standards for construction, maintenance, and access management for the road and trail system will be

required. This plan will respond to the district's ROD and approved resource management plan objectives to develop and maintain a transportation plan that meets resource management objectives while serving the needs of users in an environmentally sound manner. Roads will be addressed under specific resource activities.

4) Eliminate unauthorized use of public land. Adjudicate and process unauthorized use cases and resolve trespass by (a) issuing authorizations, (b) terminating the use and reclaiming the land, and/or (c) disposing of land through exchanges and/or sales, regardless of land tenure zones.

5) Clean up and reclaim public land consistent with other resource objectives.

Objective 1: Retain public land with high and public resource values. Consolidate public landholdings and acquire land or interests in land with high and public resource values to ensure effective administration and improve resource management. Acquired land would be managed for the purposes for which it was acquired. Make available for disposal approximately 62,100 acres of public land within Zone 3 by State Indemnity Selection, private or State exchange, "Recreation and Public Purpose Act" (R&PP) lease or sale, public sale, or other authorized method (see Appendix L).

Rationale: Section 102 of FLPMA requires that public land be retained in Federal ownership unless disposal of a particular parcel will serve the national interest. Acquisition of land to consolidate ownership patterns will provide for more efficient land management and administration for both public and private landowners. Retention and acquisition of land containing significant resource values will provide for long-term protection and management of those values. Any acquired land or acquired interest in land would be managed for the purposes for which they are acquired or in the same manner as adjacent or comparable public land.

Monitoring: Review public access needs in all land tenure adjustment transactions on a periodic basis; apply resource monitoring procedures utilized on adjacent or comparable land to newly acquired land; follow normal BLM accomplishment and plan implementation tracking processes.

Management common to all alternatives: Acquire, maintain, and develop legal public and administrative access consistent with other resource values (see Map LAND-1 in the Draft SEORMP/EIS). Consider public access needs in all land tenure adjustments. Make land tenure adjustments consistent with the criteria identified in Appendix L1. Refer to Maps LAND-2J and -2M for a depiction of land tenure zones. Any acquired land or acquired interest in land would be managed for the purposes for which they are acquired or in the same manner as adjacent or comparable public land.

Alternative A

1) Retain or increase public land holdings in Zone 1, with special emphasis on acquiring land that would facilitate commodity production in accordance with the land tenure adjustment criteria and legal requirements listed in Appendix L.

2) Limited retention and consolidation of land in Zone 2, with special emphasis on land exchanges that would facilitate commodity production. Create well-blocked public land areas with high and public resource values through emphasis on land exchanges.

3) Acquire other interests in land—including conservation and scenic easements—to assure efficient administration, improve resource management, and facilitate commodity production.

4) Make Zone 3 land available for sale or exchange.

5) Consolidate split-estate where appropriate to improve resource management and facilitate commodity production.

Alternative B

1) Make land tenure adjustments consistent with existing planning documents, with emphasis on acquiring land with high and public resource values.

2) Make land tenure adjustments consistent with existing planning documents with emphasis on acquiring land with high and public resource values.

3) Acquire interests in land on a case-by-case basis as needed.

4) Sell public land specifically identified for disposal in the existing planning documents.

5) Determine management of acquired land on a case-by-case basis.

Alternative C

1) Retain or increase public landholdings in Zone 1 as depicted in Maps LAND-2J and -2M with special emphasis on acquiring land with high and public resource values.

2) Limited retention and consolidation of land in Zone 2, with special emphasis on acquiring land with high and public resource values.

3) Acquire other interests in land, including conservation and scenic easements, to assure efficient administration and improve resource management. Emphasize acquisition of interests in areas with high and public resource values.

4) Same as Alternative A.

5) Consolidate split-estate where appropriate to improve resource management while protecting resource values.

Alternative D

1–3) Same as for Alternative C.

4) Same as for Alternative A.

5) Same as for Alternative C.

Alternative D2

1– 3) Same as for Alternative C.

4) Same as for Alternative A.

5) Same as for Alternative C.

Alternative E

1–2) Same as for Alternative C.

3) Acquire other interests in land, including conservation and scenic easements, for resource protection only.

4) Same as for Alternative A.

5) Same as for Alternative C.

Proposed RMP

1) Retain or increase public landholdings in Zone 1 as depicted in Maps LAND-2J and -2M with special emphasis on acquiring land with high and public resource values.

2) Limited retention and consolidation of land in Zone 2, with special emphasis on acquiring land with high and public resource values.

3) Acquire other interests in land, including conservation and scenic easements, to assure efficient administration and improve resource management. Emphasize acquisition of interests in areas with high and public resource values.

4) Make Zone 3 land available for sale or exchange.

5) Consolidate split-estate where appropriate to improve resource management while protecting resource values.

Objective 2: Establish right-of-way corridor routes to the extent possible, taking into account avoidance areas, consistent with resource objectives.

Rationale: Section 503 of FLPMA provides for the designation of right-of-way corridors and encourages use of rights-of-way in-common to minimize environmental impacts and the proliferation of separate rights-of-way. BLM policy, as described in BLM Manual 2801.13B1, is to encourage prospective applicants to locate their proposals within corridors.

Utility corridor widths may be reduced in size and may be limited to valid existing rights-of-way widths or the accumulation of rights-of-way widths where a particular utility corridor is bordered on both sides by SMA's such as WSA's, ACEC's, NWSR's, and VRM Class I and II areas. See Appendix L for possible development limitations on corridors due to the location of various SMA's. It may be necessary to refer to the appropriate SMA sections of this plan or records in the Vale District Office for more detailed information.

Monitoring: Normal BLM accomplishments and plan implementation tracking process.

Alternative A

1) Designate new utility corridors and continue or discontinue the designation of existing corridors for transdistrict electric transmission lines identified by the WRCS, Federal and State highways, county or BLM roads, and railroads. Corridor width would vary 500 to 6,000 feet on each side of the centerline of existing facilities as identified on Map LAND-1 in the Draft SEORMP/EIS except where the alignment forms the boundary of an SMA, and the corridor would be outside the area (see Appendix L).

General centerline corridor widths would be as follows: (a) 500 feet BLM and county roads, (b) 1,000 feet Federal and State highways, (c) 6,000 feet Interstate 84 corridor complex with multiple right-of-way users, (d) 1,500 feet large electric transmission interties (existing and proposed), (e) 1,000 feet smaller electrical transmission lines, (f) 1,000 feet large and small pipeline transmission lines, and (g) 1,000 feet railroads (see Appendix L for existing and potential corridors).

2) Eliminate proposed PP&L power line (south route) right-of-way corridor as listed in the WRCS to protect natural values and avoid SMA conflicts.

3) Eliminate proposed right-of-way corridor for possible BPA/Arctic Gas Pipeline Transmission route right-of-way corridor as listed in the WRCS, as the application was withdrawn. To protect natural values and avoid special management area conflicts this right-of-way corridor would be eliminated.

4) Eliminate proposed MFP alternate 500-kV route. The PP&L 500-kV power line (north route) was constructed further to the south below the Owyhee Dam. The MFP alternate 500-kV route would be replaced by the new proposed 500-kV dog leg route which would be located further to the north. Approximately 22 miles of public land right-of-way corridor would be involved.

Alternative B

1) Continue corridor designations on facilities identified in existing MFP's. Existing utility corridors are depicted on Map LAND-1 in the Draft SEORMP/EIS. With one exception, the location of these corridors is the result of decisions made in the MFP, OWFEIS, and the WRCS. The exception is the portion of the electric power line corridor immediately downstream of the Owyhee Dam. The MFP recommended a route which avoided the area of the dam by detouring to the north. However, prior to the signing of the ROD of the MFP a separate decision had already been made by the Secretary of the Interior and representatives of the Department of the Interior to allow construction of the 500-kV PP&L power line along the proposed original north route. Although the detour was considered very early in the route selection process, the route was not selected as described in the MFP and thus was not implemented. The OWFEIS (see OWFEIS Map-7) recognized the existing constructed 500-kV PP&L power line route as a primary recognized existing route for location of future power line interties.

2) Continue with the proposed right-of-way corridor as listed in the WRCS without modifications and as identified in existing MFP's.

3) Continue with the proposed right-of-way as listed in the WRCS without modifications as identified in existing MFP's.

4) Continue with the proposed right-of-way as identified in existing MFP.

Alternative C

1) Designate new utility corridors and continue or discontinue the designation of existing corridors for trans-district electric transmission lines identified by the WRCS, Federal and State highways, BLM or county roads, and railroads as described in Appendix L. Corridor width would vary 500 to 6,000 feet on each side of the centerline of existing facilities except where the alignment forms the boundary of an SMA, and the corridor would be outside the area. Corridor designations would minimize impacts to natural values consistent with other resource values. Because of prior decisions and commitments explained under Alternative B the location of the PP&L 500-kV existing route below the Owyhee Dam would remain the same. Proposals for future interties through this area would be scrutinized very closely and some limitations or modifications of structures could be imposed in order to minimize impacts to natural resource values contained within the proposed ACEC below the Owyhee Dam.

2–4) Same as for Alternative A.

Alternative D

1) Restrict or discontinue corridor designations to existing corridors and previously disturbed areas, except near Owyhee Dam. Utility corridors designated under this alternative are shown on Map LAND-1 in the Draft SEORMP/EIS. These are identical to those described under Alternative C, except for the crossing of the Owyhee River downstream of the Owyhee Dam. At this location, the route would detour to the north to avoid the proposed Owyhee River Below the Dam ACEC. The proposed MFP existing route would still be located in the proposed Owyhee River Below the Dam ACEC.

2–4) Same as for Alternative A.

Alternative D2

1) Restrict or discontinue corridor designations to existing corridors and previously disturbed areas, except near Owyhee Dam. Utility corridors designated under this alternative are shown on Map LAND-1 in the Draft SEORMP/EIS. These are identical to those described under Alternative C, except for the crossing of the Owyhee River downstream of Owyhee Dam. At this location, the route would detour to the north to avoid the proposed Owyhee River Below the Dam ACEC. The proposed MFP existing route would still be located in the proposed Owyhee River Below the Dam ACEC.

2–4) Same as for Alternative A.

Alternative E

1) Same as for Alternative D.

2–4) Same as for Alternative A.

Proposed RMP

1) Designate new utility corridors and continue or discontinue the designation of existing corridors for trans-district electric transmission lines identified by the WRCS, Federal and State highways, county or BLM roads, and railroads (see Appendix L, Table L-1). Corridor width would vary 500 to 6,000 feet on each side of the centerline of existing facilities as identified on Map LAND-1 in the Draft SEORMP/EIS except for the following: (1) where the alignment forms the boundary of an SMA, and the corridor would be outside the area, and (2) corridor designations would minimize impacts to natural values consistent with other resource values. Because of prior decisions and commitments made in the MFP, OWFEIS, and the WRCS, the location of PP&L 500-kV existing route below the Owyhee Dam would remain the same. The MFP recommends a route which avoided the area of the dam by detouring to the north (see Map LAND-1 in the Draft SEORMP/EIS). However, prior to the signing of the ROD of the MFP, a separate decision had already been made by the Secretary of the Interior and representatives of the Department of the Interior to allow construction of the 500-kV PP&L power line along the proposed original north route. Although the detour was considered very early in the route selection process, the route was not selected as described in the MFP and thus was not implemented. The OWFEIS (see Map 7 of the OWFEIS) recognized the existing constructed 500-kV PP&L power line route as a primary recognized existing route for location of future power line interties. The WRCS used the existing constructed power line route and information obtained in the OWFEIS document for its report and maps. Therefore, the location of the PP&L 500-kV existing route below the Owyhee Dam would remain the same. Proposals for future interties through this area would be scrutinized very closely and some limitations or modifications of structures could be imposed in order to minimize impacts to natural resource values contained within the proposed ACEC and recommended NWSR below Owyhee Dam.

General centerline corridor widths would be as follows: (a) 500 feet BLM and county roads, (b) 1,000 feet Federal and State highways, (c) 6,000 feet Interstate 84 corridor complex with multiple right-of-way users, (d) 1,500 feet large electric transmission interties (existing and proposed), (e) 1,000 feet smaller electrical transmission lines, (f) 1,000 feet large and small pipeline transmission lines, and (g) 1,000 feet railroads (see Appendix L, Table L-1 for existing and potential corridors).

2) Eliminate proposed PP&L power line (south route) right-of-way corridor as listed in the WRCS to protect natural values and avoid SMA conflicts.

3) Eliminate proposed right-of-way corridor for possible BPA Arctic Gas Pipeline Transmission route right-of-way corridor as listed in the WRCS, as the application was withdrawn. To protect natural values and avoid special management area conflicts this right-of-way corridor would be eliminated.

4) Eliminate proposed MFP alternate 500-kV route. The PP&L 500-kV power line (north route) was constructed further to the south below the Owyhee Dam. The MFP alternate 500-kV route would be replaced by the new proposed 500-kV dog leg route which would be located further to the north. Approximately 22 miles of public land right-of-way corridor would be involved.

Chapter 4
Environmental Consequences

Abbreviations and Acronyms

Reader note: *Refer to the list below for abbreviations or acronyms that may have been used in this chapter.*

ACEC ~ area of critical environmental concern
ADC ~ animal damage control
AML ~ appropriate management level
AMP ~ allotment management plan
AMR ~ appropriate management response
APHIS ~ Agricultural Plant and Animal Health Inspection Service
ARA ~ Andrews Resource Area
ATV ~ all-terrain vehicle
AUM ~ animal unit month
BA ~ biological assessment
BIA ~ Bureau of Indian Affairs
BLM ~ Bureau of Land Management
BMP ~ best management practice
BO ~ biological opinion
BOM ~ Bureau of Mines
BOR ~ Bureau of Reclamation
BPA ~ Bonneville Power Administration
CERCLIS ~ comprehensive environmental response, Compensation and Liability Information System
CEQ ~ Council on Environmental Quality
CFR ~ "Code of Federal Regulations"
CLCAS ~ "Canada Lynx Conservation Assessment and Strategy"
CRMP ~ "Cultural Resources Management Plan"
CWA ~ "Clean Water Act"
DLCD ~ Department of Land Conservation and Development
DOD ~ Department of Defense
DOE ~ Department of Energy
DOGAMI ~ Oregon Department of Geology and
Mineral Industries
DOI ~ Department of the Interior
DPC ~ desired plant community
DRFC ~ desired range of future conditions
EA ~ environmental assessment
EIS ~ environmental impact statement
EPA ~ Environmental Protection Agency
ER ~ entrenchment ratio
ERMA ~ extensive recreation management area ERU ~ ecological reporting unit
ESA ~ "Endangered Species Act"
ESI ~ ecological site inventory
E/EIS ~ "Eastside Environmental Impact Statement"
FAA ~ Federal Aviation Administration
FERC ~ Federal Energy Regulatory Commission
FLPMA ~ "Federal Land Policy and Management Act"
FMP ~ fire management plan
FWFMP ~ "Federal Wildland Fire Management Policy"
GIS ~ geographic information system
GMA ~ geographic management area
GTR ~ green tree replacement
HA ~ herd area
HMA ~ herd management area
HMP ~ habitat management plan
HUC ~ hydrologic unit code
ICBEMP ~ Interior Columbia Basin Ecosystem Management Project
IMP ~ "Interim Management Policy"
IMPLWR ~ "Interim Management Policy for Land under Wilderness Review"
INFISH ~ "Inland Native Fish Strategy"
JRA ~ Jordan Resource Area
KGRA ~ known geothermic resource area
LCDC ~ Land Conservation and Development Commission
LGMP ~ "Leslie Gulch ACEC Management Plan"
MFP ~ management framework plan
MOU ~ memorandum of understanding
MRA ~ Malheur Resource Area
NCA ~ national conservation area
NEPA ~ "National Environmental Policy Act"
NHOT ~ National Historic Oregon Trail
NHPA ~ "National Historic Preservation Act"
NL ~ no leasing
NOAA ~ National Oceanographic and Atmospheric Administration
NPS ~ National Park Service
NPSP ~ nonpoint source pollution
NRCS ~ Natural Resources Conservation Service
NRHP ~ National Register of Historic Places
NSO ~ no surface occupancy
NWSR ~ national wild and scenic river
NWSRA ~ "National Wild and Scenic River Act"
NWSRS ~ National Wild and Scenic River System
OAR ~ "Oregon Administrative Rules"
OBSMP ~ "Oregon's Bighorn Sheep Management Plan"
ODA ~ Oregon Department of Agriculture
ODEQ ~ Oregon Department of Environmental Quality
ODF ~ Oregon Department of Forestry
ODFW ~ Oregon Department of Fish and Wildlife
ODOT ~ Oregon Department of Transportation
ODPR ~ Oregon Department of Parks and Recreation
ODSL ~ Oregon Division of State Lands
OHV ~ off-highway vehicle
ONA ~ outstanding natural area
ONHP ~ Oregon Natural Heritage Program
ONHTMP ~ "Vale District Oregon National Historic Trail Management Plan"
ORS ~ "Oregon Revised Statute"
ORV ~ outstandingly remarkable value
OWFEIS ~ "Oregon Wilderness Final Environmental Impact Statement"
OWS ~ occupancy with stipulations
PFC ~ proper functioning condition
PILT ~ payments in lieu of taxes
PNC ~ potential natural community
PP&L ~ Pacific Power and Light
PSEORMP/FEIS ~ "Proposed Southeastern Oregon Resource Management Plan/ Final Environmental Impact Statement"
PRIA ~ "Public Rangelands Improvement Act"
PUC ~ Public Utilities Commission
RAIDS ~ riparian aquatic information data system
RAWS ~ remote automated weather station
RCA ~ riparian conservation area
RMO ~ riparian management objective
RMP ~ resource management plan
RNA ~ research natural area
ROD ~ record of decision
ROS ~ recreation opportunity spectrum
RPS ~ rangeland program summary
RS ~ "Revised Statutes"
R&PP ~ recreation and public purpose
SCORP ~ Oregon's "Statewide Comprehensive Outdoor Recreation Plan"
SEORAC ~ Southeastern Oregon Resource Advisory Council
SEORMP ~ "Southeastern Oregon Resource Management Plan"
SHPO ~ State Historic Preservation Office
SMA ~ special management area
SMCMPA ~ Steens Mountain Cooperative Management and Protective Area
SRMA ~ special recreation management area
SRP ~ special recreation permit
S&G's ~ "Standards of Rangeland Health and Guidelines for Livestock Grazing Management"
TGA ~ "The Taylor Grazing Act"
TMDL ~ total maximum daily load
TNC ~ The Nature Conservancy
TNR ~ temporary nonrenewable grazing
T&E ~ threatened and endangered
USDA ~ U.S. Department of Agriculture
USDI ~ U.S. Department of the Interior
USFS ~ U.S. Forest Service
USFWS ~ U.S. Fish and Wildlife Service
USGS ~ U.S. Geological Survey
VRM ~ visual resource management
WAFWA ~ Western Association of Fish and Wildlife Agencies
WFSA ~ wildland fire situation analysis
WRCS ~ "Western Regional Corridor Study"
WSA ~ wilderness study area
WSRO ~ "Wilderness Study Report, Oregon"
WQMP ~ "Water Quality Management Plan"
WQRP ~ water quality restoration plan

Major Changes from Draft SEORMP/EIS

Fish and Aquatic Habitat

1) Under Alternative E, changes occurred in analysis of effects of wildland fire, wild horses, and off-highway vehicle (OHV) use, resulting in changes to conclusions.

Wildlife and Wildlife Habitat

1) For wildlife habitat, the draft plan assumed that introducing fire into sagebrush habitat with outcomes that leave a mosaic habitat pattern would result in benefits to sage grouse by diversifying structure and enhancing herbaceous plant availability. Research conducted in Idaho on nesting habitat similar to that found in the Draft SEORMP/EIS indicates that fire in xeric Wyoming sagebrush types results in decreased nesting success due to the removal of shrub cover used for nesting. Chapter 4 environmental impact narratives and conclusions were modified accordingly.

Special Status Animal Species

1) Format and organization of this section was improved. Analyses for individual aquatic species under all alternatives was made more specific as, for example, adding impacts of special management area (SMA) designations and wild horse management on Columbia spotted frog habitat.

2) Reference to redband trout was eliminated.

3) Alternative E changes occurred in analysis of effects of wildland fire, wild horses, and OHV use, resulting in changes to conclusions.

Introduction

This chapter analyzes the direct, indirect, and cumulative effects of implementing alternative suites of management actions across the southeastern Oregon planning area. In addition, this EIS is tiered to the 2000 Interior Columbia Basin Final Environmental Impact Statement (ICBEMP Final EIS). Together, these EIS's fully assess cumulative impacts within and around the SEORMP area. The alternatives described in Chapter 3 incorporate mitigation measures as design features either common to all alternatives (such as the list of best management practices [BMP's] in Appendix O) or specific to a particular alternative. The impacts described in this chapter include adverse environmental effects which cannot be avoided, relationships between local short-term uses of the environment and maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources inherent in any alternative. The baseline used for project impacts is the current condition or situation described in Chapter 2–Affected Environment. Effects are projected in the short term (0–10 years unless otherwise noted) and long term (10–20 years). A comparison of management directives for each of the alternatives is shown in Table 3-1 in Chapter 3.

Because the Proposed RMP is a general land use plan, it depends on additional, more site-specific analysis to determine the full extent of impacts of a given action before being implemented at the activity and project levels. Each of the resource programs or management activities that could impact other resources or values are analyzed by program. Some may not need discussion in one alternative, but do in another. If an activity or program has not been addressed under a given alternative, it is because no substantial impacts are expected.

The analysis for each alternative is presented by resource and organized into four sections:

1) Management objectives—These are defined in Chapter 3 and will be the same under each alternative.

2) Analysis of impacts—This is a description of the possible impacts, both beneficial and adverse, from a land use allocation or management action to the resource being analyzed. The impact or change is compared to the current situation (Alternative B); however, for ease of reading, the analysis in subsequent alternatives will often refer the reader back to Alternative A when there is no change instead of repeating the same information.

3) Conclusion—A discussion of the overall impacts in the alternative on that resource and the extent the alternative would meet the objective.

4) Summary of impacts—At the end of each resource discussion is an impact, which includes cumulative impacts, that is designed to help compare impacts among alternatives and determine how each alternative meets the objective(s).

Assumptions

There were several general assumptions and projections made in this chapter to aid in the analysis of the impacts. The assumptions listed below are common to all alternatives. Other assumptions may also be listed under a specific resource.

- Changes in Bureau of Land Management (BLM) policies have been made since the current land-use plans (management framework plans [MFP's]) were approved, including the 1997 "Standards of Rangeland Health and Guidelines for Livestock Grazing Management" (S&G's). The S&G's were included as a part of this document (Appendix Q), and as such they apply to all programs.

- Roads would be designed, constructed, and maintained to allow attainment of resource objectives. Due to a limited inventory, the transportation system is not specifically analyzed in this EIS. Following completion of this plan, an interdisciplinary team will develop a transportation management plan that identifies needs and objectives for each road in the planning area. The plan will identify roads to be rehabilitated, closed, or abandoned to meet resource objectives.

- The differences between alternatives have to do with how fast an objective may be met, the degree to which the objective may be met, the priorities within the objective, the emphasis placed on different management activities, and identifying what society is willing to forego. Some areas can be improved with additional funding, some with management changes, and some with a combination of both.

- Funding would basically be the same across alternatives.

- Wilderness impacts are addressed in the 1989 "Oregon Wilderness Final Environmental Impact Statement" (OWFEIS) and will not be reanalyzed. Any actions within wilderness study areas (WSA's) will be in accordance with BLM's IMPLWR.

Analysis of Impacts

Air Resources

Objective: *Meet or exceed the "National Ambient Air Quality Standards" and the "Prevention of Significant Deterioration" with all authorized actions.*

Assumptions common to all alternatives: Wildfire acreages are not included in this analysis, and prescribed fire would not impact any current Class 1 airsheds.

Alternatives A, C, D and D2

Assumptions specific to Alternatives A, C, D, and D2: For analysis purposes, it is assumed that during the life of the plan, an estimated 75 percent of western juniper communities within the planning unit would be treated with prescribed fire, but 15,000 acres would not be exceeded in any year. Along with this, an estimated 50 percent of sagebrush/grass communities would be subject to prescribed fire (black acres) while not exceeding 15,000 acres in any year. There are 300 acres, or the equivalent of 9,600 tons, of forested fuels within the of forest in Malheur Resource Area (MRA) that could be prescribe burned annually. These are estimated maximum acreages for smoke emissions predictions, and are neither ceilings or targets.

Impacts: Under Alternatives A, C, D, and D2 use of prescribed fire would lead to a significant increase in release of overall emissions when compared to historic (Alternative B) levels. Total tons of PM10 (emitted visible particulate matter) could increase from 77 tons to 630 tons annually; total tons of PM2.5 could increase from 62 tons to 504 tons annually. Prevailing transport winds could carry some of these emissions into growing population centers, such as Baker City and Idaho's Treasure Valley. These impacts would be mitigated through prescribed fire prescriptions that include transport wind conditions that would minimize emission impacts to the Baker City and Treasure Valley areas. Smoke management forecasts would be utilized to avoid operations that could impact population centers. The majority of prescribed fire projects (range burning) would typically be of short duration. By providing low, medium, and high altitude mixing, and mid-flame wind speeds required to adequately carry the fire through the affected communities would also reduce overall downwind impacts.

Activities in off-highway vehicles (OHV's)/roads, energy and minerals, recreation, and forest and woodlands programs would result in short-term increases in dust emissions in localized areas. Although transitory in nature, this increase in dust emissions could be significant compared to historic levels. Some of these emissions could be mitigated through increased paving, road binders, and BMP's.

Conclusion: Implementation of Alternatives A, C, D, and D2 would result in significant increases in total PM10 emissions created by increased levels of prescribed fire.

Prescribed fires are required to conform to applicable State and Federal air quality standards. These standards are not projected to be exceeded even at the higher levels forecast within these alternatives. Short-term, localized impacts may occur at the higher levels projected, but these levels would still be in conformance with current and projected levels of State and Federal regulations. These local impacts would be transitory in nature and no long-term smoke impacts are expected.

Increased dust emissions, secondary to implementation of these alternatives, are projected to be localized and transitory in nature. Some periods (summer) may experience increased levels of dust emissions due to increased levels of commodity extraction and visitor use.

These peak use periods are not expected to result in deterioration of overall air quality standards.

Alternative B

Impacts: Secretarial-level directives and changes in prescribed fire funding are steadily increasing the levels of prescribed fire. Although the levels of emitted PM10 would not reach those projected for Alternatives A, C, D, and D2 they would increase in total tons due to the increasing use of prescribed fire. Historically, prescribed burning has been approximately 4,000 acres per year in rangelands and 150 acres per year in forested areas. Likewise, all other impacts discussed under Alternatives A, C, D, and D2 would be the same here only to a lesser degree.

Continued implementation of Alternative B would result in short-term (transitory) increases in dust emissions secondary to visitor and commodity usage. Some dust emissions are reduced through BMP's, livestock management techniques, and road binders.

Conclusion: The impacts for Alternative B would be the same as those discussed in Alternatives A, C, D, and D2 except at a slower rate and possibly lower levels.

Alternative E

Assumption specific to Alternative E: There would be no prescribed fire utilized in Alternative E.

Impacts: Large wildfires, with a concurrent loss of vegetation, would lead to short-term increases in overall dust emissions secondary to wind erosion. This increase would be seasonal in nature and would reduce when post-fire plant communities establish.

As road conditions degrade and motorized vehicle use declines, overall dust emissions would similarly decline.

Conclusion: Implementation of Alternative E would lead to much the same type of dust emissions as the other alternatives with the same impact on air quality standards. However; in this case, the increases would be due to wind erosion from large wildfires, and an overall decline as commodity extraction and motorized vehicle use declines.

Increased dust emissions secondary to implementation of this alternative are projected to be localized and transitory in nature. Late summer and early fall may experience increased levels of dust emissions created by wind erosion from large wildfires. These peak periods are not expected to result in deterioration of overall air quality standards.

Proposed RMP

Assumptions specific to the Proposed RMP: For analysis purposes, it is assumed that during the life of the plan, an estimated 75 percent of western juniper communities within the planning unit would be treated with prescribed fire, but 15,000 acres would not be exceeded in any year. Along with this, an estimated 50 percent of sagebrush/grass communities would be subject to prescribed fire (black acres) while not exceeding 15,000 acres in any year. There are 300 acres, or the equivalent of 9,600 tons, of forested fuels within MRA that could be prescribe burned annually. These are estimated maximum acreages for smoke emissions predictions, and are neither ceilings or targets.

Impacts: Under the Proposed RMP alternative the use of prescribed fire could lead to a significant increase in release of overall emissions when compared to historic (Alternative B) levels. Total tons of PM10 could increase from 77 tons to 630 tons annually. Prevailing

transport winds could carry some of these emissions into growing population centers, such as Baker City and Idaho's Treasure Valley. These impacts would be mitigated through prescribed fire prescriptions that include transport wind conditions that would minimize emission impacts to the Baker City and Treasure Valley areas. Smoke management forecasts would be utilized to avoid operations that could impact population centers. The majority of prescribed fire projects (range burning) would typically be of short duration. By providing low, medium, and high altitude mixing, and mid-flame wind speeds required to adequately carry the fire through the affected communities down wind impacts would be minimized.

Conclusion: Implementation of this alternative would ultimately meet objectives. The increased use of prescribed fire would cause short-term negative impacts from smoke emissions. While impacts would occur, mitigating actions would be taken to minimize those impacts. Long-term cumulative impacts (10 years or longer) would be beneficial because the continued use of prescribed fire would reduce overall fuel loadings. While prescribed fire and wildfires, including large fires, would continue to occur, the total acres burned and amount of fuel consumed by these fires would be reduced, therefore reducing the historic emission levels of both smoke and dust.

Summary of Impacts

Under all alternatives except Alternative B, the use of prescribed fire would lead to a significant increase in the release of overall emissions when compared to historic levels; however, prescribed burns must meet applicable State and Federal air quality standards. To meet air standards, burn plan prescription parameters established for each burn area identifies favorable wind conditions that would mitigate impacts through dispersion of smoke emissions. Under wildfire situations, emissions may be much more significant because of the possibility of one or more fire burning large areas in a relatively short time frame without the ability to mitigate emissions. Under Alternative E the number of fires and acres burned annually would increase substantially when compared to all other alternatives and overall emissions from smoke and dust (wind erosion) would have a significant, short term, impact on air quality. While all alternatives meet the air quality objectives, the Proposed RMP, when combined with other disciplines, would meet the desired resource objectives. Under all alternatives, impacts would be transitory in nature and no long-term cumulative impacts are expected.

Energy and Mineral Resources

Objective 1: *Provide opportunities for exploration and development of leasable energy and mineral resources while protecting other sensitive resources.*

Assumptions common to Alternatives A–D2 and Proposed RMP: Areas closed to energy and mineral leasing due to congressional actions would be: WSA's (approximately 1,267,464 acres), wild segments of designated NWSR's (approximately 49,007 acres), and a portion of southwest Harney County (100,352 acres) associated with the Steens Mountain Cooperative Management and Protective Area (SMCMPA) mineral withdrawal.

Alternative A

Impacts: Under Alternative A, approximately 3,280 acres, or 0.07 percent of the planning area, would be closed to mineral leasing. This acreage consists of public land adjacent to existing WSA's and recommended for wilderness designation (approximately 3,280 acres) that would be added to existing WSA's. Closing this land to leasing would impact the opportunities for exploration and development of leasable minerals, including approximately 862 acres of high potential for geothermal resources.

The application of a year long NSO stipulation within special management areas (SMA's) would affect 45,587 acres, or 0.92 percent of the planning area; approximately 25,874 acres are within existing WSA's. This stipulation would require operators to access the leasable energy and mineral resource using special techniques such offsite drilling in the case of oil and gas and geothermal resources, which in many cases, would be cost prohibitive. Large blocks (such as any parcels that require slant-drilling in excess of 0.5 mile) of NSO would effectively close them to energy development due to drilling limitations. In addition, development of solid leasable minerals (such as sodium) would be precluded, as these are essentially surface deposits which cannot be accessed using current technology.

The application of a timing limitation or other minor restrictions due to SMA's, RCA's, and wildlife objectives (such as controlled surface use) would cover approximately 2,286,205 acres, of which about 623,002 acres are within existing WSA's. These restrictions should result in only minor impacts to leasing operations, while protecting specific resource values.

Management options to protect other resources (such as application of lease stipulations, mitigative measures applied at the permitting stage, and the use of BMP's) can constrain lease operations, and in some cases, reduce the profitability of lease development or make development economically unfeasible.

Table 3-3b shows the total acres of each leasable mineral restriction imposed for each resource area.

Conclusions: The potential for oil and gas, and solid leasable minerals activity is low; therefore, conflicts with other resources is low. There has only been sporadic interest in hydrocarbons in the past, and no commercial quantities have been discovered. There has been no serious interest in solid leasables (sodium) in over a century, and little indication that this would change in the foreseeable future. Constraints placed on leasing and lease operations would have little cumulative impact on these resources.

The potential for geothermal exploration and development is moderate to high. The Vale Known Geothermal Resource Area (KGRA) has had recent exploratory drilling, but no development has been proposed. Constraints placed on geothermal operations would affect very little acreage and would not involve areas with a high potential for development in either MRA or Jordan Resource Area (JRA); therefore, they would have a minor cumulative impact on this resource, producing only a minor effect on the viability of potential geothermal projects.

Alternative B

Impacts: Some ACEC's and the North Fork Malheur River wild study river would be closed to mineral leasing. Under Alternative B, approximately 58,439 acres, or 1.18 percent of the planning area, would be closed to mineral leasing (approximately 57,443 acres are within existing WSA's), including about 1,164 acres of high potential for geothermal resources. Closing these lands to leasing would impact opportunities for exploration and development of leasable minerals.

The application of a yearlong NSO stipulations would have the same impact as described in Alternative A except it would impact 2,022 acres, or 0.04 percent of the planning area.

A timing limitation or other minor restriction would be applied at the lease review stage. However, they should result in only minor impacts to leasing operations, while protecting specific resource values.

Management options to protect other resources (such as application of lease stipulations, mitigative measures applied at the permitting stage, and the use of BMP's) can constrain

lease operations in some way, and in some cases, reduce the profitability of lease development or make development economically unfeasible.

Table 3-3b shows the total acres of each leasable mineral restriction imposed for each resource area.

Conclusions: The potential for oil and gas, and solid leasable minerals activity is low; therefore, conflicts with other resources is low. There has only been sporadic interest in hydrocarbons in the past, and no commercial quantities have been discovered. There has been no serious interest in solid leasables (sodium) in over a century, and little indication that this would change in the foreseeable future. Constraints placed on leasing and lease operations would have little cumulative impact on these resources.

The potential for geothermal exploration and development is moderate to high. The Vale KGRA has had recent exploratory drilling, but no development has been proposed. Constraints placed on geothermal operations would involve only a small percentage of lands with a high potential for occurrence and would not involve areas most likely to be developed; therefore, they would have a minor cumulative impact on this resource, producing only a minor effect on the viability of potential geothermal projects.

Alternative C

Impacts: Some ACEC's, streams administratively suitable for designation as wild in the NWSRS, and public land adjacent to existing WSA's and recommended for wilderness designation (3,280 acres), would be added to existing WSA's and closed to mineral leasing. Under Alternative C, approximately 11,068 acres, or 0.22 percent of the planning area, would be closed to mineral leasing (approximately 4,777 acres are within existing WSA's), including about 862 acres of high potential for geothermal. Closing this land to leasing would preclude all opportunities for exploration and development of this commodity.

The application of a yearlong NSO stipulation would have the same impact as described in Alternative A except it would affect approximately 224,756 acres, or 4.54 percent of the planning area; approximately 150,497 acres are within existing WSA's.

The application of a timing limitation or other minor restrictions are the same impacts described in Alternative A except it (such as controlled surface use) would cover approximately 2,150,350 acres, of which about 537,868 acres are within existing WSA's.

Management options to protect other resources (such as application of lease stipulations, mitigative measures applied at the permitting stage, and the use of BMP's) can constrain lease operations, and in some cases, reduce the profitability of lease development or make development economically unfeasible.

Table 3-3b shows the total acres of each leasable mineral restriction imposed for each resource area.

Conclusion: The potential for oil and gas, and solid leasable minerals activity is low; therefore, conflicts with other resources is low. There has only been sporadic interest in hydrocarbons in the past, and no commercial quantities have been discovered. There has been no serious interest in solid leasables (sodium) in over a century, and little indication that this would change in the foreseeable future. Constraints placed on leasing and lease operations would have little cumulative impact on these resources.

The potential for geothermal exploration and development is moderate to high. The Vale KGRA has had recent exploratory drilling, but no development has been proposed. While constraints placed on geothermal operations would involve only a small percentage of the planning area, they would include a few thousand acres located in areas most likely to be

developed (such as Keeney Pass); therefore, they would have a moderate cumulative impact on this resource, affecting the viability of potential geothermal projects.

Alternative D

Impacts: Some ACEC's, and streams administratively suitable for designation as wild in the NWSRS, would be closed to leasing; public land adjacent to existing WSA's and recommended for wilderness designation (3,280 acres), would be added to existing WSA's and closed to mineral leasing. Under Alternative D, about 47,954 acres would be closed to mineral leasing, or about 0.97 percent of the planning area (approximately 30,461 acres are within existing WSA's), including about 10,000 acres of high potential for geothermal resources. Closing this land to leasing would impact all opportunities for exploration and development of these commodities.

The application of a yearlong NSO stipulations would have the same impact as described in Alternative A except it would impact approximately 272,770 acres, or 5.50 percent of the planning area; approximately 159,189 acres are within existing WSA's.

The application of a timing limitation or other minor restrictions would have the same impacts as described in Alternative A except it (such as controlled surface use) would cover approximately 2,089,723 acres; about 515,383 acres are within existing WSA's.

Management options to protect other resources (such as application of lease stipulations, mitigative measures applied at the permitting stage, and the use of BMP's) can constrain lease operations and, in some cases, reduce the profitability of lease development or make development economically unfeasible.

Table 3-3b shows the total acres of each leasable mineral restriction imposed for each resource area.

Conclusion: The potential for oil and gas, and solid leasable minerals activity is low; therefore, conflicts with other resources is low. There has only been sporadic interest in hydrocarbons in the past, and no commercial quantities have been discovered. There has been no serious interest in solid leasables (sodium) in over a century, and little indication that this would change in the foreseeable future. Constraints placed on leasing and lease operations would have little cumulative impact on these resources.

The potential for geothermal exploration and development is moderate to high. The Vale KGRA has had recent exploratory drilling, but no development has been proposed. While constraints placed on geothermal operations would not involve a significant amount of land in the planning area, they would affect several thousand acres located in areas most likely to be developed (such as Keeney Pass); therefore, they would a have moderately severe cumulative impact on this resource, affecting the viability of potential geothermal projects.

Alternative D2

Impacts: ACEC's, and streams administratively suitable for designation as wild in the NWSRS as described in Alternative C (see Table 3-13), would be closed to leasing; public land adjacent to existing WSA's and recommended for wilderness designation (3,280 acres), would be added to existing WSA's and closed to mineral leasing. Under Alternative D2, about 269,444 acres would be closed to mineral leasing, or about 5.44 percent of the planning area (approximately 165,198 acres are within existing WSA's), including about 22,527 acres of high potential for geothermal resources. Closing this land to leasing would impact all opportunities for exploration and development of this commodity.

The application of a yearlong NSO stipulations would have the same impact as described in Alternative A except it would impact approximately 15,524 acres, or 0.31 percent of the planning area; no WSA's would be involved.

The application of a timing limitation or other minor restrictions are the same impacts as described in Alternative A except it (such as controlled surface use) would cover approximately 2,035,246 acres; about 499,867 acres are within existing WSA's.

Management options to protect other resources (such as application of lease stipulations, mitigative measures applied at the permitting stage, and the use of BMP's) can constrain lease operations and, in some cases, reduce the profitability of lease development or make development economically unfeasible.

Table 3-3b shows the total acres of each leasable mineral restriction imposed for each resource area.

Conclusion: The potential for oil and gas, and solid leasable minerals activity is low; therefore, conflicts with other resources is low. There has only been sporadic interest in hydrocarbons in the past, and no commercial quantities have been discovered. There has been no serious interest in solid leasables (sodium) in over a century, and little indication that this would change in the foreseeable future. Constraints placed on leasing and lease operations would have little cumulative impact on these resources.

The potential for geothermal exploration and development is moderate to high. The Vale KGRA has had recent exploratory drilling, but no development has been proposed. While constraints placed on geothermal operations would not involve a significant amount of land in the planning area, they would affect several thousand acres located in areas most likely to be developed (such as Keeney Pass in MRA); therefore, they would a have moderately severe cumulative impact on this resource, affecting the viability of potential geothermal projects.

Alternative E

Impacts: All of the planning area would be closed to mineral leasing. As a result of this restriction, all opportunities for exploration and development of leasable mineral resources, including approximately 484,000 acres of high potential for geothermal resources would be precluded.

Conclusion: As there has been only minimal interest in oil and gas and solid leasable mineral development, closing the planning area would have little effect on these programs.

With a moderate to high potential for, and a significant past interest in geothermal resources, closing the planning area would have a severe impact on geothermal leasing and leasing operations.

Proposed RMP

Impacts: Some ACEC's, and streams administratively suitable for designation as wild in the NWSRS, would be closed to leasing; public land adjacent to existing WSA's and recommended for wilderness designation (3,280 acres), would be added to existing WSA's and closed to mineral leasing. Under the Proposed RMP, approximately 11,068 acres, or 0.22 percent of the planning area, would be closed to mineral leasing (approximately 4,777 acres are within existing WSA's), including about 862 acres of high potential for geothermal resources.

The application of a year long NSO stipulation within special management areas (SMA's) would affect 179,916 acres or 3.63 percent of the planning area; approximately 102,710

acres are within existing WSA's. This stipulation would require operators to access the leasable energy and mineral resource using special techniques such off-site drilling in the case of oil and gas and geothermal resources, which in many cases, would be cost prohibitive. Large blocks (such as any parcels that require slant-drilling in excess of 0.5 mile) of NSO would effectively close them to energy development due to drilling limitations. In addition, development of solid leasable minerals (such as sodium) would be precluded, as these are essentially surface deposits which cannot be accessed using current technology.

The application of a timing limitation or other minor restrictions due to SMA's, RCA's, and wildlife objectives (such as controlled surface use) would cover approximately 2,109,014 acres, of which about 546,530 acres are within existing WSA's. These restrictions should result in only minor impacts to leasing operations, while protecting specific resource values.

Management options to protect other resources (such as application of lease stipulations, mitigative measures applied at the permitting stage, and the use of BMP's) can constrain lease operations, and in some cases, reduce the profitability of lease development or make development economically unfeasible.

Table 3-3b shows the total acres of each leasable mineral restriction imposed for each resource area.

Conclusion: The potential for oil and gas, and solid leasable minerals activity is low; therefore, conflicts with other resources is low. There has only been sporadic interest in hydrocarbons in the past, and no commercial quantities have been discovered. There has been no serious interest in solid leasables (sodium) in over a century, and little indication that this would change in the foreseeable future. Constraints placed on leasing and lease operations would have little cumulative impact on these resources.

The potential for geothermal exploration and development is moderate to high. The Vale KGRA has had recent exploratory drilling, but no development has been proposed. While constraints placed on geothermal operations would involve only a small percentage of the planning area, they would include a few thousand acres in areas most likely to be developed (such as Keeney Pass); therefore, they would a have moderate cumulative impact on this resource, affecting the viability of potential geothermal projects.

Summary of Impacts

The degree of impacts to energy and mineral leasing development depends largely on the severity of the restrictions, their location, especially in regard to the potential for occurrence and development of the resources, and the acreage affected.

Cumulative impacts to hydrocarbon leasing in the planning area would be minor. Interest has been sporadic throughout most of the 20th Century and no commercial quantities have ever been discovered. Likewise, cumulative impacts to solid mineral leasing (sodium) would be minimal. There has been no significant interest in this resource and there is no indication of any interest in the foreseeable future.

Cumulative impacts to geothermal resources would range from minor to severe. Alternative A would impose the fewest restraints of all alternatives, affecting the least amount of public land, especially in the areas of high potential for the occurrence of geothermal resources. Consequently, it would have the lowest impact on exploration and development. Each of the remaining alternatives (B, C, D, D2, and E) would impose increasingly greater restrictions, particularly in terms of land available for leasing, especially in locations most likely to be developed. Through the alternatives, these restrictions would, in turn, decrease the opportunity for exploration and development and/or increase operating costs, to the point where no activity would be allowed (Alternative E) . Restrictions imposed by the Proposed RMP

would have a moderate cumulative impact on exploration and development of the resource, while protecting other resources.

Objective 2: *Provide opportunities for exploration and development of locatable mineral resources while protecting other sensitive resources.*

Assumptions common to Alternatives A–D2 and the Proposed RMP: Withdrawal actions taken by Congress have removed 49,007 acres of wild river (designated NWSR's) and 100,352 acres associated with the SMCMPA, from location and development under the mining laws, subject to valid existing rights of preexisting mining claims.

Withdrawal actions would be pursued for developed administrative and recreation sites. Although WSA's would remain available for mining claim location, they must conform to "Interim Management Policy for Land under Wilderness Review" (IMP) criteria and only those operations with grandfathered uses and/or valid existing rights may cause surface disturbance requiring reclamation. As a result, an additional 1,267,464 acres are affected.

Alternative A

Impacts: Protective withdrawals would be pursued in ACEC's listed as withdrawal in Table 3-12, BLM administrative sites and developed recreation sites as listed in Table 3-4, and proposed BLM recreation sites when development is approved. Public land adjacent to existing WSA's and recommended for wilderness designation (3,280 acres), would be added to existing WSA's, and while they would be open to mineral location, mining claim activity must conform to IMP criteria.

Under Alternative A, approximately 40,064 acres, or 0.81 percent of the planning area, of which about 25,637 acres are currently within existing WSA's, would be either closed to mineral location or within additions to WSA's. This restriction would impact opportunities for exploration and development of these resources on the affected land; approximately 12,562 acres are in areas with a high potential for locatable mineral occurrence.

The use of BMP's and mitigative measures to minimize adverse impacts to other resources generally constrain mineral activities. In some cases, the constraints imposed on mineral operations to protect other resources can reduce the profitability of the operations or make them unfeasible.

Table 3-3b shows the total acres for each resource area unavailable for locatable mineral development.

Conclusion: Proposed withdrawals and restrictions on surface-disturbing activities under this alternative would affect only a small amount of acreage and would involve only a few thousand acres in areas most likely to be developed (such as the Oregon-Idaho graben hot springs gold province depicted on Map MIN-3 in the Draft SEORMP/EIS); therefore, they would produce only a minor cumulative impact on locatable mineral activities.

Alternative B

Impacts: Under this alternative 996 acres, or 0.02 percent of the planning area, would be withdrawn on the North Fork Malheur River wild study river; no WSA acres are involved. Opportunities for exploration and development would be precluded on the affected parcel.

The use of BMP's and mitigative measures would have the same impact as Alternative A.

Conclusion: Proposed withdrawals and restrictions on surface-disturbing activities under this alternative would affect very little acreage (entirely within MRA) and would not involve

areas with a high probability of development; consequently they would produce a very minor cumulative impact on locatable mineral activities.

Alternative C

Impacts: Protective withdrawals would be pursued in ACEC's listed as withdrawal in Table 3-12; in streams identified as administratively suitable for designation as wild under the NWSRS as listed in Table 3-13; BLM administrative sites and developed recreation sites as listed in Table 3-4, proposed BLM recreation sites when development is approved; and special status plant sites near Harper.

Public land adjacent to existing WSA's and recommended for wilderness designation (3,280 acres) would be added to existing WSA's, and while they would be open to mineral location, mining claim activity must conform to IMP criteria.

Under Alternative C, approximately 161,565 acres, or 3.26 percent of the planning area, would be either closed to mineral location or within additions to WSA's (3,280 acres), thereby precluding any opportunity for exploration and development of these resources on their affected land; approximately 78,415 acres would be in areas with a high potential for mineral occurrence. Approximately 107,897 acres of the total are currently within existing WSA's.

The use of BMP's and mitigative measures would have the same impacts as Alternative A.

Table 3-3b shows the total acres for each resource area unavailable for locatable mineral development.

Conclusion: While proposed withdrawals and restrictions on surface-disturbing activities under this alternative affect only a small percentage of the planning area, these actions would involve several thousand acres of land most likely to be developed (such as the Oregon-Idaho graben hot springs gold province, depicted on Map MIN-3 in the Draft SEORMP/EIS) and, therefore, would produce a moderate cumulative impact on locatable mineral activities.

Alternative D

Impacts: Protective withdrawals would be pursued in ACEC's listed as withdrawal in Table 3-12; in streams identified as administratively suitable for designation as wild under the NWSRS as listed in Table 3-13; in BLM administrative sites and developed recreation sites as listed in Table 3-4, proposed BLM recreation sites when development is approved; Succor Creek SRMA, and special status plant sites near Harper (Harper Valley fiddle back).

Public land adjacent to existing WSA's and recommended for wilderness designation would be added to existing WSA's, and while they would be open to mineral location, mining claim activity must conform to IMP criteria.

Under Alternative D, approximately 269,747 acres, or 5.44 percent of the planning area, would be either closed to mineral location or within additions to WSA's (3,280 acres), thereby precluding any opportunity for exploration and development of these resources on the affected land; approximately 111,434 acres are in areas with a high potential for mineral occurrence. Approximately 168,211 acres of the total would be currently within existing WSA's.

The use of BMP's and mitigative measures would have the same impacts as Alternative A.

Table 3-3b shows the total acres for each resource area unavailable for locatable mineral development.

Conclusion: While proposed withdrawals and restrictions on surface-disturbing activities would affect only a small percentage of public land in the planning area, these actions would include several tens of thousands of acres in areas that are most likely to be developed (such as the Oregon-Idaho graben hot springs gold province, depicted on Map MIN-3 of the Draft SEORMP/EIS) and, therefore, they would produce a moderately severe cumulative impact on locatable mineral activities.

Alternative D2

Impacts: Protective withdrawals would be pursued in ACEC's (Table 3-12); in streams identified as administratively suitable for designation as wild under the NWSRS as described in Alternative C (Table 3-13); BLM administrative sites and developed recreation sites as listed in Table 3-4, proposed BLM recreation sites when development is approved, Succor Creek SRMA, and special status plant sites near Harper (Harper Valley fiddle back).

Public land adjacent to existing WSA's and recommended for wilderness designation (3,280 acres) would be added to existing WSA's, and while they would be open to mineral location, mining claim activity must conform to IMP criteria.

Under Alternative D2, approximately 282,805 acres or 5.70 percent of the planning area would be either closed to mineral location or within additions to WSA's (3,280 acres), thereby precluding any opportunity for exploration and development of these resources on the affected land; approximately 109,395 acres would be in areas with a high potential for mineral occurrence. Approximately 165,198 acres of the total are currently within existing WSA's

The use of BMP's and mitigative measures would have the same impacts as Alternative A.

Table 3-3b shows the total acres for each resource area unavailable for locatable mineral development.

Conclusion: While proposed withdrawals and restrictions on surface_disturbing activities would not affect a significant amount of public land in the planning area, these actions would involve several tens of thousands of acres of land located in areas that are most likely to be developed (such as the Oregon-Idaho graben hot springs gold province, depicted on Map MIN-3 in the Draft SEORMP/EIS) and, therefore would produce a moderately severe cumulative impact on locatable mineral activities.

Alternative E

Impacts/Conclusion: All of the planning area would be withdrawn from locatable mineral development, thereby precluding all opportunity for exploration of the mineral resources, including approximately 664,000 acres of high potential for locatable minerals; consequently, the resultant impact on locatable mineral activities would be severe.

Proposed RMP

Impacts: Protective withdrawals would be pursued in ACEC's listed as withdrawal in Table 3-12; in streams identified as administratively suitable for designation as wild under the NWSRS as listed in Table 3-13; BLM administrative sites and developed recreation sites as listed in Table 3-4, proposed BLM recreation sites when development is approved; and special status plant sites near Harper.

Public land adjacent to existing WSA's and recommended for wilderness designation (3,280 acres) would be added to existing WSA's, and while they would be open to mineral location, mining claim activity must conform to IMP criteria.

Under the Proposed RMP, approximately 127,419 acres or 2.57 percent of the planning area would be either closed to mineral location or within additions to WSA's (3,280 acres), thereby precluding any opportunity for exploration and development of these resources on their affected land; approximately 59,628 acres are in areas with a high potential for mineral occurrence. Approximately 74,552 acres of the total are currently within existing WSA's.

The use of BMP's and mitigative measures to minimize adverse impacts to other resources, generally constrain mineral activities. In some cases, the constraints imposed on mineral operations to protect other resources can reduce the profitability of the operations or make them unfeasible.

Table 3-3b shows the total acres for each resource area unavailable for locatable mineral development.

Conclusion: While proposed withdrawals and restrictions on surface_disturbing activities affect only a small percentage of public land in the planning area, these restrictions would involve several thousand acres of land located in areas most likely to be developed (such as the Oregon-Idaho graben hot springs gold province, depicted on Map MIN-3 in the Draft SEORMP/EIS) and, therefore, would produce a moderate cumulative impact on locatable mineral activities

Summary of Impacts

The degree of impacts to locatable mineral development depends largely on the location and type of mineral occurrence, the severity of the restriction, especially in regard to the potential for occurrence and development of the resources, and the acreage affected.

Cumulative impacts to locatable mineral resources range from minor to severe. Alternative B would close the least amount of public land to locatable mineral exploration/development, would not affect lands with a high potential for locatable mineral occurrence or development and, therefore, would offer the greatest opportunity for exploration/development of the resource. Each of the remaining alternatives (A, C, D, D2, and E) would close increasing amounts of public land to mineral location, especially in areas most likely to be developed, thereby decreasing the opportunity to explore for, and develop, new sources of locatable mineral resources to the point where no locatable mineral activity would be authorized (Alternative E). The Proposed RMP would close a moderate amount of public land to mineral location. This action would offer a moderate opportunity for exploration/development of the resource, while protecting other resources (see Table 3-3b.).

***Objective 3**: Provide for public demand for saleable minerals from public land while protecting sensitive resources.*

Assumptions common to Alternatives A–D2 and the Proposed RMP: Congressional action has closed 100,352 acres associated with the SMCMPA to saleable mineral disposal, except for road maintenance from existing BLM community pits. BLM management decisions have closed designated NWSR's (approximately 49,007 acres) and WSA's (approximately 1,277,464 acres) to saleable mineral development.

Alternative A

Impacts: Under Alternative A, approximately 98,996 acres, or 1.99 percent of the planning area, would be closed to saleable mineral development. This action would include ACEC's listed in Table 3-12, streams administratively suitable for inclusion in the NWSRS, Harper and other special status plant sites, significant cultural sites, BLM administrative sites, developed and potential BLM recreation sites, RCA's, Succor Creek SRMA, and 3,280 acres of public land adjacent to existing WSA's and recommended for inclusion in WSA's. There

are approximately 61,734 acres of the total acres closed that are currently in existing WSA's. Closing these lands would preclude opportunities for the development of saleable minerals.

The use of BMP's and mitigative measures to minimize adverse impacts to other resources generally constrain mineral activities. In some cases, the constraints imposed on mineral operations to protect other resources can reduce the profitability of the operations or make them unfeasible.

Table 3-3b shows the total acres for each resource area closed to saleable mineral disposal.

Conclusion: Closures and other restrictions under this alternative would involve only a small percentage of the public land in the planning area, affect very few existing operations or potential sources of material and would not be situated in locations most likely to be developed (such as near concentrated populations such as Vale or Ontario, or within close proximity to existing roads). Therefore, they would result in a minor cumulative impact on saleable mineral activities**.**

Alternative B

Impacts: Same impacts as Alternative A except approximately 62,201 acres, or 1.26 percent of the planning area, would be closed to saleable mineral development (approximately 57,443 acres are within existing WSA's).

The use of BMP's and mitigative measures would have the same impacts as Alternative A.

Table 3-3b shows the total acres for each resource area closed to saleable mineral disposal.

Conclusion: Closures and other restrictions under this alternative would involve only a small percentage of the public land in the planning area, affect very few existing operations or potential sources of material and would not be situated in locations most likely to be developed (such as near concentrated populations such as Vale or Ontario, or within close proximity to existing roads). Therefore, they would result in a minor cumulative impact on saleable mineral activities

Alternative C

Impacts: Same impacts as under Alternative A except approximately 230,081 acres, or 4.64 percent of the planning area, would be closed to saleable mineral development (approximately 155,271 acres are within existing WSA's), thereby precluding opportunities for development of this resource on the affected land.

The use of BMP's and mitigative measures would have the same impacts as Alternative A.

Table 3-3b shows the total acres for each resource area closed to saleable mineral disposal.

Conclusion: Closure and other restrictions to saleable mineral development under this alternative would affect only a small percentage of the planning area, involve only a few existing operations and potential sources of mineral material and would not be concentrated in locations most likely to be developed (such as near concentrated populations such as Vale or Ontario, or within close proximity to existing roads). Therefore, they would result in a minor cumulative impact on saleable minerals.

Alternative D

Impacts: Same impacts as under Alternative A except approximately 312,871 acres, or 6.50 percent of the planning area, would be closed to saleable mineral development (approxi-

mately 189,637 acres are within existing WSA's), thereby precluding opportunities for development of this resource on the affected land.

Conclusion: Closures and other restrictions to saleable mineral development under this alternative would affect only a small percentage of the planning area, involve only a few existing operations and potential sources of mineral material and would not be concentrated in locations most likely to be developed (such as near concentrated populations such as Vale or Ontario, or within close proximity to existing roads). Therefore, they would result in a minor cumulative impact on saleable minerals.

Alternative D2

Impacts: Same impacts as under Alternative A except approximately 291,777 acres, or 5.88 percent of the planning area, would be closed to saleable mineral development (approximately 165,198 acres are within existing WSA's), thereby precluding opportunities for development of this resource on the affected land.

Conclusion: Closures and other restrictions to saleable mineral development under this would affect only a small percentage of the planning area, involve only a few existing operations and potential sources of mineral material and would not be concentrated in locations most likely to be developed (such as near concentrated populations such as Vale or Ontario, or within close proximity to existing roads). Therefore, they would result in a minor cumulative impact on saleable minerals

Alternative E

Impacts/Conclusion: Under Alternative E, all of the planning area would be closed to saleable mineral activities, which would allow no opportunities for development of saleable mineral commodities, thereby resulting in a severe impact to saleable minerals.

Proposed RMP

Impacts: Under the proposed RMP, approximately 194,413 acres, or 3.92 percent of the planning area, would be closed to saleable mineral development. This action would include ACEC's listed in Table 3-12, streams administratively suitable for inclusion in the NWSRS, Harper and other special status plant sites, significant cultural sites, BLM administrative sites, developed and potential BLM recreation sites, RCA's, Succor Creek SRMA, and 3,280 acres of public land adjacent to existing WSA's and recommended for inclusion in WSA's. There are approximately 118,900 acres of the total acres closed that are currently in existing WSA's. Closing these lands would preclude opportunities for development of saleable minerals on the affected lands.

The use of BMP's and mitigative measures to minimize adverse impacts to other resources generally constrain mineral activities. In some cases, the constraints imposed on mineral operations to protect other resources can reduce the profitability of the operations or make them unfeasible.

Table 3-3b shows the total acres for each resource area closed to saleable mineral disposal.

Conclusion: Closures and other restrictions to saleable mineral development under this alternative affect only a small percentage of the planning area, involve only a few existing operations and potential sources of mineral material and would not be concentrated in locations most likely to be developed (such as near concentrated populations such as Vale or Ontario, or within close proximity to existing roads). Therefore, they would result in a minor cumulative impact on saleable minerals

Summary of Impacts

Cumulative impacts to saleable mineral resources would be either minor or severe. Alternative B would close the least amount of public land to saleable mineral operations, thereby affecting the BLM's ability to meet public demand the least. While Alternatives A and C–D would close increasingly more acreage (Alternative D2 would also close a substantial amount of acreage—more than Alternative C, but less than Alternative D), none of these alternatives would appreciably affect existing saleable mineral operations, potential sources of material, or be located in areas most likely to be developed. Consequently, closures under these alternatives would result in only a minor impact on BLM's ability to meet present and future public demand for these materials. Alternative E, however, would most severely impact the resource as it would close the entire planning area to saleable mineral activity; therefore, the BLM's ability to meet demand for this resource could not be met. The Proposed RMP would not appreciably affect existing saleable mineral operations, potential sources of material, or be located in areas most likely to be developed; consequently, closures would result in only a minor impact to BLM's ability to meet present and future public demand for these materials.

Fire

***Objectives**: (1) Provide an appropriate management response (AMR) on all wildfires, with emphasis on minimizing suppression costs, fire fighter and public safety, benefits, and values to be protected consistent with resource objectives. (2) Recognize fire as a critical natural process, and use it to protect, maintain, and enhance resources.*

Assumptions common to all alternatives: Fire management's ability to provide aggressive suppression actions could be substantially reduced through restricting or eliminating the use of earth_moving equipment and retardant in areas of sensitive values. This could result in more acres being burned in these areas.

Alternative A

Impacts: Increased use of vegetation resources for commodity values such as livestock grazing, would reduce the amount of burnable fine fuels which, in turn, would reduce the number of large wildfires and average annual acres burned. Areas being rested to allow recovery of herbaceous vigor or to build fine fuel accumulations for prescribed fire use may be susceptible to large wildfire occurrence.

Optimizing recreational opportunities would increase visitor use; therefore, increasing the potential for human-caused ignitions. Additional access trails would increase the number of visitors into areas unaccessible to fire fighting equipment—this not only increases the possibility of ignitions but also raises the concern for public safety. During times of high fire danger, public use restrictions may close these areas in order to eliminate the risks of human-caused ignitions.

The continued exchanging of land can either be an asset or a hindrance to the program. If acquired land is blocked and accessible, it facilitates fire management and resource protection. If land is scattered through intermingled ownership, it would require additional suppression considerations which would have a negative impact on the program. Maintaining and improving existing road access would assist suppression effort response times.

Implementation of forest health would require downed woody material retention of 12-inch diameter materials up to 16 tons per acre. While this requirement is acceptable, in those areas with activity fuels in addition to the woody debris, the potential for and the intensity of wildfire is increased. The arrangement, layering, and continuity of these fuels is extremely

important. Any area of continuous downed fuels, layered in depth, must be treated mechanically or with prescribed fire to reduce the risk of crown fires.

Increasing the number and size of areas mechanically treated to reduce western juniper encroachment would significantly increase the possibility of highly intense, soil_sterilizing wildfires in those areas.

Substantially increasing the use of prescribed fire would allow managers to restore fire to its natural role in the ecosystem under controlled sets of parameters, and to decide where and under what given conditions sites could be burned to meet resource objectives. Using prescribed fire to accomplish specific land management objectives, and establishing firebreaks to protect at_risk annual rangeland, would have a positive impact on suppression activities. Due to the unpredictable nature of fire and weather when using prescribed fire, there is risk of escaped fire which could result in resource damage.

Conclusion: If mitigating measures are utilized, the overall impacts would not be significant. Impacts from increased visitor use and fine fuel buildup in rested livestock pastures could be mitigated by imposing public use restrictions (such as emergency fire closure when and where necessary), and increasing initial attack response in areas of concern. Accumulations of forested/woodland fuels could be treated through mechanical means or through prescribed fire. Because this alternative does not allow line managers the flexibility to choose from the full spectrum of fire management actions, it does not meet the intent of the 1995 "Federal Wildland Fire Management Policy and Program Review" as amended by the January 2001 review and update.

For objective 1, fire suppression actions would be very aggressive, initial attack operations would commonly use earth-moving equipment and retardant aircraft which would increase costs 15–30 percent over current figures. Excluding extreme fire years, the more aggressive initial attack action would reduce the number of costly large fires and increase suppression costs. However, the total acres burned would be reduced and costs decreased over the life of the plan. Increasing the use of earth-moving equipment to build fire lines would sometimes conflict with resource objectives, and in many instances, require additional costs for rehabilitation of those lines.

For objective 2, this alternative provides for maximized use of prescribed fire to protect, maintain, and enhance resources, therefore, meeting the intent of the objective.

Alternative B

Impacts: With the exception of drought years, managing livestock grazing impacts to forage would provide adequate fine fuels to carry wildfire. Even with nongrazed grasses available to burn, it is likely that the average number of fires and acres burned would remain constant as it has over the past 16 years. Trends indicate a slight decrease in acres burned over the life of the plan.

Projected increased recreational use would increase the potential for human-caused fire ignitions which, in turn, increases concern for public safety and property. Fire prevention and preplanning efforts would need to be expanded to lessen the ignition potential.

Current forestland planning does not adequately address standards for downed woody debris retention or slash accumulations. Continued accumulations of these fuels heightens the risk of catastrophic fire occurrence which could be devastating to all resources.

The continued exchanging of land would have the same impacts as Alternative A.

Prescribed fire use is available but not emphasized. It is expected that prescribed fire use would increase in varying degrees. Identification and burning of areas for hazardous fuels

reduction and green stripping would greatly reduce the chances of large wildfires occurring in or spreading to those areas.

Conclusion: Current fire suppression actions and tactics would continue; overall impacts could be significant if available mitigating actions are not utilized. These impacts can be minimized by creating firebreaks, grazing underutilized forage, treating fuel accumulations, and imposing public use fire restrictions when and where necessary. As in Alternative A, this alternative does not meet the intent of the 1995 "Federal Wildland Fire Management Policy and Program Review" as amended by the January 2001 review and update.

For objective 1, by creating multiple firebreaks in strategic locations and implementing a fuels treatment program, BLM would realize a dollar savings over the life of the plan. Fire fighter and public safety concerns would be met, but fire protection standards consistent with resource objectives would not be consistently met.

For objective 2, this objective would be minimally met. Fire is not fully recognized for its critical role in the natural environment. While this alternative provides for the use of prescribed fire, it does not emphasize it, nor does it allow the flexibility of treatments necessary to meet resource objectives.

Alternative C

Impact: Impacts from livestock grazing would be the same as Alternative B.

Impacts from increased recreational use would be the same as Alternative A.

The continued exchanging of land would have the same impacts as Alternative A.

Prescribed fire use would be increased substantially over current use. Burning would be used to meet a wide range of resources and fire management objectives including western juniper manipulation and regeneration and sustainment of quaking aspen sites. Designing site-specific fuels treatment programs for timber sales, along with thinning projects, would ensure that fire management issues are addressed.

Conclusion: Overall impacts would not be significant when mitigating actions are applied. This alternative provides for flexible use of wildland fire, requiring yearly resource and fire management communications and coordination. Even though it allows for changing priorities based on actual on-the-ground assessments, it also provides for full suppression response as necessary. Average annual wildfire numbers would continue to fluctuate as in the past. Average acres burned per year would increase moderately for 5–10 years until a plateau is reached, then vary from year to year depending on the weather. Many large wildfires would continue to occur and some would require use of costly suppression tactics; however, over the life of the plan there should be a substantial decrease in the average cost of suppression per acre burned.

For objective 1, under this alternative, suppression actions would consider the cost of suppression activities compared to the values threatened, and provide adequate assessment for determining risk to life, property and resources. Full suppression action would not be required on every wildland fire. Each wildland fire would receive an AMR based on predetermined fire, resource and safety objectives (see Appendix M). The appropriate response may vary from that of full suppression on one end of the spectrum to that of monitoring on the other end of the spectrum. The majority of wildland fires would be suppressed with consideration being given to the relative values to be protected, commensurate with fire suppression costs. This alternative meets the intent of the objective as well as the intent of the 1995 "Federal Wildland Fire Management Policy and Program Review" as amended by the January 2001 review and update.

For objective 2, this alternative meets the intent of the objective; it recognizes fire as a critical natural process by providing land managers the flexibility to determine necessary suppression actions based on the actual values being threatened. It allows for the use of prescribed fire to meet resource and fire objectives and provides for adequate risk management assessment and implementation.

Alternative D

Impacts: Reducing levels of livestock grazing, and not allowing temporary nonrenewable grazing (TNR) use of additional forage, could result in additional burnable fine fuels. Therefore, in the short term, the planning area could expect an increase in the average annual acres burned. Over the long term, this average would level out but would be in excess of current figures. Large wildfires would result in a conversion of native perennial plant communities to exotic annuals which in turn would increase fire frequency.

The ability to establish firebreaks to protect at-risk annual rangeland would assist fire management personnel with suppression actions, but would not be sufficient enough to protect sensitive resource values and private property.

As a result of limited OHV designations and the potential for decreased public use, the potential for human-caused fire would be reduced.

The risk of large wildfires increases due to limiting the use of prescribed fire and emphasizing wildland fire. This could result in undesirable damage to resources as well as private property.

Conclusion: The significant impact of this alternative is the increased fine fuel loading, due to the reduction in grazing, which would ultimately increase the occurrence of large fires. As the potential for large wildfires increases, so does the risk to fire fighters, public, and private property. It is probable that because of the amount of available burnable fuel and coinciding fire intensity, there would actually be more fires threatening sensitive resources and private property thereby increasing suppression costs and resource damage over the life of the plan. Average annual wild fire numbers would increase, as would average annual acres burned. While these numbers may level and become somewhat constant in the long term, both averages would be well above the current figures.

For objective 1, wildland fire would be suppressed with consideration being given to the relative values to be protected, commensurate with fire suppression costs. However, due to fine fuel loading, it should be understood that more large fires, that threaten sensitive resources and private property, would occur and annual suppression costs would increase. While this alternative does meet the intent of the objective, it does not provide for adequate risk management and, therefore, does not meet the intent of the 1995 "Federal Wildland Fire Management Policy and Program Review" as amended by the January 2001 review and update.

For objective 2, this alternative meets the intent of the objective by recognizing fire as a critical natural process by providing land managers the flexibility to determine necessary suppression actions based no the actual values being threatened; it does not however, allow for adequate use of prescribed fire to meet resources and fire objectives; it provides for adequate risk assessment but not implementation.

Alternative D2

Impacts: Reducing levels of livestock grazing and not allowing TNR use of additional forage would result in additional burnable fine fuels. In the short term the planning area could expect an increase in the average acres burned, more so than under Alternative D. Over the long term, with the rehabilitation of annual grasslands burned by wildfire, the

average acres burned would level out somewhat but would be in excess of the current average.

The risk of large wildfires increases due to limiting the use of prescribed fire and emphasizing wildland fire. This could result in undesirable damage to resources as well as private property.

The ability to establish firebreaks to protect at-risk annual rangeland would assist fire management personnel with suppression actions, but may not be sufficient enough to protect sensitive resource values and private property.

As a result of limited OHV designations and the potential for decreased public use, the potential for human-caused fire would be reduced.

Conclusion: Same as those identified in Alternative D.

Alternative E

Impacts: By removing livestock grazing, allowing for natural control of woody debris, and allowing for human-made firebreaks only to protect life and private property, the entire planning area would experience an increase in large wildfires. This would result in an increase of both average annual fires and acres burned.

Because of the current fuel accumulations in forested areas, allowing for natural control of woody debris would heighten the risk for catastrophic fire occurrence over the next 10–20 years. These fires could be devastating to all natural resources. In the long term, the number and intensity of these fires would decline and return to a more natural fire cycle.

Placing emphasis on suppression of wildfires in annual grasslands would slow the spread of annuals when compared to the no suppression actions identified in the original alternative; however, without maintenance of water improvements, no management of wild horses, repeated burning and minimal rehabilitation there would still be an increase in the total acres of exotic annuals resulting in increased fire frequency and size.

Although minimal recreation management would occur and tourism would not be accommodated, the risk of human-caused fires is still of concern due to the potential of rapid fire spread and associated threat to life and private property.

Conclusion: The overall impacts of this alternative would be significant, substantially increasing both the average number of fires and acres burned annually. Even with emphasis on suppression of annual grasslands, the repeated burning and minimal fire rehabilitation would result in a continual loss of mixed perennial cover. Forested areas would experience stand-replacing wildfires over the next 10–20 years until complete stand replacement occurs. These extreme fires would cause areas of soil sterilization, soil loss, and impaired water quality within critical watersheds. The increased risk of large wildfires also raises concerns over the potential threat to public safety and private property. While this alternative does meet the intent of Objective 2, it does not provide for adequate risk management and, therefore, does not meet the intent of the 1995 “Federal Wildland Fire Management Policy and Program Review” as amended by the January 2001 review and update.

For objective 1, this alternative would not meet any portion of the objective. If immediate fire suppression action is not taken on wildfires occurring under extreme burning conditions, generally July and August, many of these fires would become large, fast-moving firestorms that pose a serious threat to public safety, private property, and resources. Once such a threat occurs, the situation becomes a crisis and immediate and sometimes extreme suppression measures would have to be taken. These actions would incur substantial cost, resource damage, and additional risk to fire fighter safety.

For objective 2, this alternative meets the intent of the objective by recognizing fire as a critical natural process, but does not provide for adequate risk management assessment or implementation. Wildland fire would not be used to protect, enhance, or maintain natural resources.

Proposed RMP

Impacts: With the exception of drought years, managing livestock grazing impacts to forage would provide adequate fine fuels to carry wildfire. Even with nongrazed grasses available to burn, it is likely that the average number of fires (long term) and acres burned (short term) would remain constant as its has over the past 16 years. With this trend, increased use of prescribed fire and establishing fuels breaks would result in a decrease in acres burned over the life of the plan.

Enhancing recreational opportunities would increase visitor use and the potential for human-caused ignitions. Additional access trails would increase the number of visitors into areas unaccessible to fire fighting equipment—this not only increases the possibility of ignitions but also raises the concern for public safety. During times of high fire danger, public use restrictions may close these areas in order to eliminate the risks of human-caused ignitions.

The continued exchanging of land can either be an asset or a hindrance to the program. If acquired land is blocked and accessible, it facilitates fire management and resource protection. If land is scattered through intermingled ownership, it would require additional suppression considerations which would have a negative impact on the program. Maintaining and improving existing road access would assist suppression effort response times.

Prescribed fire use would be increased substantially over current use. Burning would be used to meet a wide range of resources and fire management objectives including western juniper manipulation and regeneration and sustainment of quaking aspen sites. Using prescribed fire and rehabilitation of burned areas to accomplish specific land management objectives and establishing firebreaks to protect at-risk annual rangeland would in the long range, reduce annual acres burned and annual fire suppression costs. Wildlife and sagebrush issues may define priorities for suppression, prescribed fire and firebreaks (see Appendix F).

Implementation of forest health would require downed woody material retention of 12-inch diameter materials up to 16 tons per acre. While this requirement is acceptable, in those areas with activity fuels in addition to the woody debris, the potential for and the intensity of wildfire is increased. The arrangement, layering and continuity of these fuels is extremely important. Any area of continuous downed fuels, layered in depth, must be treated mechanically or with prescribed fire to reduce the risk of crown fires

Areas mechanically treated to reduce western juniper encroachment would require fuel treatments, if untreated, slash fuels would significantly increase the possibility of highly intense, soil-sterilizing wildfires in those areas.

Conclusion: Overall, short-term negative impacts would occur from increased use of prescribed fire, optimizing recreational use, increased forage and continued large fire events, but impacts should not be significant when mitigating actions are applied. This alternative provides the potential for positive, long term cumulative effects through the flexible use of wildland fire. Requiring yearly resource and fire management communications and coordination, allowing for changing priorities based on actual on-the-ground assessments, while providing for full suppression response as necessary will all have a direct impact towards meeting resource and fire objectives.

Average annual wildfire numbers would continue to fluctuate as in the past. Average acres burned per year may increase moderately for 5–10 years until a plateau is reached, then vary from year-to-year depending on spring and summer weather patterns. Many large wildfires

would continue to occur and some would require use of costly suppression tactics; however, over the life of the plan there should be a significant decrease in the average cost of suppression per acre burned.

Designing site-specific fuels treatment programs for timber sales, along with thinning projects, would ensure that fuels management issues are addressed.

For objective 1, under this alternative, suppression actions would consider the cost of suppression activities compared to the values threatened, and provide adequate assessment for determining risk to life, property and resources. Full suppression action would not be required on every wildland fire. Each wildland fire would receive an AMR based on predetermined fire, resource and safety objectives (see Appendix M). The appropriate response may vary from that of full suppression on one end of the spectrum to that of monitoring on the other end of the spectrum. This alternative meets the intent of the objective as well as the intent of the1995 "Federal Wildland Fire Management Policy and Program Review" as amended by the January 2001 review and update.

For objective 2, this alternative meets the intent of the objective; it recognizes fire as a critical natural process by providing land managers the flexibility to determine necessary suppression actions based on the actual values being threatened. It allows for the use of prescribed fire to meet resource and fire objectives and provides for adequate risk management assessment and implementation.

Summary of Impacts

Alternatives A, B and E would not meet desired fire and resource objectives. While Alternative A provides for increased use of prescribed fire, it does not meet the emphasis on minimizing suppression costs based on the values to be protected. Alternative E does not provide for prescribed fire use to meet resource objectives, and when combined with the lack of forage production, it sets the stage for unacceptable resource damage caused by large wildfires. Alternatives C, D, and D2 provide for the flexibility necessary to implement AMR on wildland fires; however, under Alternatives D and D2, that flexibility is lessened because the limiting of forage production would increase the risk of multiple large wildfires and the use of prescribed fire and fuels treatment is limited under both alternatives. Under the current situation (Alternative B), the use of prescribed fire would increase over that of historical use but is not emphasized as in Alternatives A and C, and it does meet the emphasis on minimizing suppression costs based on the values to be protected. The Proposed RMP alternative not only provides the flexibility of implementing AMR, as do Alternatives C, D, and D2, but also provides the flexibility of using wildland along with prescribed fire to meet resource objectives. Given all of the fire and resource objectives identified, the Proposed RMP alternative provides managers with flexibility required to meet those objectives.

Rangeland Vegetation

Objectives: *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 rangeland 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.

Assumptions common to all alternatives: Characteristics used to analyze the degree to which vegetation communities meet the desired range of future conditions (DRFC's), and thus rangeland vegetation management objectives, are listed in Table 4-1.

Table 4-1.—*General attributes of vegetation communities and the degree of meeting desired range of future conditions*

Less desirable			More desirable
Noxious weeds	Exotic annuals	Desirable nonnative perennials	Desirable native perennials
Limited vegetation structure			Multi-structured vegetation
Low species diversity			High species diversity
Disconnected habitats (strongholds disjunct)			Connected habitats (strongholds linked)
Disconnected habitats (strongholds disjunct)			Diversity at fine, medium, and broad scales

Approximately 10 percent of the 166,000 acres of western juniper woodlands—those stands dominated by trees with old growth characteristics—would remain untreated. An assumption of Alternatives A, C, D, D2, and Proposed RMP in the Air Resources section states that an estimated 75 percent of western juniper communities within the planning unit would be treated with prescribed fire or mechanical treatments; thus as much as 123,500 acres of western juniper dominated woodlands may be treated over the life of the plan. The combination of wildfire, prescribed fire, and other treatments would retain a minimum of 16,600 acres of stands dominated by trees with old growth characteristics. It is recognized that some acreage within diverse vegetation communities in addition to the estimated 16,600 acres dominated by trees with old growth characteristics would retain western juniper occurrence in low density in association with vigorous shrub, grass, and forb species, consistent with site potential. Areas of western juniper occurrence include acreage in the following vegetation communities identified in Chapter 2; western juniper/big sagebrush, western juniper/low sagebrush, big sagebrush/perennial grassland, quaking aspen, and mountain shrub.

Fire return intervals in sagebrush/grassland communities vary between 25 and 100 or more years. Mountain big sagebrush communities would tend toward the lower end of that range, while Wyoming big sagebrush communities would tend toward the upper end of that range. The average fire return interval, when considering prescribed fire combined with wildfire, would not be less than 75 years within the 3,250,000 acres of sagebrush/grassland communities identified.

The anticipated life of vegetation manipulation projects is dependent on the response by affected species to fire and common pathways of succession (USDA-FS 1997). To complete analysis of the consequences of prescribed burning, and to predict future vegetation composition, the following is assumed:

- When western juniper/big sagebrush communities burn, perennial grassland communities would dominate for the life of the plan with inclusions of western juniper remaining. Big sagebrush structure may reestablish through natural processes or seeding within 10 or more years, dependent on the subspecies (such as mountain big sagebrush may reestablish within 2 years while Wyoming big sagebrush would take longer; although woody structure would not be evident for a longer period), while western juniper would not return to dominance within 30 to 50 years.
- When western juniper/low sagebrush communities burn, grassland communities would dominate for the life of the plan with inclusions of western juniper remaining, but may reestablish a low sagebrush component after 10 or more years depending on growing conditions.

- When shrub/annual grassland communities burn and in the absence of rehabilitation actions, annual grassland communities will dominate for the life of the plan.
- When basin or Wyoming big sagebrush/perennial grassland communities burn, perennial grassland communities would dominate for the life of the plan, unless seeded or planted to sagebrush species, in which case big sagebrush/perennial grassland communities could result after 10 to 15 years.
- When mountain big sagebrush/perennial grassland communities burn, perennial grassland communities would dominate for 15 to 25 years, then revert to the original communities.
- When quaking aspen communities burn, it would regain dominance within 5 years in the absence of heavy browsing.
- When mountain mahogany or antelope bitterbrush communities burn, perennial grassland communities would dominate for 10 to 15 years, then revert to the original community.
- When big sagebrush/crested wheatgrass communities burn, crested wheatgrass communities would dominate for the life of the plan.
- All forest health prescribed burns would not significantly affect identified vegetation types, though may increase herbaceous productivity.

Reduced vegetation structure and ground cover leads to increased soil erosion rates. Soil erosion rates on rangelands are highly dependent on the proportion of the soil surface protected from raindrop impact by vegetation (Meeuwig 1970). Erosion rates increase exponentially as plant cover decreases.

Experience shows that 40 to 60 percent of prescribed burn treatment areas are “black acres,” creating a mosaic pattern of islands and stringers and maintain some structure (connectivity) and the desired diversity. Wildfire accomplishes this at a lesser extent.

Alternative A

Assumptions specific to Alternative A: Through the life of the plan, it is assumed that no more than 124,500 acres within western juniper woodlands and 250,000 acres within sagebrush/grasslands would be burned using prescribed fire. Prescribed fire could be used within all forested areas (5,877 acres).

The average annual acreage (43,240) burned by wildfire would not change initially; however, it would decline with the continuation of aggressive initial attack and full suppression, increased use of prescribed fire in rangeland vegetation types, implementation of forest health actions, construction of vegetation firebreaks (green stripping), and other management actions which reduce fine fuels.

About 25 percent of acreage seeded would receive a native seed mixture, while 75 percent would receive a nonnative seed mixture to emphasize commodity production.

Impacts: Mineral activities usually involves surface disturbance and vegetation removal; this can be minimal with exploration to several acres for development (see Appendix P). Exploration disturbances are usually short-lived with site reclamation restoring vegetation within a few years. Undesirable annual species would usually dominate reclaimed sites in the short term. Use of BMP’s and interdisciplinary analysis of mitigation measures would be implemented to minimize impacts on a site-specific basis. No net change in vegetation community composition is anticipated in the long term.

Management of fire has the potential to greatly affect vegetation change and soil erosion rates. Fire differentially affects individual species as a result of their heat tolerance, fire resistance, mode of reproduction, and levels of competition between associated species following fire (Volland and Dell 1981; Bunting et al. 1987). Fire impacts to soils are dependent on fire intensity and vegetation condition prior to burning. Intense heat reduces

soil organic matter content, volatilizes soil nutrients, and makes soils water repellent. Areas in poor condition prior to burning would stabilize more slowly, leaving soils vulnerable to erosive rainfall for longer periods. Where there is a reduction in single-species dominance, especially western juniper or annual species composition, soil erosion rates would tend to decrease following recovery of perennial vegetation communities. Where multilayered communities are replaced by single-layered communities, soil erosion would tend to increase. Use of prescribed fire to meet vegetation objectives, as opposed to dependence on natural ignitions and AMR, would allow a greater acreage of communities which are not consistent with DRFC's to be burned. Western juniper and big sagebrush dominance would be reduced. Additionally, prescribed fire within annual and shrub annual vegetation communities, followed by seeding of desirable perennial species, results in greater productivity and site stability. Additional acreage seeded following soil disturbing activities associated with fire suppression and emergency fire rehabilitation would limit the introduction of weedy and undesirable species.

The potential decline in acreage burned by wildfire outside prescription, and increase in the use of prescribed fire, would reduce the rate of short-term soil erosion.

The emphasis on use of nonnative species mixtures, especially in sites receiving marginal precipitation and those vegetation communities where competition with annual species is high, would result in conversion to more desirable perennial species and more forage production. Most sites converted from dominance by woody species or exotic annuals to nonnative perennials would progress toward DRFC's at a faster rate. Seeded nonnative perennial species would continue to be managed primarily for forage production and would make minimal, if any, progress toward supporting greater species or structural diversity. As a result, desirable mosaics within and between vegetation communities would tend to occur at a broad scale. When viewed at a fine scale, monoculture would dominate within areas seeded to nonnative species and in areas dominated by herbaceous annual species. A portion of the inventoried 620,000 acres of shrub/annual grassland and annual grassland would be converted to desirable perennials (mostly nonnatives). Shrub/annual and annual grassland communities would retain dominance short term, if manipulated, or long term if conversion to perennials is through succession.

Nonnative greenstrip seedings would establish firebreaks in vegetation communities dominated by annual species, resulting in decreasing the potential size of wildland fires. The interval between fires in a number of annual and shrub/annual vegetation communities would be increased, providing an opportunity for establishment and increased dominance of native perennial species. The dominance of mountain big sagebrush and associated mountain shrub species within vegetation communities receiving greater effective precipitation would be reduced temporarily following wildland fire. Reestablishment from seed and resprouting following fire would lead to development of a shrub canopy within 15 to 25 years (Bunting et al. 1987). Localized areas within mountain big sagebrush communities, which burn more frequently, would be maintained as grassland communities.

Integrated weed management actions would slow the spread of established stands of noxious weeds and reduce the establishment of new infestations. Emphasis on commodity production, including recreational use, OHV use, livestock production, mineral exploration, road traffic, and other uses, would increase localized areas of soil disturbance and also increase the vectors of seed dispersal, impacting rangeland vegetation communities and soils.

Some soil erosion from timber harvest and road construction would occur, although acreages involved would be minimal. No net change in vegetation community composition is anticipated following timber harvest rehabilitation.

Forest health management practices would have positive benefits to vegetation communities. Prescribed burning and cutting of western juniper and quaking aspen are tools for treating vegetation for diversity and forage production. Within most areas burned, vegetation

composition would continue to include a mosaic of untreated areas, scattered western juniper, and stands with old growth characteristics. Where fuels in the understory do not support fire spread, cutting and later burning may be used. Established quaking aspen clones would sprout readily following fire. In the long term (greater than 20 years), big sagebrush would begin to reestablish in 1 to 3 years, and western juniper would slowly reinvade sites where a seed source is present. Accelerated rates of soil erosion would continue from remaining sites dominated by western juniper and limited understory vegetation.

Management of special status plant species could improve vegetation community diversity. Management for some special status species that are not fire tolerant may constrain the use of prescribed fire for potential benefits. Similarly, the use of seeding and other vegetation management tools many be constrained by objectives to manage for the preservation of special status plant species. Fencing of special areas, including ACEC's which contain special status plants, would be the preferred method of protection, as needed.

Management of riparian and wetlands (riparian management objectives [RMO's] within RCA's) would protect and enhance community diversity and function immediately adjacent to surface water and streams, though may not protect upland communities. Actions implemented to protect special status fish species would contribute to maintenance of healthy and functioning vegetation communities. Prescribed fire and seeding would be done to meet other objectives.

Management of vegetation communities to provide suitable habitat for game and special status wildlife would help provide for the restoration, protection, and enhancement of desirable communities. Vegetation communities would be managed to provide structural diversity and the connectivity of suitable habitats. This also minimizes the potential for accelerated soil erosion. At the same time, management for these species may constrain the use of proposed prescribed fire, seeding, and other vegetation management tools.

Impacts to vegetation resources would remain constant in the short term as appropriate management levels (AML's) of wild horses are maintained. Periodic evaluation and adjustment of wild horse populations would limit long-term wild horse impacts on vegetation and soil resources. Impacts of horses are projected to be adverse within herd management areas (HMA's), as they would continue to graze these areas yearly. Concentration on riparian areas would increase in the immediate vicinity of new water developments constructed for wild horse use. However, smaller herd sizes would minimize impacts.

Impacts of various intensities, seasons, and duration of grazing use are summarized in Appendix R. Negative impacts would be minimized as site-specific management consistent with meeting objectives is implemented. Emphasis on forage production and authorization of TNR, while continuing to meet objectives, would increase average utilization levels and extend the areas utilized by livestock. Livestock concentration areas may increase in size or number, resulting in the localized decline of vegetation resources and soil compaction. Deposition of plant litter and incorporation of organic matter to soils would remain constant or decrease as utilization of forage increases. On sites where plant litter is reduced, the potential for accelerated soil erosion caused by overland flow of precipitation may be increased. Active vegetation manipulation would improve rangeland health and soil stability where undesirable annual and shrub/annual vegetation communities dominate. Nutrient cycling consistent with standards for rangeland health would be maintained, though adjacent to water sources and other areas of heavy livestock use, nutrient concentration would occur. Fence construction to protect RCA's would increase localized impacts to upland vegetation resources. Other rangeland projects would allow access to forage previously not utilized and increase impacts to vegetation resources. At times, livestock may be excluded to allow maintenance and/or recovery of soil and vegetation resources.

To promote an increase in livestock production, increased fencing, water development, and grazing systems may be incorporated.

Competition for soil moisture with forage plants and other plants, such as sagebrush, western juniper, and annuals, would be reduced. Active vegetation manipulation with emphasis on forage production through seeding of desirable perennial species (nonnative or high producing native species) would improve rangeland health and soil stability, especially where desirable annual and shrub annual vegetation communities dominate.

Grazing of livestock to take advantage of the high protein stage of plants, or early season green grass could also have an adverse affect on diversity. Livestock use would increase across the area where increased development and fencing occur. These are areas not currently accessible. Livestock concentration areas may increase in numbers, but with fencing, water development, and use of BMP's, the size and intensity would decrease. However, there would be localized decline of vegetation resources and soil compaction. To maintain the long-term high production of livestock would still require good management of vegetation.

Riparian areas are often adversely affected by livestock grazing. An estimated 750 miles of fence would be constructed to protect the values during critical times, or for total exclusion if needed to protect water/riparian values, ACEC's designated for recognition of plant community values, or other values.

Construction, use, and maintenance of a significant number of new structural rangeland projects may result in numerous direct and indirect, short-term and long-term impacts to vegetation and soil resources. Short-term negative impacts would result from surface disturbances for project construction. Dams, excavation areas, and borrow areas of reservoirs would be devoid of vegetation until reclamation actions established desirable vegetation. Additional areas of soil disturbance would result from drilling wells, developing springs, laying pipeline, placing water troughs, constructing fence brace points, and placing cattleguards. Cumulative impacts of new project construction and use, when combined with existing projects, may further decrease structural diversity where moderate to heavy utilization levels are reached throughout a pasture or a basin. Livestock concentration adjacent to newly developed water sources and along new trails associated with fences could maintain soils exposed to erosion and establishment of weedy and noxious plants. Road construction and maintenance to access new project sites would increase the surface area of soils exposed to water channeling, erosion, and weed establishment. Fences would be used to improve forage condition and protect areas near water developments.

When TNR is authorized to meet specific management objectives, grazing use may be allowed to exceed normal utilization limits. This would usually occur outside the growing season in late fall, winter, or early spring. TNR is authorized to utilize increased forage during climactic or other conditions that increases forage though may increase impacts to vegetation.

With expanded recreational opportunities, impacts from human trampling would increase. Within developed facilities, impacts would be mitigated through site design, maintenance, and application of BMP's. Because of expanded opportunities, risk of human-caused wildfires increase with a related upswing in suppression activities, all of which may increase impacts to vegetation resources and soils.

With increased area accessible to OHV use, the potential for water channeling, vegetation removal, weed dispersal, and soil disturbance would increase. A moderate increase in localized impacts would result within areas currently used for recreational pursuits. Areas accessible to population centers are anticipated to receive the greatest impacts. Additional road construction and maintenance and right-of-way use, to support commodity-related activities, would minimally increase soil and vegetation impacts. Long-term impacts from roads and rights-of-way would be minimized with BMP's. Short-term impacts would occur until disturbed surfaces are contoured and revegetated.

Vegetation and soil resources within SMA's would be maintained in functioning condition, consistent with regional standards of rangeland health. Limitation of management activities within these areas may require modification or elimination of proposed vegetation treatments. Refer to Table 3-12, Table 3-13, and Map WSA-1 for areas affected.

Conclusion: Implementation of this alternative would reduce dominance of woody and exotic annual species, and increase dominance of herbaceous perennials in the long term. Greater productivity for allocation to consumptive uses would result. Limited shrub reintroduction into some burns would maintain diversity at a broad scale.

Anticipated cumulative changes in the composition of vegetation communities, from the current situation (Table 2-4) as a result of actions identified in this alternative over the life of the plan are as follows:

- Big sagebrush/perennial grassland, big sagebrush/annual grassland and big sagebrush/crested wheatgrass communities would decline 10–15 percent;
- Low sagebrush vegetation communities would increase slightly;
- Annual species vegetation communities would decrease slightly;
- Western juniper vegetation communities would decline 50–75 percent;
- Perennial grassland vegetation communities would increase about 50 percent; and
- Crested wheatgrass vegetation communities would increase approximately 50 percent.

As a result of optimizing livestock use of available forage, the benefits of returning vegetation material to the soil would be minimized. Long-term vigor and health of vegetation communities would be maintained across the landscape, except at localized areas of concentrated activity.

Objective 1 would be met under this alternative which emphasizes nonnative vegetation communities in addition to natives. Species, community, and structural diversity, in addition to habitat connectivity, would occur over the long term at a broad scale across the landscape and at a finer scale within areas supporting high-value resources.

Objective 2 would be met in habitats supporting game species and special status species. Actions which emphasize forage production would eliminate or reduce big sagebrush composition in many native rangeland communities and most nonnative seedings.

Objective 3 would be met; however, noxious weeds widely distributed on private and public land would continue to reduce site productivity and increase hazards. Agents of seed dispersal and soil disturbance would promote infestation and expansion of noxious weeds.

Alternative B

Assumptions specific to Alternative B: Through the life of the plan, no more than 41,500 acres of western juniper woodland fuel type and no more than 120,000 acres of sagebrush/grassland fuel types would be burned using prescribed fire. Approximately 3,000 acres of forested vegetation communities would be burned using prescribed fire to implement forest health actions in MRA.

On average, the annual acreage burned by wildfire (approximately 43,240 acres in the planning area) would remain unchanged.

About 50 percent of the acreage seeded would receive a native seed mixture, while 50 percent would receive a nonnative seed mixture.

Impacts: The impacts from mineral exploration or development would be similar to those identified in Alternative A, except the acreage of high mineral potential land remaining available for exploration and development would be highest under this alternative.

Management of wildfire and prescribed fire would have impacts similar to those identified in Alternative A; however, with less use of prescribed fire, fewer acres of communities which are not consistent with DRFC's would be burned.

Impacts resulting from vegetation manipulation, primarily seedings, would be similar to those identified in Alternative A. Equal use of native and nonnative species would ensure seeding success and maintenance of diversity. A greater acreage of shrub/annual and annual grasslands may be converted to native perennials.

Seeding of greenstrips would have impacts similar to those identified in Alternative A.

Some stands of seeded nonnative perennial species would continue to be managed primarily for forage production, and would make minimal progress toward supporting greater species or structural diversity. Connectivity of big sagebrush cover may be reduced. Impacts would be similar to those identified in Alternative A.

Impacts for management of shrub species would be similar to those identified in Alternative A, except only 120,000 acres would be treated. Connectivity of big sagebrush cover would be maintained in native vegetation communities that provide important wildlife habitat. Big sagebrush and mountain shrubs would reestablish slowly following wildland fire and rehabilitation efforts. Many existing stands of dense sagebrush associated with native perennial bunchgrasses would be treated in mosaic patterns to establish desirable diversity and/or to enhance forage production. Where sagebrush inhibits maintenance of adequate herbaceous ground cover, removal would improve soil surface protection and reduce erosion rates.

Weed management would have impacts similar to those identified in Alternative A.

Management of western juniper would have impacts similar to those identified in Alternative A, except no more than 41,500 acres would be treated.

Management of special status plant, fish, and wildlife species would have impacts the same as identified in Alternative A.

Management of riparian and wetland communities would have impacts similar to those identified in Alternative A. Additionally, function of upland communities, which contribute to riparian values and water quality, would be improved.

Impacts from wild horse management would be as described in Alternative A, except impacts would increase due to potentially greater horse numbers under this alternative.

Impacts from livestock management actions would be similar to those identified in Alternative A, except more area would be used. With lower utilization levels and fewer instances of TNR authorization, progress toward attaining DRFC's would be accelerated.

The impacts from riparian fencing and exclusion areas would be similar to those identified in Alternative A, but of a lesser magnitude because only 525 miles are anticipated.

Impacts to vegetation and soil resources from new project construction would be similar to those identified in Alternative A, though fewer projects would be constructed.

Impacts from recreation use would be similar to those identified in Alternative A, except less development and less emphasis on dispersed recreation would limit those impacts. Human-caused wildfires are projected to remain at current levels.

Impacts from OHV use would be of the same types as identified in Alternative A, but cumulatively of less magnitude because more areas are closed or limited.

SMA's would have the same type of impacts as identified in Alternative A, except acreage involved would be less with no additional NWSR or ACEC designations and WSA boundaries remaining unchanged.

Conclusion: Existing management would lead to a moderate reduction in shrub dominated communities, and a reduction in western juniper dominated communities over the long term. Moderate shrub reintroduction into burned sites, as a part of rehabilitation efforts, would maintain diversity in the long term at a broad scale.

Anticipated cumulative changes in the composition of vegetation communities from the current situation (Table 2-4) as a result of actions identified in this alternative over the life of the plan are as follows:

- Big sagebrush/perennial grassland, big sagebrush/annual grassland and big sagebrush/crested wheatgrass communities would decline slightly;
- Annual species vegetation communities would decrease slightly;
- Western juniper vegetation communities would decline slightly;
- Perennial grassland vegetation communities would increase about 25 percent; and
- Crested wheatgrass vegetation communities would increase approximately 15 percent.

Objectives 1 and 3 would be met the same as in Alternative A. Objective 2 would be met not only in many habitats supporting game and special status species, but also in habitat supporting nongame species. Management for livestock production and other commodity values may lead to the elimination or reduction of big sagebrush composition in some native rangeland communities and seedings of nonnative grass species.

Alternative C

Assumptions specific to Alternative C: Through the life of the plan, no more than 124,500 acres of western juniper woodland fuel type and no more than 250,000 acres of sagebrush/grassland fuel types would be burned using prescribed fire. Prescribed fire could be used within all forested areas (5,877 acres).

The average annual acreage burned by wildfire (approximately 43,240 acres in the planning area) may decline minimally.

About 75 percent of the acreage seeded would receive a native seed mixture, while 25 percent would receive a nonnative seed mixture.

Impacts: The type of impacts from mineral exploration or development would be similar to those identified in Alternative A, except the acreage of high mineral potential land remaining available for exploration and development would be less under this alternative.

Management of wildfire and prescribed fire would have impacts similar to those identified in Alternative A; however, there would more use of natural fire, and communities would be targeted primarily to achieve DRFC's rather than increase forage production. Greater species, structural, and community diversity and connectivity would result at a fine scale.

Impacts resulting from vegetation manipulation, primarily seedings, would be similar to those identified in Alternative A, except emphasis on use of native species would maintain diversity and some degree of seeding success. In marginal sites, including those dominated by annuals, use of nonnatives would increase seeding success. A moderate acreage of shrub/annual and annual grasslands may be converted to native perennials.

Seeding of greenstrips would have impacts similar to those identified in Alternative A, though firebreaks may not be as effective where only natives are seeded.

Impacts resulting from management of shrub species would be similar to those identified in Alternative A, except connectivity of big sagebrush cover would be maintained in native vegetation communities which provide important wildlife habitat. Some nonnative seedings would continue to be managed primarily for forage production, and would make minimal progress toward supporting greater species or structural diversity. Big sagebrush and mountain shrubs would reestablish slowly following wildland fire and rehabilitation efforts.

Weed management would have impacts similar to those identified in Alternative A, except there would be fewer vectors of seed dispersal and less ground disturbance than the high use concept of that alternative.

Management of western juniper would have the same acreage and impacts similar to those identified in Alternative A.

Management of special status plant, fish, and wildlife species would have impacts the same as identified in Alternative A.

Management of riparian and wetland communities (RMO's within RCA's) would have impacts similar to those identified in Alternative A. The impacts from riparian fencing and exclusion areas would be similar to those identified in Alternative A, but of a lesser magnitude because only 300 miles are anticipated. Additionally, function of upland communities, which contribute to riparian values and water quality, would be improved.

Impacts from wild horse management would be as described in Alternative A.

Impacts from livestock management actions would be similar to those identified in Alternative A. Appropriate grazing of available forage, including use authorized as TNR, would retain adequate plant litter to maintain soil productivity and limit accelerated erosion. With lower utilization levels, progress toward attaining DRFC's would be accelerated. Less fencing and water development would open up new areas for grazing.

Construction of fewer new rangeland projects would limit impacts to vegetation and soil resources. Impacts that result would be similar to those identified in Alternative A.

Impacts from recreation use would be similar to those identified in Alternative A. Dispersed recreation and use of developed sites would be slightly less than projected in Alternative A. The magnitude of impacts, including those related to suppression and rehabilitation of human-caused fires, may also be less.

Impacts from OHV use would be the same types as identified in Alternative A, but cumulatively of less magnitude because of slightly fewer open designations.

SMA's would have the same type of impacts as identified in Alternative A, except the acreage affected would be greater as summarized in Table 3-12 and Table 3-13.

Conclusion: This alternative would generally reduce dominance by woody species and increase mosaics of diverse structures of multiple-aged shrubs, forbs, and perennial grasses over the long term. This would result in greater productivity, and improved natural functions and watershed stability. Shrub reintroduction into burned sites would maintain diversity at a moderate scale, especially within habitat of significant sagebrush-dependent wildlife species.

Anticipated cumulative changes in the composition of vegetation communities from the current situation (Table 2-4) as a result of actions identified in this alternative over the life of the plan are as follows:

- Big sagebrush/perennial grassland, big sagebrush/annual grassland and big sagebrush/ crested wheatgrass communities would decline 10–15 percent;
- Low sagebrush vegetation communities would increase slightly;
- Annual species vegetation communities would decrease slightly;
- Western juniper vegetation communities would decline 50–75 percent;
- Perennial grassland vegetation communities would increase about 50 percent; and
- Crested wheatgrass vegetation communities would increase slightly.

Sustained or slightly reduced livestock grazing would beneficially return plant litter to the soil. Long-term vigor and health of vegetation communities, which includes maintenance of soil stability and energy, nutrient, and water cycling, would be maintained across the landscape, except at small, localized areas of livestock concentrations.

All rangeland vegetation objectives would be met under this alternative. Soil stability and productivity would be maintained.

Alternative D

Assumptions specific to Alternative D: Through the life of the plan, no more than 83,000 acres of western juniper woodland fuel type and no more than 125,000 acres of sagebrush/ grassland fuel types would be burned using prescribed fire. Prescribed fire could be used within all forested areas.

On average, the annual acreage burned by wildfire (approximately 43,240 acres in the planning area) may increase.

All acreage seeded would receive a native seed mixture.

Impacts: The impacts from mineral exploration or development would be similar to those identified in Alternative A, except the acreage of high mineral potential land remaining available for exploration and development would be less under this alternative.

Management of wildfire and prescribed fire would have impacts similar to those identified in Alternative A. Prescribed fire would be limited to priority areas under this alternative and targeted primarily to achieve DRFC's rather than increase forage production. Lack of natural ignition sources or lack of sufficient fuels may prevent AMR burning in remaining areas. Greater species, structural, and community diversity within many communities would result at a fine scale. With less grazing, less prescribed fire, etc., there would be more vegetation impairing fires.

Impacts resulting from vegetation manipulation, primarily seedings, would be similar to those identified in Alternative A. Exclusive use of native species would maintain diversity and some degree of seeding success. The chances of establishment of native species seedings on marginal sites and during poor climatic conditions are not as good as with drought tolerant nonnative species. Therefore, some sites may require reseeding, which leaves soils vulnerable to erosion until successful establishment occurs. Also, opportunities to establish desirable perennial cover in sites currently dominated by sagebrush and annual species may be lost after a number of unsuccessful seeding attempts. Although the acreage to be converted is the same as Alternative A, conversion would occur at a slower rate. Successful seeding would stabilize soils, and function more consistent with S&G's.

Seeding of greenstrips would have impacts similar to those identified in Alternative A, though when seeded with only natives, firebreaks may not be as effective.

Impacts resulting from management of shrub species would be similar to those identified in Alternative A. Native communities and nonnative seedings which currently lack structural diversity due to dominance by herbaceous species would be managed to include a mosaic of

multiple-aged shrubs, forbs, and grasses. Big sagebrush would be maintained for sagebrush-dependent wildlife and other values. Preparation of seed beds in nonnative seedings could expose sites to invasion by undesirable annual species. As a result, many stands of nonnative grasses could be converted to a greater dominance by native shrubs, forbs, and grasses, while more marginal sites, currently supporting functioning stands of nonnative grasses, may be unintentionally converted to nonfunctioning stands of exotic annual species. Desirable mosaics within and between vegetation communities, and habitat connectivity, as identified in the DRFC's, would tend to occur at a moderate scale across the landscape in more mesic sites, and at a broad scale in marginal sites.

Weed management would have impacts similar to those identified in Alternative A.

Management of western juniper would have impacts similar to those identified in Alternative A, with less acreage controlled (83,000 acres).

Management of special status plant, fish, and wildlife species would have impacts the same as identified in Alternative A.

Management of riparian and wetland communities (RMO's within RCA's) would have impacts similar to those identified in Alternative A. Additionally, the function of upland communities, which contribute to riparian values and water quality, would be improved.

Impacts from wild horse management would be as described in Alternative A, except with less riparian fencing and less population control, cumulative impacts would increase.

Impacts from livestock management actions would be similar to those identified in Alternative A. Lighter grazing levels that emphasize resource values and authorization of no TNR use would retain additional plant litter for incorporation into soils. Soils would be better protected from erosive overland flow of precipitation. Impacts of livestock concentrations would be the same as under Alternative A, but less common. Fewer rangeland improvements and significantly less fencing would have much less impacts than other alternatives. With lower utilization levels, progress toward attaining DRFC's would be accelerated.

Impacts to vegetation and soil resources from new project construction would be similar to those identified in Alternative A, though very few projects would be constructed.

Impacts from undeveloped recreational opportunities would be similar to those identified in Alternative A. Though developed recreational facilities would be fewer under this alternative, impacts would be the same as identified in Alternative A.

Impacts from OHV use would be the same types as identified in Alternative A, but cumulatively of less magnitude because of fewer open designations.

SMA's would have the same type of impacts as identified in Alternative A, except with designation of additional administratively suitable NWSR's and ACEC's, including RNA's, as identified in Tables 3-12 and 3-13, beneficially impacted acres would be greater.

Conclusion: Many vegetation communities would progress toward a reduced dominance by woody species and an increased mosaic of multiple-aged shrubs, forbs, and perennial grasses. Long-term vigor and health of vegetation communities, which includes maintenance of soil stability and energy, nutrient, and water cycling, would be maintained across the landscape, except in localized areas of concentrated activity. Sustained or reduced livestock grazing would beneficially return vegetation material to the soil. Shrub reintroduction into rehabilitated burned sites would maintain diversity at most scales.

Anticipated cumulative changes in the composition of vegetation communities from the current situation (Table 2-4) as a result of actions identified in this alternative over the life of the plan are as follows:

- Big sagebrush/perennial grassland, big sagebrush/annual grassland and big sagebrush/crested wheatgrass communities would decline 5–10 percent;
- Low sagebrush vegetation communities would increase slightly;
- Annual species vegetation communities would decrease 10–15 percent;
- Western juniper vegetation communities would decline 30–50 percent;
- Perennial grassland vegetation communities would increase about 50 percent; and
- Crested wheatgrass vegetation communities would change little.

Objective 1 would be met with emphasis on the long term conversion of annual dominated and nonnative seedings to a greater dominance by native perennial vegetation types. Annuals would still dominate sites where native perennials do not compete well with established nonnative annuals. Species, community, and structural diversity would occur at most scales. Habitat connectivity would be high, especially within areas supporting high value resources.

Objective 2 would be met in most native and nonnative vegetation communities where there is potential and need for wildlife habitat. Following wildland fire and other impacts to sagebrush, desirable shrubs would be established to restore structure and connectivity.

Objectives 3 would be met through implementation of cooperative, integrated weed management. Widely distributed noxious weeds would continue to reduce site productivity and increase hazards. Seed dispersal mechanisms and site disturbances that favor noxious weed establishment would moderately increase the potential for weed spread.

Alternative D2

Assumptions specific to Alternative D2: Through the life of the plan, no more than 83,000 acres of western juniper woodland fuel type and no more than 125,000 acres of sagebrush/grassland fuel types would be burned using prescribed fire. Prescribed fire could be used within all forested areas.

On average, the annual acreage burned by wildfire (approximately 43,240 acres in the planning area) would increase due to additional fuel loads, resulting in more large fires.

All acreage seeded would receive a native seed mixture.

Impacts: The impacts from mineral exploration or development would be similar to those identified in Alternative A, except the acreage of high mineral potential land remaining available for exploration and development would be less under this alternative.

Management of wildfire and prescribed fire would have impacts similar to those identified in Alternative A though the acreage affected by each would differ. Prescribed fire would be limited to priority areas under this alternative and targeted primarily to achieve DRFC's rather than increase forage production. Lack of natural ignition sources or lack of sufficient fuels in vegetation communities where fire could lead toward DRFC would limit use of AMR to meet objectives. As a result, planned use of fire to meet vegetation management objectives would be limited. Although the number of wildfires would likely not change, the incidence of large fires would increase as a result of additional fuel loading, especially in those portions of the planning area where livestock grazing was removed. Woody species dominance across the landscape would decline when grassland communities are maintained by periodic fire. Desired species, structural, and community diversity within many vegetation communities would result only at a fine scale.

Impacts resulting from vegetation manipulation, primarily seedings, would be similar to those identified in Alternative A. Exclusive use of native species would maintain diversity and some degree of seeding success. The chances of establishment of native species seedings on marginal sites and during poor climatic conditions are not as good as with drought-tolerant nonnative species. Therefore, some sites may require reseeding, which leaves soils vulnerable to erosion until successful establishment occurs. Also, opportunities to establish desirable perennial cover in sites currently dominated by sagebrush and annual species may be lost after a number of unsuccessful seeding attempts. Although the acreage to be converted is the same as Alternative A, conversion would occur at a slower rate. Successful seeding would stabilize soil and function more consistent with S&G's.

Seeding of greenstrips would have impacts similar to those identified in Alternative A, though when seeded with only natives, seedling establishment would be less successful on marginal sites and firebreaks, once established, may be less effective than those where nonnative species are use.

Impacts resulting from management of shrub species would be similar to those identified in Alternative A. Native communities and nonnative seedings which currently lack structural diversity due to dominance by herbaceous species would be managed to establish a mosaic of multiple-aged shrubs, forbs, and grasses. Many sites where actions are implemented to increase shrub dominance may not attain community structure including mature shrubs due to frequent fire as mentioned above. Big sagebrush would be maintained for sagebrush-dependent wildlife and other values where not removed by wildfire.

Efforts to increase dominance by native species in existing perennial nonnative communities could result in and increase in undesirable annual and weed species. Preparation of seed beds and lack of native seedling establishment on poor sites and with marginal climatic conditions could leave sites exposed to invasion by undesirable species. As a result, some stands of nonnative grasses could be converted to a greater dominance by native shrubs, forbs, and grasses, while more marginal sites, currently supporting functioning stands of nonnative perennial grasses, may be unintentionally converted to nonfunctioning stands of exotic annual species and weeds. These consequences could be exacerbated by frequent wildfire. Desirable mosaics within and between vegetation communities, and habitat connectivity, as identified in the DRFC's, would tend to occur at a moderate scale across the landscape in sites receiving greater effective soil moisture, and at a broad scale in marginal sites.

Weed management would have impacts similar to those identified in Alternative A.

Management of western juniper would have impacts similar to those identified in Alternative A, with less acreage controlled (83,000 acres).

Management of special status plant, fish, and wildlife species would have impacts the same as identified in Alternative A.

Management of riparian and wetland communities (RMO's within RCA's) would have impacts similar to those identified in Alternative A. Additionally, the function of upland communities, which contribute to riparian values and water quality, would be improved as a result of action implemented in the uplands to meet water quality requirements.

Impacts from wild horse management would be as described in Alternative A, except with less riparian fencing and less population control, cumulative impacts would increase.

Impacts from livestock management actions would be similar to those identified in Alternative A within 68 percent of the planning area where livestock grazing would be retained as an allocated use. Livestock impacts to vegetation and soils resources would be removed from 32 percent of the planning area where livestock grazing would not be allocated. Lighter

grazing levels that emphasize resource values and no authorization of TNR use would retain additional plant litter for incorporation into soils. Soils would be better protected from erosive overland flow of precipitation. Impacts of livestock concentrations would be the same as under Alternative A, but less common. Fewer rangeland improvements and significantly less fencing would have much less impacts than other alternatives. With lower utilization levels, progress toward attaining DRFC's would be generally accelerated, though the combined effects of reduced livestock grazing and increased wildfire size could result in the conversion of vegetation communities to a reduced dominance by woody species where ignition sources are present.

Vegetation communities within the 32 percent of the planning area from which livestock grazing is removed would benefit from the reduction of grazing impacts, especially within pastures not currently close to the DRFC goals and areas of current livestock concentration. Most pastures from which livestock would be removed are currently in late or PNC ecological status and would retain conditions consistent with DRFC goals.

Impacts to vegetation and soil resources from new project construction would be similar to those identified in Alternative A, though less common since few projects would be constructed.

Impacts from undeveloped recreational opportunities would be similar to those identified in Alternative A. Though developed recreational facilities would be fewer under this alternative, impacts would be the same as identified in Alternative A.

Impacts from OHV use would be the same types as identified in Alternative A, but cumulatively of less magnitude because of fewer open designations.

SMA's would have the same type of impacts as identified in Alternative A, except with designation of additional administratively suitable NWSR's and ACEC's, including RNA's, as identified in Tables 3-12 and 3-13, beneficially impacted acres would be greater.

Conclusion: Many vegetation communities would progress toward a reduced dominance by woody species and an increased mosaic of multiple-aged shrubs, forbs, and perennial grasses over the long term where frequent wildfire did not maintain either perennial grasslands or annual grasslands. Removal of livestock from 32 percent of the planning area would also accelerate progress toward DRFC at some sites though most pastures from which livestock would be removed are currently close to meeting that goal. Long-term vigor and health of vegetation communities, which includes maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained across the landscape, except in localized areas of concentrated activity. Reduced levels of livestock grazing would beneficially return vegetation material to the soil. Shrub reintroduction into rehabilitated burned sites would maintain diversity at most scales, provided frequent wildfire did not occur.

Anticipated cumulative changes in the composition of vegetation communities from the current situation (Table 2-4) as a result of actions identified in this alternative over the life of the plan are as follows:

- Big sagebrush/perennial grassland, big sagebrush/annual grassland and big sagebrush/crested wheatgrass communities would decline an estimated 10 percent;
- Low sagebrush vegetation communities would increase slightly;
- Annual species vegetation communities would decrease 10–15 percent;
- Western juniper vegetation communities would decline 30–50 percent;
- Perennial grassland vegetation communities would increase about 100 percent; and
- Crested wheatgrass vegetation communities would change little.

Objective 1 would be met with emphasis on the conversion of annual dominated and nonnative seedings to native perennial vegetation types. Annuals would still dominate sites

where native perennials do not compete well with established nonnative annuals. Species, community, and structural diversity would occur at most scales. Habitat connectivity would be high, especially within areas supporting high value resources.

Objective 2 would be met in most native and nonnative vegetation communities where there is potential and need for wildlife habitat. Following wildland fire and other impacts to sagebrush, desirable shrubs would be established to restore structure and connectivity.

Objectives 3 would be met through implementation of cooperative, integrated weed management. Widely distributed noxious weeds would continue to reduce site productivity and increase hazards. Seed dispersal mechanisms and site disturbances that favor noxious weed establishment would moderately increase the potential for weed spread.

Alternative E

Impacts: The planning area would not be available for mineral development, therefore there would be no related impacts.

On average, the annual acreage burned by wildfire (approximately 43,240 acres in the planning area) would increase significantly due to greater fuel loads resulting from removal of livestock grazing and from less aggressive suppression actions. Since greenstrip treatments would not be used for firebreaks, the size and frequency of wildfire in sites dominated by exotic annual species would increase. Increased fire frequency, especially in sites dominated by flammable annual species and along the tracks of frequent summer storm activity, would maintain communities currently vegetated by annual and shrub vegetation, with little opportunity for the establishment and increased dominance of perennials. Similarly, communities with perennials may degrade toward more annual species dominance with frequent burning. As annual species dominance increases, soil erosion accelerates, especially immediately following fire. Lack of rehabilitation to establish desirable vegetation components and to protect soil resources, would result in significant long-term impacts.

The condition of vegetation resources in areas not subject to frequent fire would improve as the impacts from livestock grazing are eliminated. Areas with a component of desirable perennial species though dominated by cheatgrass and other annuals would increase in desirable perennial plant cover. Barring further adverse disturbance to health or establishment of perennial species, desirable plant communities should dominate in the very long term, with annual species dominating in the interim. Soil stability would improve in these sites. Seeding to convert less desirable vegetation communities and establish DRFC's would not occur. Conversion of an inventoried 620,000 acres of shrub/annual grassland and annual grassland to perennial dominated communities through natural succession would occur very slowly, and would probably be offset by conversion to annual species as a result of frequent wildfires. Sites increasing in desired perennial species dominance would be better able to function consistent with S&G's.

Sites dominated by a monoculture of nonnative seeded species would not be managed to improve diversity. Some smaller stands may contain adequate native seed to develop the desirable mosaic of multiple-aged shrubs, forbs, and native grasses as a result of natural establishment. Many larger stands dominated by competitive nonnative species would allow little opportunity for establishment or increased dominance by native species. Desirable mosaics within and between nonnative vegetation communities, as identified in the DRFC's, would exist on a moderate scale across the landscape, with some larger seedings supporting the desirable mosaic only at a very broad scale.

Big sagebrush would be maintained through the life of the plan for sagebrush dependent wildlife and other values where wildfire does not occur. Large wildfires would reduce or eliminate the shrub component significantly in the planning area. The dominance of mountain big sagebrush and associated mountain shrub species within vegetation communities

receiving greater effective soil moisture would be reduced temporarily following wildfire. Reestablishment from seed or sprouting following fire would lead to development of a shrub canopy within 15 to 25 years following burning (Bunting et al. 1987). Localized areas within mountain big sagebrush communities which burn more frequently would be maintained as grassland communities, while areas with less frequent fire intervals would support diverse communities including the shrub components.

Integrated weed management actions would slow the spread of established stands of noxious weeds and reduce the establishment of new infestations. Though a number of actions that increase the risk of dominance by noxious weeds would be limited by actions of Alternative E, seed dispersal and some soil disturbances favoring undesirable plants would continue. Native sagebrush steppe species do not compete well with many introduced noxious weeds, even when disturbances are removed and vectors of seed dispersal are reduced (Roché et al. 1994; Roché and Burril 1992; and Butler 1993).

Western juniper stands lacking significant understory to carry wildfire would continue to expand, become more resistant to wildfire in the long term, and decline in diversity and soil stability. Without livestock grazing, fine fuels would increase in light to moderately dense western juniper stands, increasing wildfire size and intensity, removing most smaller trees and shrubs. Western juniper expansion and dominance in these areas would decrease over the long term, provided a source of ignition occurred prior to loss of the vegetation understory. Within most areas burned, vegetation composition would continue to include scattered western juniper trees and stands with old growth characteristics where fuels in the understory would not support fire spread. Where fire does not return and where seed sources are present, shrubs and western juniper would reinvade in the long term (greater than 20 years). Other plant species that survive fire would benefit from removal of competition and expand to reoccupy the site in 3 to 5 years. Where common before burning, cheatgrass would expand following fire.

Quaking aspen clones would sprout readily following livestock removal, especially following the occurrence of fire, unless severely browsed by wildlife. In the absence of periodic stand rejuvenating fire or short-term herbivory, quaking aspen stands would become decadent in the long term.

Management of water resources, riparian/wetland areas, fish, aquatic habitats, wildlife, wildlife habitat, and habitats for threatened and endangered plant or animal species to mitigate or preclude impacts from noncommodity uses would also benefit vegetation resources.

In the absence of livestock grazing, wild horse AML's in each HMA would most likely increase to utilize additional unallocated resources. Impacts to vegetation and soil resources within 7 HMA's would increase as wild horse populations grow to new AML's. Greater horse populations would result in additional impacts to vegetation resources at concentration areas. Substituting yearlong grazing and trampling impacts from wild horses use in place of scheduled livestock grazing rotations would also increase localized impacts to vegetation, especially within the smaller HMA which do not have space for horses to establish seasonal use patterns. Impacts to vegetation and soil resources near developed water sources would be reduced as developments, previously maintained by livestock operators, fall into disrepair and are no longer used. Riparian vegetation would likely be impacted as horses increase use of streams and seeps for available water.

With the removal of livestock grazing from the planning area, those impacts identified in Alternative A would be eliminated. The condition of areas previously impacted would recover as allowed in the presence of competing exotic annual species and/or lack of remaining soil. Utilization of forage resources by wildlife would continue. Deposition of plant litter and incorporation of organic matter into the soil would increase across the landscape, resulting in increased productivity, decreased erosion caused by overland flow of

precipitation, and progress toward DRFC's. On many sites dominated by native species, rates of water, nutrient, and energy cycling, and soil movement would be restored to near natural levels long term with recover to late or potential natural community (PNC) ecological status. Sites supporting shallow-rooted exotic annual species would continue to alter water, nutrient, and energy cycling, and accelerate rates of soil erosion.

Short-term impacts to vegetation and soil resources would occur as existing rangeland projects supporting livestock grazing are abandoned and structures are removed. In the long term, areas disturbed during project removal would revegetate naturally to resemble surrounding vegetation communities.

Impacts to vegetation and soil resources from recreation activities would increase within areas of concentrated activity, including developed facilities. Human caused wildfire may increase as recreational activity increases, resulting in impacts to soil and vegetation resources.

Limited and closed OHV designations of all public land would limit direct impacts to vegetation resources which are identified in Alternative A to those which occur on designated roads and trail. Indirect impacts associated with those routes would also continue to occur. Similarly, prohibition of additional road construction, as well as restriction of rights-of-way to existing corridors, would minimize or eliminate long-term impacts of surface disturbance. Limited maintenance of existing roads would increase impacts to soil and vegetation resources as a result of normal breakdown of roadbeds, wet weather rutting by vehicles, and channeling of runoff.

Conclusion: Exclusion of livestock from all public land would allow natural succession to improve the condition of many vegetation communities currently supporting desirable species. Altered vegetation communities dominated by annual species would improve little toward DRFC over the life of the plan. Fine fuels would increase with limited utilization of herbaceous growth, resulting in increased size of wildfires and increased occurrence and frequency of fire near frequent sites of ignition. Limited suppression of wildfire would also increase the average fire size, resulting in more frequent impacts to affected vegetation resources. The condition of many vegetation communities currently dominated by a desirable mosaic of native species would be maintained or improved in those areas not subject to frequent fire. Frequent wildfires in healthy, native communities, would cause a decline in vegetation diversity and health, leading to a decline in natural levels of nutrient, water, and energy cycling. Frequent wildfire may also accelerate soil erosion. Diversity and health of altered vegetation communities dominated by annual species would continue to decline with frequent fire.

Recreational and other nonconsumptive uses would impact soil and vegetation resources in localized areas of concentrated activity. Increased wild horse populations would heavily impact vegetation in areas of concentrated horse activity within HMA's. Integrated weed management actions would slow the spread of established stands of noxious weeds and reduce the establishment of new infestations.

Anticipated cumulative changes in the composition of vegetation communities from the current situation (Table 2-4) as a result of actions identified in this alternative over the life of the plan are as follows:

- Big sagebrush/perennial grassland and big sagebrush/annual grassland communities would decline 10 to 15 percent;
- Annual species vegetation communities would increase an estimated 150 percent;
- Western juniper vegetation communities would be reduced slightly where production remains adequate to support the spread of wildfire and where sources of ignition are present;
- Perennial grassland vegetation communities would increase about 50 percent; and

- Crested wheatgrass vegetation communities would change little.

Objective 1 would not be met over the long term, even in the absence of livestock grazing and other commodity-oriented disturbances. Marginal sites dominated by annual species would remain in poor condition, especially those sites with a large store of exotic annual seed in the soil profile. Sites currently supporting healthy stands of native perennial species and which do not burn frequently would continue to improve. Species, community, and structural diversity would occur at most scales with high connectivity of habitats in areas currently supporting vegetation communities at or near DRFC's. At the same time, those vegetation communities at less than DRFC's would remain stagnant or would decline in condition as a result of the competitive nature of nondesirable annual weedy or woody species and increased risk from frequent wildfire.

Objective 2 would be met in some native and nonnatives vegetation communities where potential exists, fire return intervals are long, and there is a need to produce wildlife habitat. Mountain big sagebrush communities which burn more frequently than 10 to 15 years, and drier sagebrush communities which burn at any time during the life of the plan would not support a desirable sagebrush component to meet this objective.

Objective 3 would be met through integrated weed management actions.. Though actions implemented for commodity production would be eliminated, seed dispersal and soil disturbances that favor noxious weed establishment would continue and the prevalence of noxious weeds would continue.

Proposed RMP

Assumptions specific to Proposed RMP: Through the life of the plan, no more than 124,500 acres of western juniper woodland fuel type and no more than 250,000 acres of sagebrush/grassland fuel types would be burned using prescribed fire. Prescribed fire could be used within all forested areas (5,877 acres).

The average annual acreage burned by wildfire (approximately 43,240 acres in the planning area) may decline minimally.

Emphasis on the use of native species in seed mixes would result in approximately 75 percent of the acreage seeded receiving a native seed mixture, while 25 percent would receive a nonnative seed mixture. Availability of native seed may affect BLM's ability to emphasize seeding of native species to this degree.

Impacts: Impacts to vegetation resulting from mineral activities usually involves surface disturbance and vegetation removal; this can be minimal with exploration to several acres for development (see Appendix P). Exploration disturbances are usually short-lived with site reclamation restoring vegetation within a few years. Undesirable annual species would usually dominate reclaimed sites in the short term. Reclamation seldom restores the diversity and structure of predisturbance communities. Use of BMP's and interdisciplinary determination of mitigation measures would be implemented to minimize impacts on a site-specific basis. When viewed at a large scale, no net change in vegetation community composition is anticipated due to the minimal potential for development and small relative acreage of exploration activities.

Management of fire has the potential to greatly affect vegetation change and soil erosion rates. Fire differentially affects individual species as a result of their heat tolerance, fire resistance, mode of reproduction, and levels of competition between associated species following fire (Volland and Dell 1981; Bunting et al. 1987). Fire impacts to soils are dependent on fire intensity and vegetation condition prior to burning. Intense heat reduces soil organic matter content, volatilizes soil nutrients, makes soils water repellent, and impacts microbiotic crusts. Areas in poor condition prior to burning would stabilize more

slowly, leaving soils vulnerable to erosive rainfall for longer periods. Where there is a reduction in single-species dominance, especially western juniper or annual species composition, soil erosion rates would tend to decrease following establishment or recovery of diverse perennial vegetation communities. Where multilayered communities are replaced by single-layered communities, soil erosion would tend to increase. Use of natural ignitions and AMR to meet vegetation objectives, in addition to dependence on prescribed fire, would allow a greater acreage of communities which are not consistent with DRFC's to be burned. Western juniper and big sagebrush dominance would be reduced. Prescribed fire within annual and shrub annual vegetation communities, followed by seeding of desirable perennial species, would result in greater productivity and site stability. Additional acreage seeded following soil disturbing activities associated with fire suppression and emergency fire rehabilitation would limit the introduction of weedy and undesirable species. Greater species, structural, and community diversity and connectivity would result at a fine scale in the long term.

Actions to seed desirable herbaceous and shrub species, with an emphasis on use of natives, would result in conversion to more desirable perennial species, greater species diversity, improved structure, and increased productivity within sites now dominated by annual vegetation communities. In sites with marginal potential for seedling establishment, including those heavily dominated by annuals, use of nonnatives would increase seeding success. A moderate acreage of sagebrush/annual and annual grasslands may be converted to native perennials where greater potential for seedling establishment is present. As a result of seeding and planting a mixture of perennial species, desirable mosaics within and between vegetation communities would tend to occur at a moderate scale. When viewed at a fine scale, monoculture would continue to dominate within some areas previously seeded to nonnative species, in those areas where seeding is not successful, and in remaining areas dominated by herbaceous annual species. A portion of the inventoried 620,000 acres of shrub/annual grassland and annual grassland would be converted to desirable perennials of which most would be natives. Frequent fire return intervals within some sagebrush/annual grassland and annual grassland vegetation communities may preclude the establishment of desirable perennial vegetation where seeding failures occur and flammable annual species increase in dominance.

Greenstrip seedings would establish firebreaks in vegetation communities dominated by annual species, breaking up fuels continuity and decreasing the potential size of wildland fires which occur during portions of the fire season when fire behavior is moderate. The interval between fires in a number of annual and shrub/annual vegetation communities would be increased, providing an opportunity for greater expression of perennials present in these communities as well as some establishment and increased dominance of native perennial species through succession. Sagebrush currently in these communities would be better protected from frequent fire, providing weed species with additional competition for soil moisture.

Management of big sagebrush would maintain cover and connectivity in native vegetation communities and would provide important wildlife habitat, though herbaceous productivity may be limited where objectives are to provide canopy cover of sagebrush in excess of 20 percent, especially in Wyoming big sagebrush communities. The dominance of mountain big sagebrush and associated mountain shrub species within higher elevation vegetation communities would be reduced temporarily following wildland fire. Reestablishment from seed and resprouting of some species following fire would lead to development of a shrub canopy within 15 to 25 years (Bunting et al. 1987). Localized areas within mountain big sagebrush communities which burn frequently, would be maintained as grassland communities. Basin big sagebrush, Wyoming big sagebrush, and some mountain shrubs would reestablish slowly following wildland fire and rehabilitation efforts. Some nonnative seedings would make minimal progress toward supporting greater species or structural diversity.

Integrated weed management actions would slow the spread of established stands of noxious weeds and reduce the establishment of new infestations. Mitigating actions would be implemented to control vectors of seed dispersal and soil disturbance including recreational use, OHV use, livestock production, mineral exploration, and road traffic to limit negative impacts to rangeland vegetation communities and soils. New sites of weed dominance would be limited by management actions, resulting in the maintenance of vegetation communities consistent with DRFC.

Actions implemented to maintain forest health, develop/maintain old growth characteristics within forest stands, stimulate new growth within quaking aspen communities, or reduce the dominance of western juniper would have positive benefit to understory vegetation communities by releasing resources for development of vigorous and diverse multilayered structure. Prescribed burning and mechanical treatment of sites dominated by western juniper would reestablish and maintain productive and diverse communities which would progress toward DRFC. Where fuels in the understory do not support fire spread, cutting and subsequent burning may be used, resulting in similar effects. Within most areas burned, vegetation composition would continue to include a mosaic of untreated areas, scattered large trees not killed be fire, and stands with old growth characteristics. In the long term, shrub species, including big sagebrush, would reestablish naturally or as a result of seeding/planting following fire implemented to manage forest and woodland communities. Established quaking aspen clones would sprout readily following fire, while some decadent clones may have limited response. Following fire, western juniper would slowly reinvade sites where a seed source is present. Rates of soil erosion would be reduced in sites where forest and woodland treatments were successful in establishing diverse vegetation communities. Accelerated rates of soil erosion would continue from remaining sites with limited understory vegetation due to western juniper dominance.

Management actions implemented to protect special status plant, fish, or wildlife species could improve vegetation community diversity as a result of meeting habitat needs. Management actions for some special status plant species that are not fire tolerant or actions to provide for the life history requirements of special status fish or wildlife species may constrain opportunities to use prescribed fire to meet other objectives. Similarly, the use of seeding and other vegetation management tools many be constrained by objectives to manage for the preservation of special status species. Where appropriate, livestock exclusion fencing to protect habitats of special status plants, fish, or wildlife species may also limit livestock impacts within vegetation communities supporting these species and adjacent vegetation communities.

Management of vegetation communities to provide suitable habitat for wildlife would help provide for the restoration, protection, and enhancement of desirable communities. Vegetation communities would be managed to provide structural diversity and the connectivity of suitable habitats. This also would minimize the potential for accelerated soil erosion. At the same time, management for these species may constrain the use of proposed prescribed fire, seeding, and other vegetation management tools.

Management of riparian and wetland communities (RMO's within RCA's) would protect and enhance community diversity and function immediately adjacent to surface water and streams, as well as protect upland vegetation communities within associated watersheds. Additionally, function of upland communities, which contribute to riparian values and water quality, would be improved. Limited fencing to protect and manage riparian resources could provide additional protection of differing vegetation communities and resource values from livestock impacts.

Impacts to vegetation resources would remain constant in the short term as AML's of wild horses are maintained and horses are gathered to avoid impacts to a thriving natural ecological balance within each HMA. Periodic evaluation of wild horse impacts to resource values and adjustment of wild horse populations would limit long-term impacts on vegetation and

soil resources. Localized impacts to vegetation resources from horses are projected to be adverse within areas of concentration, especially riparian vegetation communities, as animals continue to graze these areas yearlong. Additional areas of concentration would be created in the immediate vicinity of new water developments constructed for wild horse use. Smaller bands and improved horse distribution which would result from providing additional sources of water would minimize and distribute current impacts. Limitations on opportunities to temporarily remove wild horses and their associated impacts to soils and vegetation following prescribed fire may limit opportunities for potential beneficial impacts of fire to vegetation resources in HMA's.

Impacts to vegetation and other resources resulting from various intensities, seasons, and duration of grazing use are summarized in Appendix R. Negative impacts would be minimized as site-specific management actions, including both administrative actions and limited project development consistent with meeting objectives, are defined through the adaptive management process and implemented. Providing available forage for livestock production while mitigating impacts to maintain or restore natural values would maintain desirable vegetative community health and vigor, resulting in the retention of adequate plant litter to maintain soil productivity, incorporation of organic matter into the soil profile, control of overland flow of precipitation, limitation of accelerated erosion, and meeting other management objectives. Limiting authorization of TNR as consistent with listed criteria would protect selected resource values from additional livestock impacts and maintain desirable vegetative community health and vigor as listed above. Removal of identified areas currently not used by livestock from grazing allotments, including the decision to not allocate these areas to livestock grazing (Table 3-8), would continue their current treatment of no grazing by livestock and preserve vegetation communities which are currently not impacted by livestock. In addition, vegetation resources within these areas would continue to be protected from potential project construction and livestock introduction, thus retaining their value for meeting other management objectives. Continued exclusion of livestock from identified areas (Appendix Q) and the ability to exclude livestock from additional areas where impacts can not be mitigated by other means, would provide opportunities to improve and/or maintain vegetative resources which support meeting other management objectives. Areas of livestock concentration adjacent to water sources, trails, handling facilities, and other localized areas would continue to be sites of moderate to heavy impacts to vegetation and soil resources, though would decrease in size and number in the long term as the adaptive management process, including appropriate livestock management, is implemented within geographic areas. Limitations on livestock management actions which would increase use in areas previously not utilized or only slightly utilized and in late to PNC ecological status would preserve high quality vegetation resources in their current condition for resource values other than livestock forage production. Nutrient cycling consistent with standards for rangeland health would be maintained, though adjacent to water sources and other areas of heavy livestock use, nutrient concentration would occur.

Maintenance of existing rangeland projects would continue livestock access to forage consistent with the vegetation resource's ability to sustain productivity. Construction, use, and maintenance of limited new structural rangeland projects may result in direct and indirect, short-term and long-term impacts to vegetation and soil resources. Impacts would be limited by implementing actions consistent with Standard Implementation Features and Procedures for Rangeland Improvements in Appendix S. Short term negative impacts would result from surface disturbances for project construction. Dams, excavation areas, and borrow areas of reservoirs would be devoid of vegetation and soil stability until reclamation actions established desirable cover. Additional areas of soil disturbance would result from drilling wells, development of springs, laying of pipeline, placing water troughs, constructing fence brace points, and placing cattleguards. The cumulative impacts of new and existing project construction, maintenance, and use may further decrease structural diversity where moderate to heavy utilization levels are reached throughout a pasture or a basin. Livestock concentration adjacent to newly developed water sources and along new trails associated with fences could maintain soils exposed to erosion and establishment and

dominance of weedy and noxious plants. Road construction and maintenance to access new project sites would increase the surface area of soils exposed to water channeling, erosion, and weed establishment. Fences would be used to improve forage condition and protect areas near water developments.

Management of current and expanding recreational opportunities would impact vegetation and soil resources through trampling and use of vehicles. Within developed facilities, impacts to vegetation would be mitigated through site design, maintenance, and application of BMP's. With expansion of recreation opportunities come risk of human-caused wildfires and a related upswing in suppression activities, all of which may increase impacts to vegetation resources and soils.

With increased OHV restrictions, including more acres limited though fewer acres closed, the potential for water channeling, vegetation removal, weed dispersal, and soil disturbance would decrease in many portions of the planning area. A moderate increase in localized impacts would result within areas currently used and remaining open for recreational pursuits. Areas accessible to population centers are anticipated to receive the greatest impacts.

Additional road construction and maintenance as well as right-of-way use, to support commodity-related activities, would increase soil and vegetation impacts. Long-term impacts from roads and rights-of-way would be minimized with the implementation of BMP's. Short-term impacts would occur until disturbed surfaces are contoured and revegetated.

Vegetation and soil resources within SMA's would be maintained in functioning condition, consistent with management objectives and regional standards of rangeland health. Limitation of management activities within these areas may require modification or elimination of proposed vegetation treatments. Refer to Table 3-12, Table 3-13, and Map WSA-1 for areas affected.

Conclusion: This alternative would generally reduce dominance by woody species and increase the diversity of vegetation communities over the long term, providing structure with multiple-aged shrubs, forbs, and perennial grasses. This would result in greater productivity, and improved natural functions and watershed stability. Shrub reintroduction into burned sites would maintain diversity at a moderate scale, especially within habitat of significant sagebrush-dependent wildlife species.

Anticipated cumulative changes in the composition of vegetation communities from the current situation (Table 2-4) as a result of proposed actions over the life of the plan are as follows:

- Big sagebrush/perennial grassland, big sagebrush/annual grassland and big sagebrush/crested wheatgrass communities would decline 10–15 percent, primarily in closed canopy mountain big sagebrush communities and large blocks of contiguous Wyoming big sagebrush communities while reestablishing sagebrush composition within some perennial grassland and annual grassland communities;
- Low sagebrush vegetation communities would increase slightly;
- Annual species vegetation communities would decrease slightly;
- Western juniper vegetation communities would decline 50–75 percent;
- Perennial grassland vegetation communities would increase about 50 percent; and
- Crested wheatgrass vegetation communities would increase slightly, with an emphasis toward communities with a sagebrush component.

Sustained or slightly reduced levels of livestock grazing would maintain vegetation communities which currently meet DRFC and allow improvement of remaining vegetation commu-

nities to DRFC over the short and long term. It would also beneficially return plant litter to the soil and protect soils from accelerated erosion. Long-term vigor and health of vegetation communities, which includes maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained across the landscape, except at small, localized areas of livestock concentrations and other sites of soil disturbing activities.

All rangeland vegetation objectives would be met under this alternative. Soil stability and productivity would be maintained.

Summary of Impacts

Implementation of Alternative C or the Proposed RMP alternative, which balances benefits of projects to manipulate vegetation composition toward DRFC's and with constraints on authorization of commodity-related actions that impact vegetation diversity and structure, would best meet management objectives for vegetation resources in the long term. Alternative A, which includes manipulation of vegetation to produce resources with commodity values, minimally meets vegetation objectives. Natural rates of water, nutrient, and energy cycling would occur at moderate levels, as a result of reduced deposition of plant litter to the soil surface, reduced incorporation of organic matter into the soil, and a lack of vegetation diversity in those communities managed primarily for forage production.

Altered vegetation communities would make limited progress toward DRFC's in the long term with implementation of Alternative E. Consistent with current state and transition models, natural processes of succession within communities dominated by annual and woody species would rarely progress toward DRFC's in the absence of intensive intervention, even when actions impacting vegetative resources are reduced or eliminated. Increased size and occurrence of fire near sources of frequent ignition would also retain long-term herbaceous dominance in many communities with potential to support more diverse vegetation structure including desirable shrub species.

Implementation of Alternatives B, D, and D2 would limit progress toward attaining DRFC's. Manipulation of vegetation communities, including the use of prescribed fire and seeding of desirable perennial species, would occur at a lower level than implementation of Alternatives A, C, or Proposed RMP. Although natural processes of succession and recovery to DRFC's would occur at a faster rate with implementation of Alternative D or D2 than Alternative B due to greater constraints on resource uses, limited use of vegetation manipulation actions would result in a long-term limited improvement in vegetation and soil resources..

Forest and Woodlands

Objective 1: *Manage forests 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 forest. Increase the dominance of ponderosa pine, Douglas fir, and western larch on appropriate sites in mature forests. Decrease the amount of Douglas fir, white fir, and grand fir where they were not historically maintained by the dominant fire regime. Manage forests for long-term, healthy habitat for animal and plant species. Provide for timber production where feasible and compatible with forest health.*

Alternative A

Assumptions specific to Alternative A: Potential average sale volume per year would be 220,000 board feet produced from treatment and harvest of 294 acres per year.

Impacts: Application of BMP's (Appendix O) would reduce soil disturbances, leave standing dead and live trees and down woody debris, and limit harvest and yarding methods.

These requirements would constrain certain forest management options and would limit timber volumes, with specific levels of volume reduction based on site-specific situations.

Aggressive fire suppression and high levels of livestock grazing would minimize the effects of wildfires in the short and long terms in forest stands. While suppression actions would save some stands from catastrophic, high intensity, stand-replacing fires, there would also be a cumulative loss of forest health and a concurrent increase in fire hazard in those areas not having beneficial low intensity, ground fires. This would result in extensive reliance on prescribed fire to improve forest health conditions.

Intensive forest management would lead to the cumulative improvement of forest health in the long term by favoring desirable targeted species and by reducing incidence of disease. In the short term, forest health would continue to degrade on those areas not yet treated, but all forested land would be treated within 20 years. The risk that high intensity, stand-replacing fires would occur in any given forest stand would be minimized with intensive treatment and harvest. Ten to 20 percent of the forestland (588 to 1,175 acres) would either be preserved as old growth or managed toward old growth character.

Management of RCA's for attainment of water quality standards, PFC, and RMO's would limit forest management options. Harvest would not be allowed within RCA's unless RMO's could be met. Timber harvest within RCA's would be limited by RCA requirements, and support features such as roads would not be allowed unless adverse impacts could be mitigated. Nonharvest treatments such as precommercial thinning and prescribed fire would also be limited where adverse impacts to riparian values would be identified. Approximately 2.5 miles of RCA's cover nearly 300 acres of forested land under this alternative, which is about 7 percent of the forested land available for commercial harvest.

Providing habitat for big game, old growth-dependent species, primary cavity excavating species, and a requirement to leave down woody debris, would reduce potential volume of commercial timber harvest. Noncommercial forest health treatments may also be constrained by wildlife management practices. All forestry practices, including commercial harvest and forest health treatments, may be constrained by VRM objectives and habitat requirements for special status plants and animals. The extent of the impacts would depend on site-specific resources and conditions.

Managing rangelands for high levels of forage utilization would reduce the amount of fine fuels available to carry wildland fire, thus limiting the size and frequency of fire within and spreading to forested areas in the short and long terms. Lower fire frequencies would reduce the potential for both high intensity, stand-replacing wildfire and low intensity, beneficial fire in forest stands.

Forest management practices would be limited to activities which maintain or enhance relevant and important values on 539 acres of forested land within the Castle Rock and Ott Mountain ACEC's. This limitation would affect approximately 9 percent of forestland which may not be available for intensive commercial harvest. However, small quantities of timber could be commercially harvested for forest health reasons and to maintain identified values. If forest health would continue to decline in these areas in the long term, they would be more vulnerable to high intensity, stand-replacing fires.

Castle Rock WSA contains 261 acres of forestland. Any actions in this area would be limited to those maintaining or enhancing wilderness values and would be in accordance with IMP. No commercial timber harvest would be considered. If forest health would continue to decline in this area, the forest would be more vulnerable to high intensity, stand-replacing fires in the long term.

Conclusion: This alternative proposes an aggressive level of timber harvest and forest management implementation. Such management, combined with high levels of livestock

grazing and fire suppression, would minimize the potential for wildfire to occur in forest stands. In turn, this would have the cumulative effect of minimizing the potential for both high intensity, stand-replacing and low intensity, beneficial fires and opportunities to take advantage of wildfire to achieve management objectives. The majority of trees harvested would come from areas overstocked with small to medium sized trees.

Some areas of large trees would likely be harvested to achieve the potential sale volume. The least amount of forested land as old growth (10–20 percent) would be retained under this alternative. Conflicts between forest management and other resource values would be minimized by site-specific constraints in riparian areas, specific wildlife habitats, ACEC's, special status species habitats, VRM Class I and II areas, and WSA's, and by application of BMP's. These limits could reduce the levels of timber harvest or, in some cases, make harvest not commercially feasible. However, the achievement of this objective would be met over the long term.

Alternative B

Assumptions specific to Alternative B: The 244,000 board feet per year sustained yield was based on the projected production of land in MRA which are outside of the 18,641-acre Castle Rock Habitat Management Plan (HMP) area. The actual average annual harvest, which has been approximately 100,000 board feet, is used for analysis and includes two salvage operations in l995 that produced approximately 1,000,000 board feet.

Impacts: Impacts from implementation of BMP's would have the same effect as Alternative A.

Aggressive fire suppression and high levels of livestock grazing would have the same impact as Alternative A.

The current land use plan for MRA provided for an overly aggressive level of timber harvest. The projected sale volume of 244,000 board feet per year would result in severe overcutting, thus increasing the potential for cumulative adverse impacts to other resources. However, actual harvest levels of 100,000 board feet per year is more realistic on a sustained yield basis. With the risk of high intensity, stand-replacing fires occurring until forest health treatments would be implemented, forest health would decline in the short term.

Impacts from management of RCA's for attainment of water quality standards, PFC, and RMO's would be the same as Alternative A, except the RCA's cover approximately 7 to 28 percent of the commercial forestland available under this alternative.

Impacts of providing habitat for wildlife and special status species and meeting VRM objectives would be the same as Alternative A. The forested land in the Castle Rock HMP area would continue to be managed primarily for old growth forest and big game habitat.

Managing rangelands for high levels of forage utilization would have the same impacts as Alternative A.

Castle Rock WSA would be managed the same as Alternative A, with impacts as described in Alternative A.

Conclusion: Alternative B proposes heavy timber harvest on the available commercial forestland and essentially no harvest on the remainder. This objective may or may not be met over the long term, depending on the potential harvest levels. To reach the high potential sale volume of 244,000 board feet per year, resource objectives may not be met; however, harvest levels of 100,000 board feet per year would allow resource objectives to be met. Although application of BMP's and mitigative measures would minimize some impacts, the heavier level of cutting proposed on the land available for harvest would result

in adverse impacts to other resources and nonattainment of forest management objectives. The likelihood of wildfire on the harvested areas would be low due to removal of high volumes of timber. Since minimal cutting would be considered in the Castle Rock HMP area, this area would move toward old growth character where stand-replacing fire would not occur. To maintain forest health and minimize fire hazard in the HMP area, significant amounts of noncommercial treatments would be necessary. This would result in 35 percent of the forestland being managed for development of old growth character under this alternative. Conflicts between forest management and other resource values would be handled the same as Alternative A.

Alternative C

Assumptions specific to Alternative C: Potential average sale volume per year would be 88,000 board feet from treatments on l96 acres per year.

Impacts: Implementation of BMP's would have the same effect as described in Alternative A.

The level of livestock grazing and the use of AMR for wildfires under this alternative would increase opportunities to use wildfire to achieve forest management objectives. Although full suppression would be used on the majority of wildfires, AMR could be used to reduce stocking levels of young trees, remove undesirable tree species, and reduce fuel loading. This would reduce the need to use prescribed fire or other techniques. There would be the potential for high intensity, stand-replacing fires in unmanaged stands, especially where forest health conditions would remain in a degraded state.

This alternative provides for forest management with the smallest potential sale volume: 88,000 board feet per year. In the short term, forest health would continue to decline on those areas not harvested or treated. Approximately 30 years would be required to treat all forestland. During this period the risk that high intensity, stand-replacing fire could occur on forestland would be great. About 20 to 40 percent of the forested land would either be prescribed as old growth or managed toward old growth character.

Impacts from management of RCA's for attainment of water quality standards, PFC, and RMO's would be the same as Alternative A, except the RCA's cover approximately 3 to 11 percent of the commercial forest land available under this alternative.

Impacts of providing habitat for wildlife and special status species and meeting VRM objectives would be the same as Alternative A.

Rangeland management proposed in this alternative would leave high amounts of fine fuels both on rangelands and in forest stands. This would increase the potential for wildfires in the short and long terms within forest stands, thereby increasing the chances of high intensity, stand-replacing fires, as well as beneficial underburns. In the long term, overall forest health would likely improve with increased fire frequency and likelihood of using AMR for wildfires.

Forest management practices on Castle Rock and Ott Mountain ACEC's would be the same as Alternative A. However, under this alternative 2,338 acres or approximately 40 percent of the forestland would be affected and may not be available for intensive commercial harvest.

Castle Rock WSA would be managed the same as Alternative A, with impacts as described in Alternative A.

Conclusion: Under Alternative C, implementation of forest management would be moderately aggressive. The proposed rate of implementation would result in a moderate amount of acres where the potential for high intensity, stand-replacing fires would be reduced in the

long term. However, this rate would have the cumulative effect of leaving significant acres where continued loss of forest health could occur because no treatments would have been implemented. Harvesting timber at the proposed rate would likely not require cutting of many large trees, so that potential for meeting management objectives for old growth stands would be high, with significant portions of forested land retained as old growth in ACEC's and the WSA. Application of grazing management strategies and use of AMR could increase opportunities to use wildfire to achieve management objectives. Although the opportunities to use AMR are high under Alternative C, some fires would likely require full suppression. Conflicts between forest management and other resource values would be handled the same as Alternative A.

The objective would be met under Alternative C where high intensity, stand-replacing fires would not occur.

Alternative D

Assumptions specific to Alternative D: No commercial harvest would be considered, with an average forest treatment of 147 acres per year to maintain or achieve forest health.

Impacts: Implementation of BMP's would have the same effect as described in Alternative A, except that the constraints would apply only to forest health practices and prescribed fire operations.

This alternative proposes the lowest levels of livestock grazing and forest management activity, which would result in the accumulation of fine fuels and continued loss of forest health on unmanaged land. The potential for wildfire on these areas would subsequently increase and would include high intensity, stand-replacing fires in the short term and low intensity, beneficial fires in the medium to long term. Some areas may be subject to frequent burns so that tree replacement would not occur, even in the long term. Fire suppression would be used only to protect sensitive resources and human life and property, and appropriate management response would allow some flexibility for use of wildfire to improve forest health.

Alternative D provides for forest management of 147 acres per year with no commercial harvest. As a result, all forested land would be brought under treatment within 40 years. All forested land would either be preserved as old growth or managed toward old growth character. However, less acres of mature trees may result from the lack of fire suppression, the high potential for stand-replacing fires, and diseases that may occur in untreated stands in the short and long term.

With no commercial timber harvest, constraints to management from wildlife concerns would occur only where the appropriate management response for wildfires would be full suppression to protect specific sensitive resources.

Impacts of management of RCA's for attainment of water quality standards and PFC would be the same as Alternative A, except the RCA's cover approximately 1 to 5 percent of forested land, and nonharvest treatments such as precommercial thinning and prescribed fire may be limited where adverse impacts are possible.

Managing rangelands for improved resource values would have the same effects as Alternative C.

Forest management practices would be designed to enhance relevant and important values on 2,435 acres of forested land within the Castle Rock and Ott Mountain ACEC's, which cover approximately 40 percent of the identified forestlands. Forestry practices would not be significantly constrained by ACEC management under this alternative.

Castle Rock WSA would be managed as described in Alternative A.

Conclusion: Under this alternative, implementation of forest management would be the least aggressive. Implementing treatments to improve forest health at 147 acres per year would require 40 years to treat all forestland. As forest health would continue to decline, most forest stands would remain vulnerable to high intensity, stand-replacing fires. Management primarily for natural values would increase the amount of fine fuels available to carry fire. This, along with loss of forest health in unmanaged stands and fire suppression only to protect sensitive resources and human life and property, would have the cumulative effect of increasing the potential for wildfire in forest stands. All forests would be managed toward old growth character, although many stands may be lost to high intensity fires initially and repeated fires in the long term which would prevent establishment of young trees.

The objective would be met under Alternative D, although at a slower rater and to a greater degree of risk than other alternatives. There would be no timber production. With the low rates of implementation of forest health practices, a significant, but unknown, percentage of forestland would experience stand-replacing fires within 10 to 20 years.

Alternative D2

Assumptions specific to Alternative D2: No commercial harvest would be considered, with an average forest treatment of 147 acres per year to maintain or achieve forest health.

Impacts: Implementation of BMP's would have the same effect as described in Alternative D.

This alternative, along with Alternative D, proposes the lowest levels of livestock grazing and forest management activity, which would result in the accumulation of fine fuels and continued loss of forest health on unmanaged land in the short and long term. With livestock grazing removed specifically from Castle Rock ACEC in this alternative and with other lessened grazing, the potential for wildfire on these areas would subsequently increase and would be as described in Alternative D.

Alternative D2 provides for forest management of 147 acres per year with no commercial harvest. As a result, all forested land would be brought under treatment within 40 years. All forested land would either be preserved as old growth or managed toward old growth character. However, less acres of mature trees may result from the lack of fire suppression, the high potential for stand-replacing fires, and diseases that may occur in untreated stands in the short and long term.

With no commercial timber harvest, constraints to management from wildlife concerns would occur only where the appropriate management response for wildfires would be full suppression to protect specific sensitive resources.

Impacts of management of RCA's for attainment of water quality standards and PFC would be the same as Alternative D.

Managing rangelands for improved resource values would have the same effects as Alternative C.

Forest management practices would be designed to enhance relevant and important values on 2,435 acres of forested land within the Castle Rock and Ott Mountain ACEC's, which cover approximately 41 percent of the identified forestlands. Forestry practices would not be significantly constrained by ACEC management under this alternative.

Castle Rock WSA would be managed as described in Alternative A.

Conclusion: Under this alternative and Alternative D, implementation of forest management would be the least aggressive. Implementing treatments to improve forest health at 147 acres per year would require 40 years to treat all forestland. As forest health would continue to decline, most forest stands would remain vulnerable to high intensity, stand-replacing fires. Management primarily for natural values, including removal of livestock grazing in the administratively suitable North Fork Malheur River, would increase the amount of fine fuels available to carry fire. This, along with loss of forest health in unmanaged stands and fire suppression only to protect sensitive resources and human life and property, would increase the potential for wildfire in forest stands. All forests would be managed toward old growth character, although many stands may be lost to high intensity fires initially and repeated fires in the long term which would prevent establishment of young trees.

The objective would be met under Alternative D2, although at a slower rater and to a greater degree of risk than other alternatives. There would be no timber production. With the low rates of implementation of forest health practices, a significant, but unknown, percentage of forestland would experience stand-replacing fires within 10 to 20 years.

Alternative E

Assumptions specific to Alternative E: Fires would be suppressed only to protect lives and property in annual grasslands, and no forest management treatments would be carried out.

Impacts: With no livestock grazing or forest management, and with fire suppression only to protect human life and property in annual grasslands, there would be an increase in the frequency and size of both range and forest fires in the short term. Although some fires may be beneficial, many forest stands would be destroyed by high intensity fires, particularly in forest areas stressed by loss of forest health and where historical control of natural fires has permitted extensive buildup young trees. Under this alternative, a significant, but unknown, percentage of forestlands would experience stand-replacing fires within 10 to 20 years.

Conclusion: The objective would not be met under Alternative E. There would be no timber production or forest health treatments, and many forest stands may be destroyed by fire in both the short and long terms.

Proposed RMP

Assumptions specific to Proposed RMP: Potential average sale volume per year would be 88,000 board feet from treatments on l96 acres per year.

Impacts: Application of BMP's (Appendix O) would reduce soil disturbances, leave standing dead and live trees and down woody debris, and limit harvest and yarding methods. These requirements would constrain certain forest management options and would limit timber volumes, with specific levels of volume reduction based on site-specific situations.

The level of livestock grazing and the use of AMR for wildfires under this alternative would increase opportunities to use wildfire to achieve forest management objectives in the short and long terms. Although full suppression would be used on the majority of wildfires, AMR could be used to reduce stocking levels of young trees, remove undesirable tree species, and reduce fuel loading. This would reduce the need to use prescribed fire or other techniques. There would be the potential for high intensity, stand-replacing fires in unmanaged stands, especially where forest health conditions would remain in a degraded state.

This alternative provides for forest management with potential sale volume of 88,000 board feet per year, although sale volume may vary as practices for forest health would be implemented. In the short term, forest health would continue to decline on those areas not harvested or treated. Approximately 30 years would be required to treat all forestland. During this period the risk that high intensity, stand-replacing fire could occur on forestland

would be great. All forested land would either be prescribed as old growth or managed toward old growth character.

Management of RCA's for attainment of water quality standards, PFC, and RMO's would limit forest management options. Harvest would not be allowed within RCA's unless RMO's could be met. Timber harvest within RCA's would be limited by RCA requirements, and support features such as roads would not be allowed unless adverse impacts could be mitigated. Nonharvest treatments such as precommercial thinning and prescribed fire would also be limited where adverse impacts to riparian values would be identified. RCA's cover approximately 3 to 11 percent of the commercial forest land available.

Providing habitat for big game, old growth-dependent species, primary cavity excavating species, and a requirement to leave down woody debris, would reduce potential volume of commercial timber harvest. Noncommercial forest health treatments may also be constrained by wildlife management practices. All forestry practices, including commercial harvest and forest health treatments, may be constrained by VRM objectives and habitat requirements for special status plants and animals. The extent of the impacts would depend on site-specific resources and conditions.

Rangeland management as proposed would leave high amounts of fine fuels both on rangelands and in forest stands. This would increase the potential for wildfires in the short and long terms within forest stands, thereby increasing the chances of high intensity, stand-replacing fires, as well as beneficial underburns. In the long term, overall forest health would likely improve with increased fire frequency and likelihood of using AMR for wildfires.

Forest management practices would be limited to activities which maintain or enhance relevant and important values on 2,065 acres of forested land within the Castle Rock ACEC. This limitation would affect approximately 39 percent of forestland which may not be available for intensive commercial harvest. However, small quantities of timber could be commercially harvested for forest health reasons and to maintain identified values. If forest health would continue to decline in these areas, they would be more vulnerable to cumulative negative impacts of high intensity, stand-replacing fires in the long term.

Castle Rock WSA contains 261 acres of forestland. Any actions in this area would be limited to those maintaining or enhancing wilderness values and would be in accordance with IMPLWR. No commercial timber harvest would be considered. If forest health would continue to decline in this area, the forest would be more vulnerable to cumulative negative impacts of high intensity, stand-replacing fires in the long term.

Conclusion: Under the Proposed RMP, implementation of forest management would be moderately aggressive. The proposed rate of implementation would result in a moderate amount of acres where the potential for cumulative effects of high intensity, stand-replacing fires would be reduced. However, this rate would have the cumulative effect of leaving significant acres where continued loss of forest health could occur because no treatments would have been implemented. Harvesting timber at the proposed rate would likely not require cutting of many large trees, so that potential for meeting management objectives for old growth stands would be high, with the cumulative effect of significant portions of forested land retained as old growth in ACEC's and the WSA. Application of grazing management strategies and use of AMR could increase opportunities to use wildfire to achieve management objectives. Although the opportunities to use AMR are high under the proposed RMP, some fires would likely require full suppression. Conflicts between forest management and other resource values would be minimized by site-specific constraints in riparian areas, specific wildlife habitats, ACEC's, special status species habitats, VRM Class I and II areas, and WSA's, and by application of BMP's. These limits could reduce the levels of timber harvest or, in some cases, make harvest not commercially feasible.

The objective would be met under the proposed RMP where high intensity, stand-replacing fires would not occur.

Summary of Impacts

Time necessary to bring forestland under forest health management increases from 20 to 40 years with each successive alternative. The potential for both beneficial and stand-replacing wildfires to occur is the least under Alternative A, while the possibility of high-intensity, stand-replacing fires is the greatest under Alternative E. Forest management implementation for forest health and commercial harvest is the most aggressive under Alternatives A and B; Alternative C is moderately aggressive; and Alternative D and D2 are the least aggressive. Forest management implementation for forest health and attainment of old growth character, which may use commercial harvest to achieve those objectives, is most aggressive in the Proposed RMP. No forest management would be done under Alternative E, resulting in negative long-term cumulative impacts to forest health. Because historical control of wildfires has resulted in extensive buildup of untreated stands of dense, small tress in forest understories, opportunities to meet the objective would be the slowest in Alternatives D, D2, and E due to the likelihood of high intensity, stand-replacing fires in otherwise untreated forestlands. Under all alternatives, the majority of trees harvested for forest health treatments and/or for commercial harvest would come from areas overstocked with small to medium sized trees. Forestland managed for old growth would be minimal in Alternative A and maximized in Alternatives D, D2, E, and the Proposed RMP, although the risk of losing forested stands in the long term would be greatest in Alternatives D, D2, and E due to lack of treatments for forest health and possibilities of high intensity, stand-replacing fires with no subsequent natural regeneration of tree species.

Objective 2: *Restore productivity and biodiversity in western juniper and quaking aspen woodland areas. Manage western juniper areas where encroachment or increased density is threatening other resource values. Retain old growth characteristics in historic western juniper sites not prone to frequent fire. Manage quaking aspen to maintain diversity of age classes and to allow for species reestablishment.*

Assumptions common to all alternatives: Approximately 10 percent of the area currently inhabited by western juniper is considered old growth western juniper woodlands and would not be treated to alter the old growth character. The remaining areas inhabited by western juniper would be treated to restore biodiversity and productivity of native shrub/grass communities.

Alternative A

Assumptions specific to Alternative A: Approximately 124,500 acres of land inhabited by western juniper would be treated during the life of the plan.

Impacts: Aggressive fire suppression and potential for high levels of livestock grazing would limit the potential in the short and long term for beneficial wildfire to occur in western juniper and quaking aspen woodlands. Most treatments would likely be with prescribed fire, which would result in a high degree of control of the specific areas to be treated to meet resource objectives. Wildfire would not significantly affect old growth western juniper since fuels are generally insufficient to carry fire through these areas, and no specific treatments would be proposed in old growth stands.

Management of rangeland vegetation toward DRFC's would reduce the extent and density of western juniper woodlands and restore the health of existing quaking aspen stands across the landscape. DRFC's would include retention of old growth western juniper in areas not prone to fire and where western juniper densities are low. Western juniper treatments on rangelands, implemented at not more than 7,000 acres per year, would decrease the amount of western juniper in areas where it has expanded its range over the last 150 years. Manage-

ment of western juniper stands would result in a more diverse mosaic of vegetation species. Quaking aspen management would result in increased occurrence of stands of younger age classes in order to maintain existing stands.

Managing forest stands for improved forest health conditions would have a cumulative impact of reducing the amount of western juniper and increasing the amount of quaking aspen where they occur in forest understories.

There are approximately 79 miles of riparian areas within western juniper woodlands. Management of RCA's for attainment of RMO's would specify that these areas receive priority for western juniper control and quaking aspen regeneration projects. The use of prescribed fire for western juniper and quaking aspen treatments in riparian areas would be limited where impacts on riparian values would be unacceptable. This could require use of techniques such as cutting which may limit the amount of acreage that could be treated. Quaking aspen are frequently a component of riparian vegetation communities, and RMO's often would include quaking aspen enhancement.

Emphasis on big game security and winter range would limit location and extent of some western juniper control projects in the short and long term. Careful planning of prescribed fire would be necessary to protect big game winter range where sagebrush and antelope bitterbrush would provide essential cover and forage.

Emphasis on higher levels of livestock grazing in this alternative would reduce the amount of fine fuels present to carry wildland fire; therefore, increased use of prescribed fire would be necessary to achieve specific levels of management for the short and long term. Management of quaking aspen stands through livestock exclusion, primarily through fencing, would allow for improvement of specific stands.

Under this alternative, 9,847 acres of western juniper woodlands are located within five ACEC's, including Stockade Mountain, Castle Rock, North Fork Malheur River, Ott Mountain, and Black Canyon. Quaking aspen is found within three ACEC's, including Castle Rock, North Fork Malheur River, and Little Whitehorse Creek Exclosure. Although woodland management is not precluded within these areas, actions would be consistent with the protection or enhancement of the relevant and important values for which the ACEC has been designated. Treatments may, therefore, be precluded or limited to specific techniques.

WSA's contain about 15,390 acres of western juniper woodlands and scattered quaking aspen stands. Management of woodlands contained within WSA's would be restricted to those actions which protect or enhance wilderness values. Any actions within WSA's would be in accordance with WSA
IMPLWR.

Conclusion: Alternative A proposes an aggressive level of woodland management, thus providing a cumulative benefit to biodiversity and productivity. High levels of fire suppression and livestock grazing would continue to limit the opportunity to use wildfire to reach management objectives in woodlands. To reach the level of management proposed, there would be a reliance on prescribed fire.

The objective would be achieved with implementation of Alternative A, primarily through the use of prescribed fire in both western juniper and quaking aspen stands. Recovery of existing quaking aspen stands to healthy, multi-aged stands would be slow.

Alternative B

Assumptions specific to Alternative B: Approximately 41,500 acres of land inhabited by western juniper would be treated during the life of the plan.

Impacts: Continued aggressive fire suppression under this alternative would limit the potential for beneficial wildfire in western juniper and quaking aspen woodlands. Prescribed fire treatment of 41,500 acres of woodlands would not have a significant overall effect on western juniper expansion or quaking aspen health. Old growth western juniper would be affected the same as Alternative A.

Impacts from management of rangeland vegetation would be the same as Alternative A. However, less acres are treated so the impacts would be reduced from Alternative A.

Western juniper treatments would be the same as Alternative A, except the rate would be approximately 2,075 acres per year. At this rate of implementation, western juniper would continue to expand in significant portions of the area, while decadent quaking aspen stands would continue to weaken and potentially disappear.

Impacts of use of prescribed fire for western juniper and quaking aspen treatments in riparian areas would be the same as Alternative A.

Impacts of management for wildlife would be the same as Alternative A, except that habitat security would be retained for both game and other wildlife species.

Impacts from livestock grazing would be the same as Alternative A.

About 310 acres of western juniper woodlands are located within the existing Stockade Mountain ACEC/RNA. Quaking aspen is found in the existing Whitehorse Basin ACEC. Management and impacts would be the same as Alternative A except that treatments would be constrained on fewer acres in this alternative.

The suitable North Fork Malheur study river contains approximately 977 acres of western juniper woodlands. Within these areas, options for woodland management would be limited to activities which protect the outstandingly remarkable values (ORV's).

Impacts due to WSA designation and management would be the same as Alternative A.

Conclusion: Alternative B would continue a low level of woodland management with a cumulative impact of potentially increasing western juniper invasion. High levels of fire suppression and livestock grazing would limit the opportunity to use wildfire to reach management objectives in woodlands in the short and long term. Prescribed fire would still be utilized.

The objective would be achieved under Alternative B, but at a slower rate than in the other alternatives.

Alternative C

Assumptions specific to Alternative C: Approximately 124,500 acres of land inhabited by western juniper would be treated during the life of the plan.

Impacts: Livestock management to attain vegetation trend toward DRFC's could increase accumulation of fine fuels. This increase in fine fuels along with use of AMR for wildfire would increase short- and long-term opportunities to use wildfire to achieve management objectives in western juniper and quaking aspen woodlands. Old growth would be affected the same as Alternative A.

Impacts from management of rangelands would be the same as Alternative A except for the maintenance of moderate shrub cover and improved structural and species diversity.

Impacts of management of forest stands would be the same as Alternative A.

Impacts of management of RCA's for attainment of RMO's would be the same as Alternative A.

Impacts from wildlife management would be the same as Alternative B.

Providing for sustained yield of forage and emphasizing resource values would result in more fine fuels remaining on rangelands in the short and long terms This would allow wildfires to burn more acreage and make prescribed fire more effective. Emphasis on resource values would lead to intensification of management of quaking aspen stands, including livestock management strategies which may including deferment, rest, or exclusion, resulting in cumulative beneficial impacts.

Although impacts of management within ACEC's would be the same as Alternative A, the number of ACEC's and acreages would be increased. Under this alternative about 17,240 acres of western juniper woodlands would be located within five ACEC's, including Stockade Mountain, Castle Rock, North Fork Malheur River, Ott Mountain, and Black Canyon. Quaking aspen would be found within three ACEC's, including Castle Rock, North Fork Malheur River, and Little Whitehorse Creek Exclosure.

Impacts due to the suitable North Fork Malheur study river would be the same as Alternative B.

Impacts due to WSA designation and management would be the same as Alternative A.

Conclusion: Alternative C proposes an aggressive level of western juniper and quaking aspen management. With other management resulting in higher levels of fine fuels, there would be more opportunity in the short and long term to use wildfire to reach western juniper and quaking aspen management objectives. Quaking aspen would be restored to sites which demonstrate potential to support a healthy stand in the long term.

The objective would be achieved under Alternative C.

Alternative D

Assumptions specific to Alternative D: Approximately 83,000 acres of land inhabited by western juniper would be treated during the life of the plan.

Impacts: Under this alternative, wildfire management would have the same impacts on western juniper woodlands as Alternative C. There would be increases in the amounts and continuity of fine fuels in the short and long term due to lower levels of livestock use, which would result in increased opportunities to use wildfire to achieve management objectives in western juniper and quaking aspen woodlands. Due to more frequent occurrence of wildfire, need for prescribed fire would be reduced. Impacts to old growth would be the same as Alternative A.

Impacts from management of rangeland vegetation would be the same as Alternative A except, with an emphasis on resource values and for the maintenance of moderate shrub cover and improved structural and species diversity, a cumulative effect of greater mosaic patterns would be achieved in this alternative.

Impacts from management of RCA's for attainment of RMO's would be the same as Alternative A.

Emphasis on providing habitat security for wildlife would limit location and extent of some woodland manipulation projects. Impacts on specific areas would be the same as described in Alternative A.

Emphasis on preserving resource values and the potential reductions in livestock grazing would result in more fine fuels which would be available to carry both wildfires and prescribed burns in the short and long term.

Although the impacts from management of ACEC's would be the same as Alternative A, the number and acreages are different. Under this alternative, 22,974 acres of western juniper woodlands would be located within five ACEC's, including Stockade Mountain, Castle Rock, North Fork Malheur River, Ott Mountain, and Black Canyon. Quaking aspen would be found within three ACEC's, including Castle Rock, North Fork Malheur River, and Little Whitehorse Creek Exclosure.

Impacts of management of NWSR's would be the same as Alternative B.

Impacts due to WSA designation and management would be the same as Alternative A.

Conclusion: Alternative D, along with Alternative D2, relies the most on the use of wildfire for western juniper and quaking aspen management. With the increased potential for wildfire, more acres may be treated than the proposed 83,000. However, the unreliability of wildfire with regard to both intensity and extent poses a greater risk that the objectives for western juniper and quaking aspen management may not be met. The reduced levels of livestock grazing would promote recovery of quaking aspen, although wildlife use, particularly by deer and elk, may continue to impact quaking aspen stands.

It is anticipated that the objective would be achieved under Alternative D, but at an unknown rate and level.

Alternative D2

Assumptions specific to Alternative D2: Approximately 83,000 acres of land inhabited by western juniper would be treated during the life of the plan.

Impacts: Under this alternative, wildfire management would have the same impacts on western juniper woodlands as Alternative D.

Impacts from management of rangeland vegetation would be the same as Alternative D.

Impacts from management of RCA's for attainment of RMO's would be the same as Alternative A.

Emphasis on providing habitat security for wildlife would limit location and extent of some woodland manipulation projects. Impacts on specific areas would be the same as described in Alternative A.

Emphasis on preserving resource values and the potential reductions in livestock grazing would result in more fine fuels, particularly where livestock grazing would be eliminated, which would be available to carry both wildfires and prescribed burns.

Although the impacts from management of ACEC's would be the same as Alternative A, the number and acreages are different. Under this alternative, 22,974 acres of western juniper woodlands would be located within five ACEC's, including Stockade Mountain, Castle Rock, North Fork Malheur River, Ott Mountain, and Black Canyon. Quaking aspen would be found within three ACEC's, including Castle Rock, North Fork Malheur River, and Little Whitehorse Creek Exclosure.

Impacts of management of NWSR's and administratively suitable study rivers would be the same as Alternative B, with the addition of three administratively suitable study rivers.

IMPLWR may constrain and/or preclude certain activities associated with western juniper and quaking aspen management.

Conclusion: Alternatives D and D2 rely the most on the use of wildfire for western juniper and quaking aspen management. With the increased potential for wildfire, more acres may be treated than the proposed 83,000. However, the unreliability of wildfire with regard to both intensity and extent poses a greater risk that the objectives for western juniper and quaking aspen management may not be met. The reduced levels of livestock grazing would promote recovery of quaking aspen, although wildlife use, particularly by deer and elk, may continue to impact quaking aspen stands.

It is anticipated that the objective would be achieved under Alternative D2, but at an unknown rate and level.

Alternative E

Assumptions specific to Alternative E: Western juniper and quaking aspen management would be determined by natural processes.

Impacts: With no livestock grazing or prescribed fire, and with a reduced level of fire, there would be an increase in the frequency and size of wildland fires. The acreage of young and some mature western juniper stands would be reduced by wildfire in short and long terms. In other mature western juniper stands where understory fuels have been eliminated, wildfires may not reduce western juniper densities. Quaking aspen stands would be expected to improve in the long term with the increased incidence of wildfires which would renovate stands and with no livestock grazing. However, cumulative impacts to quaking aspen from wildlife, particularly deer and elk, may continue to impede quaking aspen recovery. Impacts to old growth western juniper stands would be the same as Alternative A.

Conclusion: Progress would be made toward achieving the objective in quaking aspen stands and in young and some mature western juniper stands; however, mature western juniper stands lacking fine fuels may not burn. This objective may be met in some areas and not in others.

Proposed RMP

Assumptions specific to the Proposed RMP: Approximately 124,500 acres of land inhabited by western juniper would be treated during the life of the plan.

Impacts: Livestock management to attain vegetation trend toward DRFC's could increase accumulation of fine fuels. This increase in fine fuels along with use of AMR for wildfire would increase short- and long-term opportunities to use wildfire to achieve management objectives in western juniper and quaking aspen woodlands. Wildfire would not significantly affect old growth western juniper since fuels are generally insufficient to carry fire through these areas, and no specific treatments would be proposed in old growth stands.

Management of rangeland vegetation toward DRFC's would have a cumulative impact of reducing the extent and density of western juniper woodlands and restoring the health of existing quaking aspen stands across the landscape. DRFC's would include retention of old growth western juniper in areas not prone to fire and where western juniper densities are low. Western juniper treatments on rangelands, implemented at not more than 7,000 acres per year, would decrease the amount of western juniper in areas where it has expanded its range over the last 150 years. Management of western juniper stands would result in a more

diverse mosaic of vegetation species. Quaking aspen management would result in short- and long-term increased occurrence of stands of younger age classes in order to maintain existing stands. There would be the cumulative benefit of maintenance of moderate shrub cover and improved structural and species diversity.

Managing forest stands for improved forest health conditions would reduce the amount of western juniper and increase the amount of quaking aspen where they occur in forest understories in the short and long term.

There are approximately 79 miles of riparian areas within western juniper woodlands. Management of RCA's for attainment of RMO's would specify that these areas receive priority for western juniper control and quaking aspen regeneration projects. The use of prescribed fire for western juniper and quaking aspen treatments in riparian areas would be limited where impacts on riparian values would be unacceptable. This could require use of techniques such as cutting which may limit the amount of acreage that could be treated. Quaking aspen are frequently a component of riparian vegetation communities, and RMO's often would include quaking aspen enhancement.

Emphasis on big game security and winter range would limit location and extent of some western juniper control projects in the short and long term. Careful planning of prescribed fire would be necessary to protect big game winter range where sagebrush and antelope bitterbrush would provide essential cover and forage. Habitat security would be retained for both game and other wildlife species.

Providing for sustained yield of forage and emphasizing resource values would result in more fine fuels remaining on rangelands in the short and long terms This would allow wildfires to burn more acreage and make prescribed fire more effective. Emphasis on resource values would lead to intensification of management of quaking aspen stands, including livestock management strategies which may including deferment, rest, or exclusion, resulting in cumulative beneficial impacts.

Under this alternative, about 20,680 acres of western juniper woodlands are located within four ACEC's, including Stockade Mountain, Castle Rock, North Fork Malheur River, and Black Canyon. Quaking aspen is found within three ACEC's, including Castle Rock, North Fork Malheur River, and Little Whitehorse Creek Exclosure. Although woodland management is not precluded within these areas, actions would be consistent with the protection or enhancement of the relevant and important values for which the ACEC has been designated. Treatments may, therefore, be precluded or limited to specific techniques.

Within designated and administratively suitable NWSR corridors, options for woodland management would be limited to activities which protect the ORV's.

IMPLWR may constrain and/or preclude certain activities associated with western juniper and quaking aspen management.

Conclusion: The Proposed RMP proposes an aggressive level of western juniper and quaking aspen management. With other management resulting in higher levels of fine fuels, there would be more opportunity in the short and long term to use wildfire to reach western juniper and quaking aspen management objectives. On a cumulative, long-term basis, quaking aspen would be restored to sites which demonstrate potential to support a healthy stand.

The objective would be achieved under the Proposed RMP.

Summary of Impacts

Alternatives A, C, and the Proposed RMP propose the most aggressive level of western juniper management, with these alternatives proposing that 75 percent of western juniper woodlands be treated within the life of the plan. Between these three alternatives, reliance on wildland fires to meet resource objectives is greatest in Alternative C and Proposed RMP, with emphasis on prescribed fires in Alternative A. Alternative B would result in the lowest level of implementation with only 25 percent of the existing western juniper areas being treated. Alternatives D and D2 would result in 50 percent of western juniper woodland treatment, with reliance almost exclusively on wildfire to achieve objectives. The cumulative impacts would be that there would be a greater likelihood that objectives for western juniper and quaking aspen management would be met in Alternatives A, C, and the Proposed RMP where both prescribed and wildfires would be used as necessary, rather than relying on wildfires, which may be highly unpredictable. Due to the possibility of higher livestock use in Alternative A, quaking aspen management and recovery may be slowest in this alternative.

Special Status Plant Species

Objective: *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.*

Alternative A

Impacts: Locatable mining activities, including mineral exploration and development, would continue to have a long-term adverse cumulative impact on special status plants. Impacts are projected to be most severe within the areas near and in Succor Creek that are currently mined and in areas where high potential has been identified for mineral occurrence. In the Succor Creek area, materials such as zeolite and bentonite comprise the habitat of several special status plant species. Impacts would increase if demand increases and new mines are developed. The extent of impacts would be determined primarily by the amount of activity, location, and mining techniques. Within ACEC's, plans of operation would be required prior to surface disturbance which would help mitigate impacts. A total of 40,054 acres proposed for mineral withdrawal would remove mining activity impacts on special status plants in those areas where such plants may occur (Table 3-3b). Leasable mineral activities are subject to stipulations which would generally result in minimal direct short-term impacts to special status plants. Habitat fragmentation may cause certain long-term indirect negative impacts as gene flows may be disrupted where sites become unavailable for colonization and exotics and noxious weeds are introduced to disturbed sites. Mineral materials activities would have no impact on special status plants because the location of mineral materials sites would be placed well out of known occurrences or habitats of species. Field surveys would be conducted prior to project approval.

Fire management would have a beneficial impact because aggressive suppression would be initiated in known plant sites where wildfires had occurred within the last 10 years, and where plants might remain vulnerable to repeated burning. Fire suppression activities, such as line construction, would avoid plant sites as much as possible, resulting in slight to moderate short- and long-term impacts depending on location and severity of disturbance.

Vegetation treatments, including western juniper control, prescribed burning, and seedings, would impact special status species, depending on the species, the number of exotic species within the area, overall ecological condition, and the likelihood that exotics would colonize the sites following treatment. Site examinations, to the extent feasible, would be conducted

prior to treatments; however, due to the generally large size of such treatments, species may be overlooked and adverse impacts may result if species are uprooted during the physical procedures. Where canopies are opened and exotics are displaced in or near special status species habitat, beneficial impacts may result as sites would be improved for establishment or recolonization by certain species.

Potential for increased numbers and range of bighorn sheep may result in short-term adverse impacts to certain special status plant species, particularly Owyhee clover and sterile milkvetch, in the areas of their overlapping ranges. As sheep use would be removed from vulnerable plant populations, no long-term cumulative impacts would occur.

Increased livestock use would have a short-term negative impact to special status plant species particularly through trampling in concentrated use areas, defoliation of the palatable species, and potential introduction of weed seeds into new sites. However, as monitoring uncovers conflicts, exclosures would be constructed to protect plant sites critical to species survival. Long-term impacts would be slight to moderate to species as a whole; exclusion of livestock to eliminate impacts to special status plants would be common. Some individual sites may be lost because of the lag time between establishing and confirming monitoring results and construction of protective exclosures. There would be a risk that loss of individual sites may culminate in damage to certain species. Based on estimates of ecological status, the intensifying of livestock grazing practices, including increased stocking levels, may have an adverse long-term impact on some special status plant species, although overall livestock management would be compatible with maintenance of special status plant species and small, representative habitats. The classification of many acres in an early seral stage, the prevalence of introduced plants that now compete with native species, and trampling of some species, particularly Malheur forget-me-not and smooth blazing star, suggest that impacts on specific special status species would continue to be generally adverse. Direct long-term cumulative negative impacts to certain species, particularly Mulford's milkvetch and Owyhee clover, which are known to be palatable to livestock, would continue at most sites except those areas fenced to exclude livestock.

Construction of new projects could result in long-term indirect adverse impacts on some species if the projects result in moving livestock into areas that were previously little used. In some cases, special status plants could benefit by improved dispersion of livestock if animals are prevented from concentrating in their habitat, although dispersal of weed seeds into previously undisturbed areas may adversely impact species. Direct impacts would depend on exact project locations, but in general, adverse impacts are projected to be minimal, since site examinations would be conducted prior to project approval. However, the extensive number of projects proposed in this alternative may result in numerous indirect impacts to species, particularly through introduction of weed seeds and potential reduction in seral stages at localized sites.

An increase in recreation uses in areas of high plant concentrations would result in short- and long-term adverse impacts to special status plant species. This could occur through trampling and subsequent weed introductions where sites are disturbed. However, the most attractive areas for recreation use, including Owyhee NWSR and Leslie Gulch (ACEC), are managed and regulated under current plans which recognize plant values. The area most likely to be adversely impacted is the Owyhee River corridor below the dam, although an ACEC is recommended under this alternative for this area. Such designation would provide priority management including focus on special status plant species. Overall, the cumulative effects of recreation use is anticipated to be slight to moderately adverse under this alternative.

A potential increase in OHV activities, particularly in the Succor Creek and Three Fingers vicinities and in the sand hills near Vale and Ontario, may result in long-term adverse impacts on special status plant species that occur particularly on the volcanic ash and sandy soils. Impacts would be both direct and indirect, including destruction of habitat, destruction

of plants, and weed introductions, resulting in habitat modification and increased competition for resources. Current limitations carried forward, such as WSA designation, Leslie Gulch and South Alkali activity plans, would remain in effect, providing some protection for plants and habitat in those areas. Although emergency limitations and closures are a means to prevent further degradation of habitat, considerable damage could occur to susceptible sites before the process would be completed for limitation or closure.

ACEC or ACEC/RNA designations, and high priority special management of Honeycombs, Mahogany Ridge, the Keeney Pass segment of the Oregon Trail, Leslie Gulch, Owyhee River Below the Dam, Coal Mine Basin, Jordan Craters, and Palomino Playa would have a long-term beneficial impact on the special status plant species known to occur within their boundaries. Only activities that would maintain or enhance the relevant and important values of these areas would be permitted. Because careful consideration would be given to authorization of activities in light of the plant values in these areas, beneficial effects would be expected to both plants and to their habitats within the ACEC boundaries. In a number of these areas, substantial protection would be provided that would maintain a reasonably wide representation of the species within the variations of their habitat, although boundaries are not as extensive or as inclusive of habitat variations as in some other alternatives. Two areas known to support special status plants, Owyhee Views and South Alkali Sand Hills, would not be designated as ACEC's, and the special status species within these areas would be managed only under general management guidelines for individual species.

Continued management of the Owyhee NWSR, through its existing river management plan, would have an overall long-term beneficial impact. Retention of the designation of 186 miles of the Owyhee River as a NWSR maintains withdrawal of these reaches from mineral entry and other regulations of mineral activity, which precludes most adverse impacts associated with mineral exploration and development. The designation has also resulted in vehicle access limitations, thereby limiting impacts associated with this activity. Because increased visitor use is projected in all river corridors, regardless of designation, some adverse impacts on special status plants found within river canyons could occur with camping and incidental hiking activities, but is not anticipated to be significant during the life of this plan. This is due to the expansive area available for hiking and camping and lack of sensitive plant species at areas where river recreationists are likely to concentrate.

Adjustments in land tenure could have either a beneficial or adverse impact, depending on the purpose of the acquisition or exchange. These adjustments would generally be beneficial, as BLM policy emphasizes retention of public land with high resource values and would not permit exchange or sale of public land occupied by special status species unless land of equal or a higher biological value is to be acquired.

Prior to approval and issuance of any right-of-way, lease or permit, site examinations for special status plants would be conducted. While adverse impacts could occur if examinations were done at an inappropriate time of year, generally no adverse impact would occur. Because land use authorizations could result in substantial surface disturbance, special status plants could be indirectly impacted in both short and long terms by fragmentation of habitat and introduction of exotic plants into nearby disturbed areas.

Conclusion: The overall cumulative impact of activities proposed in Alternative A on special status plants is projected to be adverse at localized areas within the short term. Major contributors include unlimited OHV activities throughout most of the area; increased livestock grazing; habitat destruction from mining-related activities; some vegetation treatments such as sagebrush removal, and possible project developments, such as livestock water developments resulting in redistribution of livestock into previously unused, sensitive areas. Beneficial impacts would be obtained with designation of the proposed ACEC's, because numerous plant populations would be given special management protection within the boundaries of those designated areas.

In habitats that would be heavily impacted, such as the Succor Creek area, the sand hills near Vale and Ontario, and areas of high mining interest, special status plant species may decline or remain at low levels, potentially contributing to the listing of some plant species as Federally threatened or endangered. Species would be protected individually with little regard for overall habitat health. The objective for special status plants may not be met for species found in heavily impacted areas and where general ecological health is critical to species survival. Overall, while this alternative would provide for maintenance of special status plant species, there is a risk that some species and sites may receive significant adverse cumulative impacts and may require fencing or other mitigation to meet the objective.

Alternative B

Impacts: Locatable mining activities, leasable mineral activities, and mineral materials (Table 3-3b) would have the same impacts as Alternative A, except a plan of operation would be required prior to assessment work in ACEC's, which would benefit special status species in those areas.

Fire management would have a neutral to adverse impact on special status plants. Fire suppression activities such as line construction would avoid plant sites as much as possible, resulting in slight to moderate impacts depending on location and successful avoidance of sites.

Vegetation treatments are not a major part of current management, except where rehabilitation is accomplished following major wildfires. The other impacts would be the same as discussed under Alternative A.

Exotic plant invasions into areas where rangeland health has declined and where livestock associated range projects are developed would have a major indirect adverse impact on special status plant populations. The exotics would compete directly for resources and would prevent special status plants from fully occupying their historic ranges. Although this alternative does not have the same major focus on projects as Alternative A, construction of any projects would have the same type of impacts as that alternative.

The continuation of current livestock grazing practices including seasons of use and stocking levels would have an adverse long-term impact on some special status plant species. The classification of many acres in an early seral stage which are not likely to improve, the prevalence of introduced plants that now compete with native species, and the direct trampling impact of livestock that is observed on some species, particularly Malheur forget-me-not and smooth blazing star, suggest that overall impacts on special status species are and would continue to be generally adverse. Direct impacts to certain species, particularly Mulford's milkvetch and Owyhee clover which are known to be palatable to livestock, would continue to be adverse unless sites are fenced or grazing impacts are otherwise mitigated. Domestic sheep use may have a particularly severe adverse effect on these two species because they tend to seek out palatable forbs.

Recreation use would have the same impacts as Alternative A, except the river corridor below Owyhee Dam is not proposed as an ACEC, and without special management attention in the corridor, special status plant species may be trampled, collected, and/or displaced by exotic species brought in by the recreationists. Overall, however, direct long-term impacts to special status plants from recreation use would be slight to moderate.

Past OHV use has not adversely impacted most special status plant sites in the planning area. However, unregulated OHV use would continue to modify habitat on all volcanic ash types within the Succor Creek area. OHV use would be regulated only in those areas in Succor Creek, the South Alkali Sand Hills and west of Harper currently limited to designated roads

and trails. A projected increase in OHV activities would have the same impacts as Alternative A.

Retention of the designation and special management of Honeycombs, Mahogany Ridge, Leslie Gulch and Jordan Craters as ACEC's or ACEC/RNA's would maintain the beneficial impacts to the special status plant species known to occur within their boundaries and identified as a relevant and important value within those areas. Current management and proposed management changes would be evaluated based on whether or not relevant and important values would be maintained or enhanced. These areas would receive high priority for management attention, which would provide long-term beneficial impacts to the special status plant resources.

NWSR designation impacts would be the same as Alternative A with the addition of 3.6 miles for the North Fork Malheur River.

Impacts of rights-of-way, leases, or permits, would be the same as Alternative A.

Adjustments in land tenure would have the same impacts as Alternative A.

Conclusion: The overall cumulative impact of Alternative B on special status plants is projected to be slightly adverse. Major contributors include unlimited OHV activities throughout most of the area; maintenance of current livestock grazing numbers and patterns; habitat destruction from mining-related activities; some vegetation treatments such as seedings of nonnative species; and possible project developments, such as livestock fence and water developments, resulting in redistribution of livestock into previously unused areas of sensitivity. Long-term beneficial impacts would be obtained with retention of certain ACEC's as numerous plant populations would be given special management protection within the boundaries of those areas.

In habitats that would be heavily impacted, such as the Succor Creek area, the sand hills near Vale and Ontario, areas of high mining interest and certain areas grazed by livestock, special status plant species may decline or remain at low levels. This situation could contribute to the listing of some plant species as Federally threatened or endangered. Species would be protected individually with little regard for overall habitat health. The objective for special status plants may not be met for species found in heavily impacted areas and where general ecological health is critical to species survival. Overall, while this alternative would provide for maintenance of special status plant species, there is a risk that some species and sites may receive adverse impacts and require fencing or other mitigation to meet the objective.

Alternative C

Impacts: Locatable mining activities, leasable mineral activities, and mineral materials would have the same impacts as Alternative A except that a total of 161,565 acres are proposed for withdrawal (Table 3-3b). Long-term adverse impacts would primarily be in the form of loss of habitat and direct destruction of individuals and populations, with the extent of impacts generally determined by the amount of activity.

Fire management impacts would be the same as Alternative A, with special status species considered in all suppression actions.

Vegetation treatment impacts would be the same as Alternative A. However, less acreage would be treated and impacted.

Livestock grazing as proposed in this alternative would have no long-term adverse affect on special status plants. However, there may be adverse impacts, including loss of individual plants and specific sites during the lag time between results of monitoring and implementation of action to mitigate the conflict. As upland plant communities advance their ecological

condition, populations of associated special status plants are projected to stabilize and could potentially increase. Should monitoring indicate conflicts between livestock grazing and species viability, numerous options would be available, including exclosure fencing, changes in season of use and elimination of a pasture from grazing, to mitigate impacts.

Although this alternative does not have the same emphasis for project development as Alternative A, construction of projects would have the same type of impacts as that alternative.

Recreation use impacts would be the same as Alternative A, except overall recreation use is anticipated to be slight to moderately adverse under this alternative.

With OHV designations as specified in the "South Alkali Management Plan" (1996) and with limitations at Succor Creek, Harper and south of Vale, benefits to be derived would include elimination of OHV disturbance for specific, vulnerable special status plants and their populations. The likelihood that OHV activity would bring weed seed into species habitat would be reduced, although with specific roads remaining open to travel, weed establishment may still occur. In addition, limitations in all ACEC/RNA's to designated roads and trails would provide protection to plant sites from direct use. Short- and long-term benefits would occur to sites currently identified as especially vulnerable to OHV activity. Emergency closure procedures also would be used as new conflicts would be identified, although short-term adverse impacts would occur between identification of conflict and completion of closure procedures.

Designation of Honeycombs, Mahogany Ridge, Leslie Gulch, the Keeney Pass segment of the Oregon Trail, Owyhee Views, Owyhee River Below the Dam, Coal Mine Basin, South Alkali Sand Hills, Jordan Craters, and Palomino Playa as ACEC's or ACEC/RNA's would have a long-term beneficial impact on the special status plant species known to occur within their boundaries. Only activities that would maintain or enhance the relevant and important values of these areas would be permitted. Limiting OHV activities to designated roads and trails in all areas, proposing mineral withdrawal in the majority of areas, limiting leasable minerals activity to NSO and closing the areas to mineral materials activities would provide protection to plant sites from these potentially surface-disturbing activities. Because careful consideration would be given to authorization of other activities such as project development in light of the plant values in these areas, beneficial effects would be expected to both plants and to their habitats within the ACEC boundaries. In many of these areas, substantial protection would be provided that would maintain a wide representation of the species within the natural variations of their habitat and as species occur together in complexes.

NWSR designation impacts would be much the same as Alternative A with the addition of 29 miles for river segments that are determined to be suitable for inclusion in the NWSRS. Also, existing and future river management plans would address location of campsites in order to avoid special status plants and habitat.

Issuance of any rights-of-way, leases, or permits would be the same as Alternative A.

Adjustments in land tenure would be the same as Alternative A, except this alternative places emphasis on acquiring land of high habitat quality or that contains other significant biological resources, including special status species. Many of these adjustments also result in the consolidation of public ownership in ACEC's, WSA's, and NWSR corridors, where special status species management capabilities are more favorable.

Conclusion: The overall long-term cumulative impact of activities proposed in Alternative C on special status plants is projected to be positive. Major contributors include limited OHV activities at the most critical plant sites vulnerable to such activities, management of livestock grazing to ensure healthy plant habitat, and control of project developments so that both plant and habitat needs would be considered in project placement. Long-term benefi-

cial impacts would also be obtained with retention and establishment of certain ACEC's, because numerous plant populations would be given priority management protection within adequate boundaries for species and habitat representation within a full range of variation.

Identified management in Alternative C would have an overall beneficial impact and would facilitate meeting the objective for most special status plants. Areas not withdrawn from mineral entry would remain vulnerable to site disturbances and species removal. OHV activity in parts of the volcanic ash and sand complexes, where no limitations would be imposed, would result in certain plants being vulnerable to direct and indirect impacts in the short term.

Alternative D

Impacts: Locatable mining activities, leasable mineral activities and mineral materials would have the same impacts as Alternative A, except that a total of 269,747 acres are proposed for withdrawal (Table 3-3b). Adverse impacts from minerals activities would primarily be in the form of loss of habitat and direct destruction of individuals and populations, with the extent of impacts generally determined by the amount of activity.

Fire management would have the same impacts as Alternative A, with special status species considered in all suppression activities.

Vegetation treatments have the same impacts as Alternative A, with less acres being treated and impacted.

Livestock grazing impacts would be the same as Alternative C, except that with the potential of lighter grazing under this alternative, any short-term impacts occurring to plant species as grazing/plants interactions are studied would be slight.

Construction of any new projects would have the same type of impacts as Alternative A, except that since project work would be minimal in this alternative, special status plants would be protected from inadvertent impacts such as weed seed dispersal.

Recreation use impacts would be the same as Alternative A with the addition of generally tighter management constraints proposed in some areas of higher use, so that natural values would not be compromised. Overall, recreational impacts are anticipated to be none to slightly adverse.

OHV designations and their impacts would be the same as Alternative C; however, under this alternative (with the exception of Alternative E), they would be designated to their maximum proposed extent, which would decrease the acreage impacted.

Impacts of special designations would be the same as Alternative C; however, the acreage would be more extensive. Because of the large acreage, associations of species such as occur in the South Alkali Sand Hills, Honeycombs and Owyhee Views ACEC's would receive priority protection and preservation in extensive representations of their habitat.

Impacts of NWSRS designations would be the same as Alternative A with the addition of 176 miles for river segments considered suitable for inclusion in the NWSRS. Also, existing and future river management plans would address location of campsites in order to avoid special status plants and habitat.

Approval or issuance of rights-of-ways, leases or permits would have the same impacts as Alternative A with the addition of numerous ACEC's that are exclusion areas, which adds long-term protection from both the direct and indirect impacts of these activities.

Adjustments in land tenure would be the same as Alternative A, except many of these adjustments also result in the consolidation of public ownership in ACEC's, WSA's, and NWSR's, where special status species management capabilities are favorable.

Conclusion: The overall cumulative impact of activities proposed in Alternative D on special status plants is projected to be beneficial. Management actions that would benefit these species include a significant reduction in livestock grazing; advances in vegetation seral stages; designation or expansion of 10 areas as ACEC's in which numerous plant populations and habitat would be given special and priority management protection within a full range of habitat variation. Also benefiting special status species in short and long terms would be the limitations or exclusion of substantial number of acres from rights-of-way activities; the number of miles recommended for NWSR designations; the substantial acreage prescribed for mineral withdrawal, limitation for leasable minerals to NSO and closures to mineral materials; and the overall limitations of OHV activities.

Identified management in Alternative D would have a beneficial impact overall and would facilitate meeting the objective for special status plants. Areas not withdrawn from mineral entry would remain vulnerable to site disturbances and species removal.

Alternative D2

Impacts: Locatable mining activities, leasable mineral activities and mineral materials would have the same impacts as Alternative A, except that a total of 282,805 acres are proposed for withdrawal (Table 3-3b). Adverse impacts from minerals activities would be as described in Alternative D, except that certain sites of Malheur Valley fiddleneck would be protected from leasable and locatable minerals exploration and development. Within all ACEC's under this alternative, mineral withdrawal and no leaseable or salable minerals activities would provide maximum protection for localized occurrences of special status plants within their boundaries.

Fire management would have the same impacts as Alternative A, with special status species considered in all suppression activities.

Vegetation treatments have the same impacts as Alternative A, with less acres being treated and impacted.

Livestock grazing impacts would be the same as Alternative D, except that, in those areas supporting populations of Mulford's milk-vetch which would be closed to grazing, there would be no potential for impacts to this species from grazing. There would be no potential for impacts to special status plants from grazing in four ACEC's which would be closed to grazing, although increased numbers of wild horses in the Honeycombs ACEC/RNA and at the Palomino Playa ACEC/RNA may cause localized damage to plant populations because the horses cannot be herded away from specific plant populations. To the extent that livestock use has impacted specific plant sites, these impacts would be removed in those areas excluded from grazing in this alternative.

Construction of any new projects would have the same type of impacts as Alternative A, except that since project work would be minimal in this alternative, special status plants would be protected in the long term from inadvertent impacts such as weed seed dispersal.

Recreation use impacts would be the same as Alternative D.

OHV designations and their impacts would be the same as Alternative D, except that limitations in areas supporting Mulford's milk-vetch would provide additional protection for that species.

Impacts of special designations would be the same as Alternative D.

Impacts of NWSRS designations would be the same as Alternative A, with the addition of 29 miles for river segments that are determined to be suitable for inclusion in the NWSRS. There would be long-term positive impacts to special status plants within river corridors where grazing would be removed to the extent that grazing would have been negatively affecting special status plants. Also, existing and future river management plans would address location of campsites in order to avoid special status plants and habitat.

Approval or issuance of rights-of-ways, leases or permits would have the same impacts as Alternative D.

Adjustments in land tenure would be the same as Alternative D.

Conclusion: The overall long-term cumulative impact of activities proposed in Alternative D2 on special status plants is projected to be beneficial. Management actions that would benefit these species include a significant reduction in livestock grazing; advances in vegetation seral stages; designation or expansion of 10 areas as ACEC's in which numerous plant populations and habitat would be given special and priority management protection within a full range of habitat variation. Also benefiting special status species would be the limitations or exclusion of substantial number of acres from rights-of-way activities; the substantial acreage prescribed for mineral withdrawal, limitation for leasable minerals to NSO or no lease, and closures to mineral materials; and the overall limitations of OHV activities.

Identified management in Alternative D2 would have a beneficial impact overall and would facilitate meeting the objective for special status plants. Areas not withdrawn from mineral entry would remain vulnerable to site disturbances and species removal.

Alternative E

Impacts: Lack of some fire suppression activities may result in certain sites burning repeatedly within a short timeframe. This may have an adverse effect on several of the special status species. However, a beneficial impact may be that no direct physical damage would occur to plant sites as a result of fire suppression activities.

Absence of livestock grazing would have a beneficial impact on special status plants currently grazed or trampled by livestock. In addition, livestock as a vector in moving noxious weeds into new areas would be eliminated. With no project development or mining, and with lessened fire suppression or post fire rehabilitation, natural processes would benefit most special status plant species.

Lack of recreation management and uncontrolled recreation activities would result in short- and long-term detrimental effects, such as trampling, harvesting damage, and weed introductions, to special status species and their habitats. These effects would occur in areas where recreational activities such as hiking and camping are likely to increase, particularly in the Honeycombs and Succor Creek areas.

With all cross-country OHV use eliminated, plant sites would receive full protection from short-term trampling and long-term trails caused by cross-country OHV activity.

Conclusion: The overall long-term cumulative impact of activities proposed in Alternative E on special status plants is projected to be both positive and negative. Lack of wildland fire suppression at certain sites would be a critical factor in displacement of plants in those areas. Lack of recreation management would result in detrimental impacts in specific areas where high recreation use would coincide with occurrences of special status plants. Long-term cumulative positive benefits of elimination of livestock grazing, cross-country OHV travel, mining, most direct fire suppression activities and project development would occur to special status plants.

Proposed RMP

Impacts: Locatable mining activities, including mineral exploration and development, would continue to have a long-term adverse cumulative impact on special status plants. Impacts are projected to be most severe within the areas near and in Succor Creek that are currently mined and in areas where high potential has been identified for mineral occurrence. In the Succor Creek area, materials such as zeolite and bentonite comprise the habitat of several special status plant species. Impacts would increase if demand increases and new mines are developed. The extent of impacts would be determined primarily by the amount of activity, location, and mining techniques. Within ACEC's, plans of operation would be required prior to surface disturbance which would help mitigate impacts. A total of approximately 127,419 acres proposed for mineral withdrawal would remove mining activity impacts on special status plants where they would occur in those areas. Leasable mineral activities are subject to stipulations which would generally result in minimal direct impacts to special status plants. Habitat fragmentation may cause certain long-term indirect negative impacts as gene flows may be disrupted where sites become unavailable for colonization and exotics and noxious weeds are introduced to disturbed sites. Mineral materials activities would have no impact on special status plants because the location of mineral materials sites would be placed well out of known occurrences or habitats of species. Field surveys would be conducted prior to project approval.

Fire management would have a beneficial impact because aggressive suppression would be initiated in known plant sites where wildfires had occurred within the last 10 years, and where plants might remain vulnerable to repeated burning. Fire suppression activities, such as line construction, would avoid plant sites as much as possible, resulting in slight to moderate short- and long-term impacts depending on location and severity of disturbance.

Vegetation treatments, including western juniper control, prescribed burning, and seedings, would impact special status species, depending on the species, the number of exotic species within the area, overall ecological condition, and the likelihood that exotics would colonize the sites following treatment. Site examinations, to the extent feasible, would be conducted prior to treatments; however, due to the generally large size of such treatments, species may be overlooked and adverse impacts may result if species are uprooted during the physical procedures. Where canopies are opened and exotics are displaced in or near special status species habitat, beneficial impacts may result as sites would be improved for establishment or recolonization by certain species.

Potential for increased numbers and range of bighorn sheep may result in short-term adverse impacts to certain special status plant species, particularly Owyhee clover and sterile milkvetch, in the areas of their overlapping ranges. As sheep use would be removed from vulnerable plant populations, no long-term cumulative impacts would occur.

Livestock grazing as proposed in this alternative would have no long-term adverse cumulative effects on special status plants. However, there may be short-term adverse impacts, including loss of individual plants and specific sites during the lag time between results of monitoring and implementation of actions to mitigate the conflict. As upland plant communities advance their ecological condition, populations of associated special status plants are projected to stabilize and could potentially increase. Should monitoring indicate conflicts between livestock grazing and species viability, numerous options would be available, including exclosure fencing, changes in season of use and elimination of a pasture from grazing, to mitigate impacts.

Construction of new projects could result in long-term indirect adverse impacts on some species if the projects result in moving livestock into areas that were previously little used. In some cases, special status plants could benefit by improved dispersion of livestock if animals are prevented from concentrating in their habitat, although dispersal of weed seeds into previously undisturbed areas may adversely impact species. Direct impacts would

depend on exact project locations, but in general, adverse impacts are projected to be minimal, since site examinations would be conducted prior to project approval.

An increase in recreation uses in areas of high plant concentrations would result in adverse impacts to special status plant species. This could occur through trampling and subsequent weed introductions where sites are disturbed. However, the most attractive areas for recreation use, including Owyhee NWSR and Leslie Gulch ACEC, are managed and regulated under current plans which recognize plant values. The area most likely to be adversely impacted is the Owyhee River corridor below the dam, although an ACEC and NWSR are recommended under this alternative for this area. Such designation would provide priority management, including focus on special status plant species. Overall, recreation use is anticipated to be slight to moderately adverse.

A potential increase in OHV activities, particularly in the Succor Creek and Three Fingers vicinities and in the sand hills near Vale and Ontario, may result in long-term adverse impacts on special status plant species that occur particularly on the volcanic ash and sandy soils. Impacts would be both direct and indirect, including destruction of habitat, destruction of plants, and weed introductions, resulting in habitat modification and increased competition for resources. Current limitations carried forward, such as WSA designation, and Leslie Gulch and South Alkali activity plans, would remain in effect, providing some protection for plants and habitat in those areas. Limitation of use to designated routes in selected habitat of Mulford's milk-vetch and Malheur Valley fiddleneck and in ACEC's supporting special status plants would provide protection for specific sites of these species. Although emergency limitations and closures are a means to prevent further degradation of habitat, considerable damage could occur to susceptible sites before the process would be completed for limitation or closure.

ACEC or ACEC/RNA designations, and the associated high priority special management of Honeycombs, Mahogany Ridge, the Keeney Pass segment of the Oregon Trail, Leslie Gulch, Owyhee River Below the Dam, Owyhee Views, South Alkali Sand Hills, Coal Mine Basin, Jordan Craters, and Palomino Playa would have a long-term beneficial impact on the special status plant species known to occur within their boundaries. Only activities that would maintain or enhance the relevant and important values of these areas would be permitted. Because careful consideration would be given to authorization of activities in light of the plant values in these areas, cumulative beneficial effects would be expected to both plants and to their habitats within the ACEC boundaries. In a number of these areas, substantial protection would be provided that would maintain a reasonably wide representation of the species within the variations of their habitat.

Continued management of the Owyhee NWSR, through its existing river management plan, would have an overall long-term beneficial impact. Retention of the designation of 186 miles of the Owyhee River as a NWSR maintains withdrawal of these reaches from mineral entry and other regulations of mineral activity, which precludes most adverse impacts associated with mineral exploration and development. The designation has also resulted in vehicle access limitations, thereby limiting impacts associated with this activity. Because increased visitor use is projected in all river corridors, regardless of designation, some short- and long-term adverse impacts on special status plants found within river canyons could occur with camping and incidental hiking activities, but is not anticipated to be significant during the life of this plan. This is due to the expansive area available for hiking and camping and lack of sensitive plant species at areas where river recreationists are likely to concentrate. Other NWSR designations and future river management plans would address location of campsites in order to avoid special status plants and habitat.

Adjustments in land tenure could have either a beneficial or adverse impact, depending on the purpose of the acquisition or exchange. These adjustments would generally be beneficial, as BLM policy emphasizes retention of public land with high resource values and would

not permit exchange or sale of public land occupied by special status species unless land of equal or a higher biological value is to be acquired.

Prior to approval and issuance of any right-of-way, lease or permit, site examinations for special status plants would be conducted. While adverse impacts could occur if examinations were done at an inappropriate time of year, generally no adverse impact would occur. Because land use authorizations could result in substantial surface disturbance, special status plants could be indirectly impacted by fragmentation of habitat and introduction of exotic plants into nearby disturbed areas.

Conclusion: The overall cumulative impact of the activities proposed in the Proposed RMP on special status plants is projected to be positive. Major contributors include limited OHV activities at the most critical plant sites vulnerable to such activities, management of livestock grazing to ensure healthy plant habitat, and control of project developments so that both plant and habitat needs would be considered in project placement. Beneficial impacts would also be obtained with retention and establishment of certain ACEC's, because numerous plant populations would be given priority management protection within adequate boundaries for species and habitat representation within a full range of variation.

Identified management in the Proposed RMP would have an overall beneficial impact and would facilitate meeting the objective for special status plants. Areas not withdrawn from mineral entry would remain vulnerable to site disturbances and species removal. OHV activity in parts of the volcanic ash and sand complexes, where no limitations would be imposed, would result in certain plants being vulnerable to direct and indirect impacts in the short term.

Summary of Impacts

Although special status plant species would receive protection and priority for management in all alternatives, Alternatives C, D, D2, and Proposed RMP would provide the most extensive and the most protective guidance for individual species management as well as management of species complexes and associated habitat. Designation of specific and extensive ACEC acreage in these four alternatives would provide a full range of habitat management and protection where special status species occur within those boundaries. The cumulative long-term benefits would be greatest under management proposed for Alternatives D and D2 because management for habitat concerns across a full range of habitat variations where these species occur would be most fully met in these alternatives. Under no alternative would there be a need to list any plant species under the ESA.

Water Resources and Riparian/Wetland Areas

Objectives: *Ensure that surface water and ground water influenced by BLM activities complies with or are making progress toward achieving State of Oregon water quality standards for beneficial uses as established per stream by the Oregon Department of Environmental Quality (ODEQ).*

Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.

Assumptions common to Alternatives A–D2 and Proposed RMP: Attainment, protection, or maintenance of water quality standards, PFC, and RMO's (RMO's would not apply to Alternative B) would be required in all RCA's for Alternatives A, C, D, D2, and Proposed RMP and in riparian/wetland areas for Alternative B.

RCA's and stream channels, in association with riparian/wetland areas, would encompass the same acreage and stream-mile length; therefore, the two terms are synonymous when used in

Chapter 4 analysis. Based on current information, RCA stream length area is approximately 1,268.7 miles; drainage channel length on public land is 12,196 miles; RCA acreage ranges from 5 to 10 acres per mile or about 6,365 to 12,730 acres on public land (potential acreage is at least two to three times the present range); and percent riparian stream-mile length to public land drainage channel length equals about 10.5 percent.

Application of standard and special stipulations and the exclusion of operations in RCA's or riparian/wetland areas would allow attainment, protection, or maintenance of water quality standards, PFC and RMO's (RMO's would not apply to Alternative B).

Assumption common to Alternatives A, C, D, D2, and Proposed RMP: Saleable mineral development would not be authorized within RCA's.

Grazing schedules and actions associated with authorizing livestock use would be developed or revised through the adaptive management process where determined not to be consistent with accepted riparian and water quality standards and practices.

New road construction is expected to be extremely limited and OHV use would increase over the life of the plan.

Recovery rates (attainment of objectives) necessary for water quality, PFC, and RMO's in riparian/wetland areas in Alternatives A, C, D, D2, and Proposed RMP would be dependant on the management emphasis of that alternative. All management options would be available and unobstructed to address any use or activity that is consistent with the emphasis of that alternative. Although all options are left open for use in each alternative, those that lend themselves to addressing the theme of that alternative may be utilized more often than others; such as options that emphasize commodity production may be utilized more in Alternative A than C, and more in C and the Proposed RMP than D or D2.

In Alternative A, management options for any use or activity would allow for measurable progress toward the attainment of water quality, PFC, and RMO's within the stream and RCA's at a positive rate. Although recovery within streams and RCA's would be in a positive direction, attainment of objectives would occur at a slower rate as compared to a near natural rate of recovery expected if no commodity use or impacting activity occurred. A potential slower rate of riparian recovery across the landscape with implementation of Alternative A does not translate to a slower rate of recovery on a site-specific basis within a given stream or RCA. Site-specific variables including existing resource conditions, management priorities, landform, climate, and the DRFC's would influence management actions implemented. As a result, with implementation of Alternative A, site-specific water quality, PFC, and RMO's may be met at a rate equal to or greater than a near natural rate of recovery within some streams and RCA's while in most others, acceptable rates of recovery may be slower.

In Alternative C and in the Proposed RMP, management options would be the same as Alternative A except the overall attainment of objectives within streams and RCA's would more likely be at or near the natural rate of recovery expected if no commodity use or impacting activity occurred. As a result, site-specific attainment of water quality, PFC, and RMO's may be met at a rate near or equal to a natural rate of recovery within most streams and RCA's, while in those remaining, acceptable rates of recovery may proceed at either a more rapid or gradual pace.

In Alternative D and D2, management options would be the same as Alternative A except the overall attainment of objectives within streams and RCA's would more likely be near or greater than the natural rate of recovery expected if no commodity use or impacting activity occurred. As a result, site-specific attainment of water quality, PFC, and RMO's may be met at a rate equal to or greater than a natural rate of recovery within most streams and RCA's,

while in the remaining few, an acceptable rate of recovery may proceed at a more gradual pace.

Alternative A

Impacts: Surface water quality, alluvial unconfined aquifers (water table) and associated RCA's, PFC, and RMO would continue to be affected by locatable mineral development and exploration within RCA's. Although all practicable measures to restore and maintain fish and wildlife habitat, riparian/wetland areas, and water quality are required of mining operators, impacts to these resources would continue to occur. Placer mining and extraction of minerals from these areas would disrupt the natural and proper function of these sites especially over the short term and may extend outward, but diminish in significance over the long term.

Short-term adverse impacts originate and continue with the day-to-day mining disturbances to stream channels and aquatic and riparian habitats within RCA's. Water quality standards, PFC, and RMO's cannot be attained in RCA's until localized disturbances from mineral activities cease or become negligible as mining activities relocate.

Long-term adverse impacts are associated with disturbances to the vegetation and structure of the stream channels that affect water quality (temperature and sediment) standards. These impacts occur at the time of mineral extraction and continue until such time as stream channels, banks, and terraces become stable, then revegetate with species that provide diversity and an adequate or complex age class distribution. Vegetation diversity and age class structure that are necessary for proper functionality of the stream channel and riparian area may take many decades to become reestablished.

Additional adverse impacts to RCA's may occur when structures, support facilities, and roads are located inside RCA's because no practicable alternatives exist. Although facilities are to be located and constructed in a manner to minimize unavoidable impacts to RCA's and streams and to minimize adverse effects on aquatic resources, there would be short-term localized surface impacts to these disturbed sites.

Locatable mineral development scenarios for gold/silver open pit and underground mining operations are projected to be developed in the foreseeable future. Many of these areas of development contain low concentrations of arsenic, mercury, selenium, molybdenum, and other metals within the mineral deposit that would lead to possible localized groundwater contamination. Operations such as these have the possibility to intercept groundwater in confined and unconfined aquifer systems and alter the geochemistry of the water within their zone of influence. Many aquifer regimes, including geothermal hot springs (Mariner et al. 1994), occur throughout the planning area but are not regionally extensive or interconnected. Therefore, adverse water quality or subsurface flow impacts from open-pit or underground operations would occur only on a local basis and have no cumulative effect on regional groundwater resources.

Development of water source wells, geophysical shot holes, core test holes, geothermal, and monitoring wells is regulated by the State and/or Federal government. With proper installation and regulation, development of energy and mineral resource wells would not adversely impact local groundwater regimes.

Under the leasable development scenarios, regional long-term and significant cumulative adverse impacts are not expected to water resources and riparian/wetland areas. Leasable mineral and ancillary facilities development are expected to create localized surface disturbance over the short term. Any leasable mineral operations impacts that occur within RCA's would be minimal because of the application of standard and special stipulations and the exclusion of operations that would not provide attainment of PFC and RMO's. Revegetating existing disturbed areas would help minimize impacts, thereby improving soil-water infiltra-

tion and water retention and reducing the potential for concentrated overland flows. When these measures are not properly addressed or remain unchecked, the result is continued degradation which contributes to gully formation, stream bank erosion, and reduced water quality. Many of these short-term erosion problems created by leasable and locatable mineral development would be avoided by applying standard design features and BMP's to potential disturbance areas before development.

Adverse impacts to water resources and riparian/wetland areas would not occur from saleable mineral development within RCA's.

Under this alternative, additional restrictions are not placed on mining development outside of RCA's that may potentially impact water quality and proper riparian/wetland area functions. Therefore, any mining operations, whether or not locatable, leasable, or saleable, that would adversely affect overland flow, erosion rates, and increase sediment transport to RCA's would only be required to meet those regulations and laws that currently apply. This would allow development to occur in the uplands and throughout the watershed without requiring operators to attain, maintain or protect RMO's in riparian/wetland areas. By designing operations to meet water quality standards, incorporating BMP's, and adhering to State and Federal laws and regulations there would be minimal adverse effects to RMO's in RCA's.

Wildland fire surface disturbance activities would cause short-term adverse impacts to surface water quality, PFC, RMO's and RCA's. Infiltration rates are likely to decline immediately following wildland fire, causing an increase in overland flows. Prior to vegetation regrowth, burned areas subjected to high intensity storms would contribute to flashy runoff and an increase in erosion and sediment transport. Strategies on all wildland fires threatening or within riparian/wetland areas would be to suppress all possible fires. Most RCA's would not be adversely affected by fire if it is suppressed before entering an RCA.

Short-term effects from fire suppression tactics in RCA's that are in PFC and have met RMO's would be less adverse and functionally would respond quicker to revegetation and rehabilitation efforts. Also, the suppression tactics such as fireline construction and vegetation removal would be less adverse in RCA's that are properly functioning and capable of withstanding fire within the wetted riparian/wetland areas. Fire suppression activities in RCA's that are not in PFC would have the potential to cause increased short-term adverse effects to water quality and RMO's by potentially increasing sediment, streambank erosion and reducing thermal cover. Adverse impacts from fire suppression tactics and fire surface disturbances would not be expected to be significant within those RCA's that are in PFC and have the ability to rebound.

Vegetation manipulation projects proposed outside RCA's would affect the physical characteristics of soil surfaces and alter the abundance and types of vegetation that shield soil from water erosion. Treatments aimed at reducing undesirable woody species, such as sagebrush and western juniper, while increasing herbaceous species would aid in reducing excessive runoff and potential erosion, while improving soil stability and infiltration. Short-term loss of vegetation cover may result in increased erosion and a temporary increase in sedimentation from high intensity summer storms; however, erosion from snowmelt and gentle rainfall would be limited. Recovery of the desirable vegetation community would improve infiltration rates, help extend stream channel baseflow, and provide for sediment control. These would be contingent upon the degree of damage and revegetation success. Short-term effects, from overland runoff and sediment transport on RCA's, would not be significant because of the limited amount of acreage affected in riparian/wetland areas. Many of the RCA's would be excluded from use by fences (see assumptions for Rangeland/Grazing Use, this chapter), which would create buffers areas along streams and riparian/wetland areas. Over the long term, these fenced areas would filter most overland flows and sediment transport produced from vegetation treatments within RCA's and uplands. Benefits derived

from fencing would be increased soil stability and vegetation growth and improved water quality.

Regional long-term and significant cumulative adverse impacts to water resources and riparian/wetland areas are not expected from forest management. The effects, including those of associated road building, would be localized and short term. The short-term impacts would be avoided or lessened by application of site-specific prescriptions, surface reclamation, and BMP's prior to, during, and after all proposed phases of operations.

Forest management practices within land that contains RCA's would require prescriptions (including the beneficial uses identified by ODEQ) that provide for the attainment of water quality standards, PFC, and RMO's in these areas.

Implementation of this alternative would result in the maximum amount of initial ground disturbances from stand entry for conducting forest management prescriptions. Short-term surface disturbances would increase the potential for on-site erosion and sediment transport to stream systems. Minor increases in sediment would also be expected from haul roads, skid trails, site preparation, and reclamation procedures. Most forest management practices would locally reduce short-term evapotranspiration rates and increase runoff. Potential erosive factors generated from actions such as site entry, precipitation impact, and increased snowpack accumulation in open areas would decrease as revegetation occurs. Increased vegetation cover would enhance site productivity and plant vigor over the long term. Use of existing trails would be emphasized also to reduce potential compaction and erosion.

Many of the forested areas contain thick conifer stands with heavy fuel loads presenting the possibility for intense slow-moving fire on steeper slopes and/or in scattered jackpots. Fuels that burn under these conditions tend to adversely affect soil nutrients and structure. To protect soil characteristics during prescribed fire applications, seasonal and moisture condition restrictions would be incorporated into burn plans. Prescribed fire would only be used when it helps restore upland soil productivity; invigorates shrub, forb, and grass components; and enhances on-site vegetation growth.

Overland runoff and seasonal streamflow characteristics are expected to be altered from forest management prescriptions, such as under burning, thinning, and harvesting. Upon completion of forest health prescriptions, water yield would increase from areas affected by vegetation removal. Increased water yield would continue from affected areas for many years, but would diminish each year as vegetation regrowth occurs on-site. Water yield and seasonal streamflow may increase over the short term, affecting water quantity and quality locally, but amounts would not be significant. This is because of the small number of acres affected, the site-specific forest health prescriptions, and the expected increase of existing vegetation cover and productivity on-site once operations are complete.

Increased water yield or concentration of flow caused by surface disturbances and subsequent sediment transport to stream channels and RCA's within the forestland require specific buffer areas to provide filter strips for sediment reduction to live streams. To further reduce possible sediment transport off-site, down-log requirements would be provided per acre to intercept and retard overland runoff. RCA buffer areas would aid in the protection and recovery of existing riparian vegetation, provide shade for air and water temperature control, and perform as filter strips for sediment reduction to live streams.

Increased woody and herbaceous cover in open areas created by burning, thinning, and harvest prescriptions would tend to draw wildlife and livestock from streams and riparian/wetland areas allowing the existing riparian species to flourish, thus improving beneficial vegetation, sediment reducing and stream building factors associated with RCA's.

Woodland management on high priority upland grasslands, forested areas, and shrublands would have short-term adverse effects on water quality and quantity and RCA's. Upland

treatments that are aimed at reducing western juniper encroachment (75 percent or about 124,500 acres over the life of the plan), enhancing production of forage and wood products, and increasing desirable herbaceous, shrub, and tree species (including quaking aspen) would alter existing watershed runoff and erosion characteristics. In the short-term water quantity and overland flow would increase within areas influenced from treatments such as, reduced raindrop interception, sparse herbaceous vegetation, and increased snowpack accumulations. Whereas water quality would decrease over the short term within the same drainages associated with these treatments from increased surface disturbances and sediment transport.

Implementation of this alternative would result in the least aggressive management of western juniper and quaking aspen within RCA's for the attainment, maintenance and protection of PFC and RMO's. Therefore, riparian/wetland areas not associated with enhancing commodity production would retain existing undesirable levels of western juniper and maintain the potential for numbers to increase over the long term. An increase in numbers of western juniper in RCA's would not allow a rapid attainment rate of PFC and RMO's nor an improvement in water quality in areas that are not in functioning condition. Aspen stands outside RCA's would benefit from woodland treatments while stands inside RCA's would not have stand improvement emphasized. This would reduce the rate of improvement of quaking aspen stands within RCA's and affect the attainment of water quality, PFC, and RMO's in those areas that are not in functioning condition.

Wild horse activities along stream channels and riparian/wetland areas would result in short-term adverse effects to water quality and the maintenance, protection, or attainment of PFC and RMO's in RCA's. Major effects that may occur from concentrated wild horse use on these areas are the rutting and trampling of soft and saturated ground, excessive yearlong streambank vegetation utilization, and increased potential for erosion and sediment transport. These impacts originate from well-used, entrenched access trails to water sources that intercept overland flow and allow stream channel alterations. Impacts to water quality, PFC, or RMO's in RCA's from wild horse use would be short term only because appropriate actions would be implemented to prevent further degradation and promote improvement. Implementation of this alternative would result in the largest increase of exclosure fences constructed along RCA's to address adverse effects from uses and activities within riparian/wetland areas. This would minimize the acreage of riparian/wetland areas available to wild horse use, if fencing is required in HMA's, while decreasing the potential adverse effects to the attainment of water quality, PFC, and RMO's.

Implementation of new rangeland grazing schedules on uplands and along stream channels and riparian/wetland areas would result in long-term beneficial effects to water quality and the maintenance, protection, or attainment of PFC and RMO's in RCA's. To provide for continuation of livestock grazing, new schedules would be proposed that may incorporate changes such as season of use, numbers, corridor fencing, and exclusion. Adverse effects to riparian/wetland areas (described in Chapter 2) would continue until new systems can be implemented. To provide water quality and riparian/wetland area benefits and facilitate livestock production opportunities, this alternative emphasizes construction of corridor fences (see assumptions for Rangeland/Grazing Use, this chapter) along approximately three-quarters of the RCA's. This includes areas within NWSR's, WSA's, and other SMA's. This would require the greatest number of acres fenced along RCA's to meet management objectives for riparian/wetland areas and 303(d) water quality listed streams.

Corridor fencing along RCA's, including those areas in the Owyhee NWSR system and all streams determined administratively suitable for wild and scenic designation, would not be required within allotments and pastures that are conducive to grazing schedules and allow for the maintenance, protection, or the attainment of water quality, PFC, and RMO's. Most grazing schedules that do not require fencing to met objectives are projected to implement systems that would attain water quality, PFC, and RMO's; but at a slower rate than those implemented without commodity production being emphasized. Pastures with RCA's that

are neither conducive to grazing schedules nor feasible for corridor fence construction would require total exclusion from grazing. Although total exclusion acreage would be minimal in these cases, this prescription remains a valid possibility until water quality, PFC and RMO's within RCA's adjacent to springs, reservoirs, wet and dry meadows, and stream channels have sufficient rest for maintenance, recovery and the capability to allow beneficial uses.

Implementation of this alternative would result in the largest potential for development of rangeland projects for the enhancement of livestock grazing. Adverse effects to water quality and riparian/wetland areas from new rangeland projects in RCA's would be short-term surface disturbances from construction and long-term, localized soil compaction and interception of overland runoff from trails associated with concentrated livestock use around projects such as reservoirs and fences. Water quality and riparian/wetland areas would benefit from development of corridor fences and off-stream water sources which remove livestock from drainage channels. Whereas riparian/wetland areas would benefit from off-stream water sources, upland areas, such as around wells, pipeline troughs, springs and reservoirs, would encounter more adverse long-term impacts from concentrated livestock use. As livestock migrate outwardly from these areas, impacts attributed from concentration to the soil profile and overland runoff in the form of compaction and heavier utilization of vegetation lessen and become negligible. Ground disturbances from construction of the aforementioned rangeland projects, including cattleguards and pipelines, usually produce only short-term localized adverse impacts to soils and overland runoff when BMP's are applied and projects are developed properly (Appendix S and O). Development of needed off-stream water sources are dependant on acquiring permits and water rights from Oregon's Water Resource Division. Water rights are increasingly more difficult to obtain because of the large demands for limited State-owned water and the restrictions, closure of basins, and changes in Oregon water laws. This difficulty could lead to fewer approved livestock watering developments off-stream and more livestock exclusion from pastures to meet water quality, PFC, and RMO's in RCA's. Another alternative to off-stream water is development of water gaps when corridor fencing is constructed. Long-term localized adverse impacts from these small watering areas along streams and riparian/wetland areas is the rutting of soft and saturated ground, trampling of stream banks, alteration of channel vegetation, and increased sediment yield to streams. BMP's would be applied during construction of projects to minimize the effects on stream channels and riparian/wetland area vegetation.

Implementation of this alternative would provide for increased recreational use by providing or considering additional recreational sites or expanding existing areas to meet high public demand, address safety concerns, or for resource protection. Increased recreation use at developed sites and around water bodies would result in short-term adverse effects to water quality and the maintenance, protection, or attainment of PFC and RMO's in RCA's. These short-term effects include improper disposal of domestic, horse or other pack stock, and human waste; increased soil compaction and sediment yield from camping areas; boat ramps, trailheads, access roads and parking areas; and excessive seasonal or yearlong streambank and vegetation trampling and utilization. Dispersed recreation and use of undeveloped sites would be similar but of lesser magnitude and result in fewer impacts from parking areas and road use. Within RCA's, localized short-term impacts would occur from day-use areas and popular hiking trails that are well-used and entrenched, contain compacted soil surfaces, and intercept overland flow that permits sediment transport to streams. When impacts from recreational use are identified, appropriate actions would be implemented to prevent further degradation and promote improvement. The application of recreation BMP's would reduce adverse effects to water quality, and riparian/wetland areas.

OHV activities in stream channels and riparian areas would be the heaviest in this alternative and may result in increased short-term adverse effects. Major effects from concentrated OHV use include the rutting of soft and saturated ground, streambank and channel alterations, and the increased potential for erosion and sediment transport. Historically, OHV use in RCA's has been sporadic and not presented a large adverse problem. When impacts from

OHV use are identified, emergency limitations and closures would be implemented to prevent further degradation.

Roads are a major source of sediment transport from surface-disturbing activities in RCA's and stream systems. Roads currently located parallel to and across RCA's would continue to act as sediment corridors to stream channels, affecting water quality, PFC, and RMO's until the Vale District's transportation plan and interdisciplinary teams can conduct evaluations and then manage problem areas. New road construction is expected to be extremely limited and of no overall effect.

Potential for adverse affects occurring in RCA's from roads could be reduced by seasonal road restrictions and those roads closed, recontoured, and revegetated that were no longer needed for current or foreseeable mineral, public use, or land management activities. Adverse effects to water quality and riparian values in RCA's could be expected to be low. The application of aquatic resource standards would reduce most road-related short-term and long-term adverse impacts within RCA's.

Implementation of this alternative would promote corridor fencing to control livestock along riparian/wetland areas in NWSR's to protect and enhance ORV's, and in WSA's and other SMA's when grazing schedules are not conducive for attainment of desired objectives. When WSA's overlap portions of NWSR corridors, IMPLWR could present additional restrictions on the construction of fences within riparian/wetland areas. If fencing is required to control livestock in these areas and cannot be constructed, then the only alternative left would be total exclusion within riparian/wetland area pastures.

Conclusion: Cumulative adverse impacts from locatable mineral development and exploration, would be significant locally but not regionally. Ground water resources would not be adversely affected regionally, although elevated levels of water contaminants may occur in localized areas over the long term. Localized surface disturbances are expected over the short term from leasable mineral development.

Vegetation manipulation projects would create insignificant short-term adverse effects and significant long-term beneficial effects. Forest and woodland management would have short-term adverse effects.

Wild horse activities would result in short-term adverse effects.

Implementation of new rangeland grazing schedules would result in long-term beneficial cumulative effects. Existing long-term and cumulative adverse impacts would continue until new grazing schedules are implemented. Although regionally insignificant, localized and very site-specific long-term adverse effects from livestock watergap development would occur. Short-term and long-term adverse impacts from livestock developments would continue.

Recreational use at developed sites and concentrated use around water bodies would result in both short- and long-term adverse effects. Adverse short-term effects from dispersed recreation and use of undeveloped sites would be similar but of lesser magnitude and result in fewer impacts from parking areas and road use. Localized short-term impacts would occur from day-use areas and popular hiking trails.

OHV activities would result in increased short-term adverse effects. Long-term impacts from roads would continue. However, a transportation management plan that includes BMP's would be developed and implemented to mitigate these impacts.

Water resource and riparian/wetland area management objectives would be met under this alternative except for areas influenced by locatable minerals. Implementation of new rangeland grazing schedules and vegetation manipulation projects would result in long-term

beneficial-cumulative effects on a watershed scale, both for uplands and riparian/wetland areas. Short-term, long-term, localized, and cumulative adverse impacts would continue from livestock developments and watergaps that are developed for livestock and wild horse use. These impacts would also continue to occur in riparian/wetland areas that are not functioning properly and are associated with domestic livestock, until new grazing schedules are implemented. Recreational use at developed sites and concentrated use around water bodies would potentially result in both short- and long-term localized-adverse effects from dispersed recreation and use of undeveloped OHV activities, while long-term impacts from roads would continue.

Alternative B

Assumption specific to Alternative B: Saleable mineral development would allow attainment, protection, or maintenance of water quality standards, and PFC within stream channels with riparian/wetland areas. Analysis is based on riparian/wetland areas rather than RCA's.

Impacts: Locatable and leasable mineral development and exploration impacts would be the same as Alternative A, except as related to riparian/wetland areas rather than RCA's.

Saleable mineral development would continue to be authorized within stream channels with riparian areas as long as water quality standards and PFC, at a minimum, could be attained, protected, or maintained. Under the saleable development scenario, regional long-term and significant cumulative impacts are not expected to water resources and riparian/wetland areas. Saleable mineral and ancillary facilities development are expected to create localized surface disturbance over the short term. Any impacts from saleable mineral operations occurring within stream channels and riparian/wetland areas would be minimal because of the exclusion of operations that would not provide attainment of water quality standards and PFC.

Wildland fire disturbance would be the same as Alternative A, except referring to riparian/wetland areas rather than RCA's.

Short-term effects from wildland fire suppression tactics would be the same as Alternative A except as it relates to riparian/wetland areas instead of RCA's.

Impacts from vegetation manipulation projects would be the same type as Alternative A, except in riparian/wetland areas. Alternative B proposes approximately one-third less riparian corridor fence to be constructed (assumption for livestock grazing analysis) than in Alternative A. Because less area is fenced off (buffer) along stream systems in this alternative, short- and long-term adverse impacts may increase from upland vegetation manipulations in the form of overland runoff and sediment transport into streams and riparian/wetland areas that are not in PFC. Impacts would not be expected to be significant when projects are implemented if upland contributing areas are kept small, upland vegetation buffers are left in place adjacent to riparian/wetland areas, and attainment of PFC is achieved.

Forest management would produce the maximum amount of ground disturbances from stand entry for harvesting potential sale volumes based on a per acre figure (244,000 board feet from 35.5 acres versus 220,000 board feet; from 294 acres per year). Localized short- and long-term adverse impacts from forest management practices/prescriptions, described in Alternative A (such as prescribed fire, burning, thinning, harvesting) would affect less acreage in this alternative but would tend to be more significant locally to streams and riparian/wetland areas (not RCA's) because of the concentration of harvest operations per acre. Water yield, seasonal flow characteristics, and sediment transport would be the most adversely affected by commercial timber harvest prescriptions. Application of BMP's and restricted buffer areas surrounding streams and riparian/wetland areas would greatly reduce the potential for forest management practices to affect these areas.

Regional long-term and significant cumulative adverse impacts from forest management practices are expected to be the similar to Alternative A because of the relatively small contributing acreage of the forestland within the watersheds and subbasins.

Woodland management would have the same types of impacts as Alternative A, except as related to uplands, grasslands, forested areas, shrublands and riparian/wetland areas, and treatment of western juniper would only be on 41,500 acres over the life of the plan.

This alternative would treat the fewest acres per year for management of western juniper and quaking aspen in uplands and in riparian/wetland areas for the attainment, maintenance, and protection of water quality and PFC. Therefore riparian/wetland areas would retain existing undesirable western juniper for longer periods, while more acres would maintain the potential for numbers to increase over the long term within riparian areas. Aspen stands would benefit from woodland treatments outside riparian/wetland areas but treatment would occur at a slower rate than Alternative A.

Wild horse impacts would be the same type as in Alternative A in riparian/wetland areas, but would not be limited to only water gaps and isolated access points along streams. The main exception in this alternative compared to Alternative A is that one-fourth fewer new exclusion fences would be constructed (assumption for livestock grazing analysis) adjacent to streams to address adverse effects. Exclusion fences would be placed along streams and in riparian/wetland areas that cannot meet water quality standards nor attain PFC. With the implementation of this alternative, localized short and possibly long-term adverse impacts from wild horses would be the most prevalent along longer stretches of streams and riparian/wetland areas. Regional cumulative impacts would not be expected to be significant from wild horse use of riparian/wetland areas.

Grazing impacts would be much the same as Alternative A, except this alternative would emphasize corridor fencing (see assumptions in Rangeland/Grazing Use, this chapter) along approximately half of the riparian/wetland areas.

Impacts of rangeland projects would be the same as Alternative A, except a lesser number of projects would be proposed and based on riparian/wetlands rather than RCA's.

Recreation impacts would be much the same as Alternative A, except management of existing developed and undeveloped recreation sites would continue along stream channels and riparian/wetland areas. Continued use along streams would increase or at least continue short-term impacts at the present existing rate.

Impacts of unrestricted OHV use would be the same as Alternative A, except addressed in riparian/wetland areas rather than RCA's.

Impacts of roads would be the same type as Alternative A, except as applied to riparian/wetland areas.

Impacts from fencing to control livestock along riparian/wetland areas in SMA's would be similar to Alternative A.

Conclusion: All impacts would be the same type as Alternative A, but to a lesser degree. Water resource and riparian/wetland area management objectives would be met under this alternative except for areas influenced by locatable minerals. Long-term localized adverse impacts to the resources would continue with mineral development in riparian/wetlands.

Alternative C

Impacts: Locatable, leasable, and saleable mineral exploration and development would have the same type of impacts as Alternative A, except it would be not only from within

RCA's, but from areas outside RCA's that have the potential to affect them. The long-term adverse impacts would continue until stream channels, banks, terraces, and uplands became stable. Those mineral operations or facilities that occur within or outside RCA's and have the potential to impact RCA's would be designed to allow for maintenance, protection or attainment of water quality, PFC and RMO's in RCA's. The design features, standard surface reclamation procedures and BMP's could avoid many of the short-term erosion problems. Saleable mineral development, as in Alternative A, would not be authorized within RCA's, therefore impacts would not occur.

Wildland fire impacts outside RCA's would be the same type as Alternative A except appropriate suppression would be used on all possible fires. Appropriate suppression strategies would be implemented within RCA's under this alternative when these areas are in PFC, are attaining RMO's and water quality standards, and could withstand or require fire as a component to promote or maintain natural conditions. If wildfire within RCA's is deemed appropriate, then impacts to existing resources would not be expected. Wildfire and suppression tactic impacts to resources within RCA's that are not in PFC would be the same type as Alternative A if wildfire cannot be suppressed.

Impacts from vegetation manipulation projects would be the same type as Alternative A, except in riparian/wetland areas. Alternative C proposes slightly less than one-half of the riparian corridor fence to be constructed (assumption for livestock grazing analysis) than in Alternative A. Because less area is fenced off (buffer) along stream systems in this alternative, short- and long-term adverse impacts may increase from upland vegetation manipulations in the form of overland runoff and sediment transport into streams and riparian/wetland areas that are not in PFC. Impacts would not be expected to be significant when projects are implemented, if upland contributing areas are kept small, upland vegetation buffers are left in place adjacent to riparian/wetland areas, and attainment of PFC is achieved. Any potential impacts that may occur to RMO's and water quality would be expected to be reduced in RCA's that are in PFC.

Forest management would produce the minimum amount of ground disturbances from stand entry for harvesting potential sale volumes based on a total acre disturbance figure (88,000 board feet from 196 acres versus 220,000 board feet; from 294 acres per year in Alternative A). Localized short- and long-term impacts from forest management practices/prescriptions, described in Alternative A (such as prescribed fire, burning, thinning, harvesting) would affect less acreage in this alternative. Water yield, seasonal flow characteristics, and sediment transport would be the least adversely affected from commercial timber harvest prescriptions under this alternative. Application of BMP's and restricted buffer areas surrounding streams and riparian/wetland areas would greatly reduce the potential for forest management practices to affect these areas.

Regional long-term and significant cumulative adverse impacts from forest management practices are expected to be the similar to Alternative A because of the relatively small contributing acreage of the forestland within the watersheds and subbasins.

Woodland management would have the same types of impacts as Alternative A, except management would be on high priority riparian areas, quaking aspen stands, productive grasslands, forest areas and shrublands.

Implementation of this alternative would be the most aggressive on the management of western juniper and quaking aspen in uplands and RCA's for the attainment, maintenance and protection of water quality, PFC and RMO's and result in long-term beneficial cumulative impacts to the resources. Therefore, RCA's would be managed for the removal of existing undesirable western juniper and the exclusion of seedling reestablishment over the long term within RCA's. Aspen stands outside RCA's would benefit from upland woodland treatments while stands inside RCA's would have stand improvement emphasized over the long term.

Wild horse impacts would be the same type as in Alternative A in riparian/wetland areas, but would not be limited to only water gaps and isolated access points along streams. The main exception in this alternative compared to Alternative A is that more than one-half fewer new exclusion fences would be constructed (assumption for livestock grazing analysis) adjacent to streams to address adverse effects. Exclusion fences would be placed along streams and in RCA's that cannot meet water quality standards nor attain PFC and RMO's. With the implementation of this alternative, localized short and possibly long-term adverse impacts from wild horses would be the most prevalent along longer stretches of streams and RCA's. Regional, cumulative adverse impacts would not be expected to be significant from wild horse use of RCA's.

Implementation of new grazing schedules on uplands and along stream channels would have the same type of impacts as Alternative A, except approximately 30 percent of the RCA's are proposed for corridor fencing (see assumptions in Rangeland/Grazing Use, this chapter) which would require a large number of acres under fence. Corridor fencing would have the same impacts as Alternative A, except grazing schedules would be implemented that emphasize attaining water quality, PFC, and RMO's at a quicker rate. Pastures that contain RCA's in which water quality, PFC, and RMO's cannot be attained would require a change in livestock use or total exclusion from grazing. Exclusions would have the same impacts as Alternative A. This alternative would potentially exclude more acres from livestock use than Alternative A.

The impacts from proposed rangeland project development would be the same as Alternative A, but at a moderate level due to the lower number of projects proposed.

Although the implementation of this alternative provides management for growing recreation uses and changing trends, taking into account impacts to natural values, the impacts would be much the same as Alternative A. Also, existing and potential new developed and undeveloped recreation sites would continue to be found along stream channels and riparian/wetland areas.

OHV would have the same type of adverse impacts as Alternative A, but are expected to occur less often because of the emphasis of natural values in this alternative.

Roads would have the same type of impacts as Alternative A, but short term cumulative adverse impacts would be less.

Impacts from fencing to control livestock along riparian/wetland areas in SMA's would be similar to Alternative A.

Conclusion: The impacts would be the same as Alternative A with the following exceptions: Long-term and cumulative adverse impacts from forest management practices are expected to be insignificant because of the minor amount of stand entry, application of BMP's, and the relatively small contributing acreage of the forestland within the watersheds and subbasins. Over the long term, western juniper management actions would have beneficial cumulative effects on uplands, stream channels, and RCA's by providing less competition between desirable vegetation, reducing erosion, and stabilizing channels and banks.

Alternative D

Impacts: Mineral withdrawal would occur on approximately 269,747 acres in the planning area. In those areas not withdrawn from mineral entry the impacts for locatable, leasable, and saleable mineral exploration and development would be the same as Alternative C. Surface water quality, alluvial unconfined aquifers (water table) and associated riparian/wetland area disturbances would continue to be affected by locatable mineral development and exploration within and outside RCA's that have the potential to affect RCA's.

Wildland fire surface disturbance would have much the same impacts as Alternative C. Also, implementation of this alternative would result in less restrictions on environmental factors associated with wildland fire. This would allow fires of larger magnitude to occur, that would be in prescription under appropriate management response. Most RCA's would not be adversely affected from impacts produced from wildland fires in uplands, if RCA's are in PFC and riparian/wetland areas could withstand or need fire to promote natural conditions.

Impacts from vegetation manipulation projects would be the same type as Alternative A, except in riparian/wetland areas. Alternative D proposes less than one-tenth of the riparian corridor fence to be constructed (assumption for livestock grazing analysis) than in Alternative A. Because less area is fenced off (buffer) along stream systems in this alternative, short- and long-term impacts may increase from upland vegetation manipulations in the form of overland runoff and sediment transport into streams and riparian/wetland areas that are not in PFC. Impacts would not be expected to be significant when projects are implemented if upland contributing areas are kept small, upland vegetation buffers are left in place adjacent to riparian/wetland areas, and attainment of PFC is achieved. Any potential impacts that may occur to RMO's and water quality would be expected to be reduced in RCA's that are in PFC.

Implementation of this alternative would result in no initial ground disturbances from timber harvest. Potential short-term surface disturbances from nonharvest entry would be minimal for on-site erosion and sediment transport to stream systems. Very minor increases in sediment would be expected from site preparation and reclamation procedures. Short-term evapotranspiration rates and increased runoff are not expected upon completion of site prescriptions. With the inclusion of nonharvest site entry, potential erosive factors and their impacts would be the same as Alternative A.

Other forest management prescriptions (such as burning and thinning), without harvesting since it is nonharvest under this alternative, are expected to have similar impacts as Alternative A.

Forest health implementation would result in a slow rate of progress. Drainage basins that contain forested stands at proper stocking levels and species composition would retain the ability for natural processes to transpire while reducing the chance of catastrophic events. Over the long term, those drainage basins not meeting these standards and containing excessive fuel loadings are at a greater risk of high intensity fire. Other long-term affects on these areas may be from insects and disease. Any or all of these in combination would adversely affect forest health and soil productivity thereby producing impacts on water quality, riparian areas and upland drainage basins.

Although impacts would be much the same as Alternative A, woodland management under this alternative would be on high priority riparian/wetland areas, quaking aspen stands, productive grasslands, forest areas and shrublands. Also, treatments aimed at reducing western juniper would be on 83,000 acres over the life of the plan. Over the long term, western juniper management actions would have beneficial cumulative effects on uplands, stream channels, and RCA's by providing less competition between desirable vegetation, reducing erosion and stabilizing channels and banks.

Moderate, but aggressive levels, of western juniper and quaking aspen management in uplands would be done. RCA's would be managed for the removal of existing undesirable western juniper and the exclusion of seedling reestablishment over the long term.

Wild horse impacts would be the same type as in Alternative A in riparian/wetland areas, but would not be limited to only water gaps and isolated access points along streams. The main exception in this alternative compared to Alternative A is that only one-tenth as many new exclusion fences would be constructed (assumption for livestock grazing analysis) adjacent to streams to address adverse effects that would not allow attainment of water quality

standards, PFC, and RMO's. With the implementation of this alternative, localized short and possibly long-term adverse impacts from wild horses would be the most prevalent along longer stretches of streams and RCA's. Regional, cumulative impacts would not be expected to be significant from wild horse use of RCA's.

New rangeland grazing schedules would be much the same as Alternative A, except they would be implemented under this alternative to facilitate recovery and maintenance opportunities for ground cover and productivity of perennial vegetation communities. Pastures with RCA's in which water quality, PFC and RMO's cannot be attained while continuing any season or intensity of livestock use, would require total exclusion from grazing. This alternative allows the maximum allotment and pasture exclusion acreage except for those additional areas identified in Alternative D2.

Although minimal, some pastures contain RCA's that would have corridor fence construction as part of the prescriptions with a change in grazing schedules. Corridor fencing along RCA's would be utilized only within allotments and pastures where fencing would meet management objectives for RCA's and "303(d)" water quality listed streams and allow for the maintenance protection or the attainment of water quality, PFC and RMO's.

Although, this alternative has the fewest rangeland projects proposed, impacts and benefits for any new projects would be similar to Alternative A.

Although management of existing developed sites would continue, implementation of this alternative would result in emphasized dispersed and undeveloped recreation opportunities that in places are found along stream channels and RCA's through low-level development while protecting natural values and providing for site closure or rehabilitation where resource values are jeopardized. The added intensity of recreation management may limit or restrict use, especially in the back country. Some short-term effects would occur from dispersed recreation and use of undeveloped sites in RCA's rather than developed sites; however, the impacts from developed sites would remain relatively constant. Fewer impacts from parking areas and road use would be expected, but adverse affects produced would be the same as Alternative A.

OHV activities in stream channels and RCA's would be the most restrictive under this alternative and result in very few increased short-term adverse effects which would be similar to Alternative A.

Roads and their impacts would similar to Alternative A.

Impacts from fencing to control livestock within RCA's in SMA's would be similar to Alternative A.

Conclusion: Cumulative adverse impacts from locatable and leasable minerals would be similar to Alternative A.

Significant long-term impacts to water resources and RCA's from the locatable mining industry are not expected. This is due to the minimal historic development that has occurred within RCA's or in uplands that have affected these areas, and the small amount of development projected in the mineral scenario expected to occur over the short- and long term of the plan. Therefore, cumulative adverse impacts to water resources and RCA's, from locatable mineral development and exploration, would be expected to be localized and not be considered significant regionally.

Vegetation manipulation project impacts would be similar to Alternative A.

Short-term, long-term, and cumulative adverse impacts from forest management practices are expected to be insignificant because of the minor amount of stand entry, application of

BMP's, and the relatively small contributing acreage of the forestland within the watersheds and subbasins. Forest health implementation rates would present the possibility for large wildfires to occur. Therefore, the potential for short-term, long-term, and cumulative adverse impacts from this would increase. Over the long term, western juniper management actions would benefit uplands, stream channels and RCA's by providing less competition between desirable vegetation, reducing erosion, and stabilizing channels and banks.

Where wild horse activities, new rangeland grazing schedules, OHV activities and recreational use at developed sites occur, impacts would be similar to Alternative A. Because of the emphasis on exclusion in this alternative, adverse impacts would be less.

Any adverse effects that roads have on RCA's should be less severe in this alternative due to more restrictive requirements.

Water resource and RCA management objectives would be met the same as in Alternative A.

Alternative D2

Impacts: Impacts would be the same as Alternative D except for mineral entry and livestock grazing. Additional acreage would be withdrawn from mineral entry within SMA's and from entire pastures available to livestock grazing in riparian/wetland areas that are functioning-at-risk with a downward trend or that are nonfunctioning. Additional acreage would be withdrawn in areas not allocated to livestock grazing based on the following criteria:

1) selected habitat of special status plant species which are vulnerable to grazing by livestock;

2) those stream segments that provide habitat for Federal listed, proposed, or candidate aquatic species, or for stronghold populations of redband trout;

3) selected habitat of sagebrush dependent species, utilizing sage grouse as an indicator species;

4) management corridors of four river segments congressionally designated as NWSR's and four additional river segments found administratively suitable for potential designation by Congress as NWSR's within Alternative C; and

5) selected ACEC's.

Removing livestock grazing from these areas would maximize the functionality of upland and riparian/wetland areas.

By limiting more acreage from mineral entry, the possibility of future impacts to soils, water, and riparian/wetlands from surface and subsurface disturbance would be reduce from those minimal levels expected in Alternative D.

Except for those areas not allocated to livestock grazing, new rangeland grazing schedules would be much the same as Alternative D. Changes to grazing schedules would be implemented by additionally restricting grazing use throughout entire pastures to facilitate recovery and maintenance opportunities in riparian/wetland and water quality impaired areas that have a PFC assessment of nonfunctioning or are functioning-at-risk with a downward trend. Livestock grazing would be restricted from these areas until resource conditions improve to the point were they would sustain use. Pastures with RCA's in which water quality, PFC and RMO's cannot be attained by continuing any season or intensity of livestock use, would retain total exclusion requirements from grazing. This alternative allows the maximum allotment and pasture exclusion acreage and would result in beneficial cumulative impacts to the resources.

OHV activities in stream channels and RCA's would potentially be the more restrictive in this alternative than in Alternative D. Historically, OHV use in RCA's has been sporadic and not presented a large adverse problem. When impacts from OHV use are identified, emergency limitations or closures would be implemented to prevent further degradation. Motorized vehicle supported camping in areas with a designation of limited to existing routes within 150 feet of the routes would be posted as needed to prevent further degradation. This restriction would result in reducing any increased short-term adverse effects to streams and RCA's.

Conclusion: Cumulative impacts would be similar to Alternative D.

Significant long-term adverse impacts to water resources and RCA's from the locatable mining industry not withdrawn from mineral entry are not expected. This is due to the minimal historic development that has occurred within RCA's or in uplands that have affected these areas, and the small amount of development projected in the mineral scenario expected to occur over the short- and long term of the plan and the additional acreage proposed for withdrawal from mineral entry. Therefore, cumulative adverse impacts to water resources and RCA's, from locatable mineral development and exploration, would be expected to be localized and not be considered significant regionally.

Alternative E

Impacts: Mineral development would not occur under this alternative, therefore there would be no adverse impacts to water resources, riparian, and wetland areas.

Natural processes would dictate most wildland fire effects on rangeland vegetation, forest, woodland, and quaking aspen areas. These areas would only be suppressed to protect human life, property, and annual rangelands. Effects from natural processes would both benefit and impact riparian/wetland areas. Over the short-term, impacts from runoff, seasonal flow alterations, and sediment transport from contributing drainage basins would decrease. Over the life of the plan, drainage channels and RCA's that are not in PFC and contain undesirable woody species would continue to not function properly. Drainage basins that contain diverse species composition and are functioning properly would continue to improve, while the chance of catastrophic events occurring in these areas would be reduced. Those drainage basins with RCA's that contain vegetation comprised of annuals, undesirable woody species, excessive insect damage and disease, excessive fuel loadings, and do not have the proper species diversity are at greater risk of high intensity fire. All of these in any combination would adversely affect landscape health and soil productivity, thereby producing impacts on water quality, riparian/wetland areas, and upland drainage basins. The greatest potential of long-term and cumulative adverse impacts would occur under this alternative.

Although the type of adverse effects from wild horse activity along stream channels and riparian/wetland areas would be the same as Alternative D. Impacts to streams and RCA's would be less because competition from livestock grazing has been removed. Short-term impacts to water quality and riparian/wetland areas would cycle according to increases and declines of managed wild horse herd populations.

Rangeland grazing would not occur under this alternative, therefore there would be no adverse effects.

Only limited developed and undeveloped recreation sites associated with congressionally designated areas would be managed. Although existing developed recreation sites would continue their impacts, use would decrease. However adverse short-term effects from dispersed recreation and use of undeveloped sites would increase. Even though fewer impacts from parking areas and road use would be expected; adverse impacts produced by improper disposal of domestic, horse or pack stock and human waste would increase. Impacts from day-use areas and popular hiking trails would be similar to Alternative A.

The lack of recreation management in most areas would result in significantly degraded water resources and riparian/wetland area condition.

Since OHV use is the most restrictive under this alternative, short-term adverse impacts from vehicles would not occur. No new read construction would occur across stream channels and in riparian/wetland areas; however adverse impacts from erosion and sediment transport would increase from roads deteriorating due to lack of maintenance over the long term.

Conclusion: The greatest potential of long-term and cumulative adverse impacts from affected uplands on drainage basins, water quantity and quality, and riparian and wetland areas would occur under this alternative.

Natural processes would dictate wildland fire effects on rangeland vegetation, forest, woodland, and quaking aspen areas. These areas would only be suppressed to protect human life, property, and annual rangelands. Affects from natural processes would both benefit and impact riparian/wetland areas that are not suppressed.

The lack of recreation management in most areas would result in significantly degraded water resources and riparian/wetland area condition.

Water resource and riparian/wetland area management objectives would not be met in many stream channels and riparian/wetland areas under this alternative. Long-term and cumulative adverse impacts both locally and regionally could occur if natural processes are dictated by future wildfire with existing resources in their present condition.

Proposed RMP

Impacts: Surface water quality, alluvial unconfined aquifers (water table) and associated RCA's, PFC, and RMO would continue to be affected by locatable mineral development and exploration within RCA's and contributing watersheds. Although all practicable measures to restore and maintain fish and wildlife habitat, riparian/wetland areas, and water quality are required of mining operators, impacts to these resources would continue to occur. Placer mining and extraction of minerals from these areas would disrupt the natural and proper function of these sites especially over the short term and may extend outward, but diminish in significance over the long term.

Short-term adverse impacts originate and continue with the day-to-day mining disturbances to stream channels and aquatic and riparian habitats within RCA's and from contributing watersheds. Water quality standards, PFC, and RMO's cannot be attained in RCA's until localized disturbances from mineral activities cease or become negligible as mining activities relocate.

Long-term adverse impacts are associated with disturbances to the vegetation and structure of the stream channels and uplands that affect water quality (temperature and sediment) standards. These impacts occur at the time of mineral extraction and continue until such time as stream channels, banks, terraces, and uplands become stable, then revegetate with species that provide diversity and an adequate or complex age class distribution. Vegetation diversity and age class structure that are necessary for proper functionality of the watershed, stream channel, and riparian/wetland areas may take many decades to become reestablished.

Additional impacts to RCA's may occur when structures, support facilities, and roads are located inside RCA's because no practicable alternatives exist. Although facilities are to be located and constructed in a manner to minimize unavoidable impacts to RCA's and streams and to minimize adverse effects on aquatic resources, there would be short-term localized surface impacts to these disturbed sites.

Locatable mineral development scenarios for gold/silver open pit and underground mining operations are projected to be developed in the foreseeable future. Many of these areas of development contain low concentrations of arsenic, mercury, selenium, molybdenum, and other metals within the mineral deposit that would lead to possible localized groundwater contamination. Operations such as these have the possibility to intercept groundwater in confined and unconfined aquifer systems and alter the geochemistry of the water within their zone of influence. Many aquifer regimes, including geothermal hot springs (Mariner et al. 1994), occur throughout the planning area but are not regionally extensive or interconnected. Therefore, adverse water quality or subsurface flow impacts from open-pit or underground operations would occur only on a local basis and have no cumulative adverse effect on regional groundwater resources.

Development of water source wells, geophysical shot holes, core test holes, geothermal, and monitoring wells is regulated by the State and/or Federal government. With proper installation and regulation, development of energy and mineral resource wells would not adversely impact local groundwater regimes.

Under the leasable development scenarios, regional long-term and cumulative adverse impacts are not expected to upland watersheds, water resources, and riparian/wetland areas. Leasable mineral and ancillary facilities development are expected to create localized surface disturbance over the short term. Any leasable mineral operations impacts that occur within watersheds and RCA's would be minimal because of the application of standard and special stipulations and the exclusion of operations that would not provide attainment of PFC and RMO's. Revegetating existing disturbed areas would help minimize impacts, thereby improving soil-water infiltration and water retention and reducing the potential for concentrated overland flows. When these measures are not properly addressed or remain unchecked, the result is continued degradation which contributes to gully formation, stream bank erosion, and reduced water quality. Many of these short-term erosion problems created by leasable and locatable mineral development would be avoided by applying standard design features and BMP's to potential disturbance areas before development.

Those mineral operations or facilities that occur within RCA's or contributing watersheds and have the potential to impact RCA's would be designed to allow for maintenance, protection or attainment of water quality, PFC and RMO's in RCA's. Therefore, any mining operations, whether locatable, leasable, or saleable, that would adversely affect overland flow, erosion rates, and increase sediment transport to RCA's would be required to meet regulations and laws that currently apply. By designing operations to meet water quality standards, incorporating BMP's, and adhering to State and Federal laws and regulations there would be minimal adverse effects to water quality, PFC, and RMO's in RCA's.

Saleable mineral development would not be authorized within RCA's, therefore impacts would not occur to water resources and riparian/wetland areas.

Appropriate suppression strategies would be implemented within RCA's when these areas are in PFC, are attaining RMO's and water quality standards, and could withstand or require fire as a component to promote or maintain natural conditions. If wildland fire within RCA's is deemed appropriate, then long-term impacts to existing resources would not be expected. Surface disturbance activities from wildland fire would cause short-term impacts to surface water quality, PFC, RMO's and RCA's. Infiltration rates are likely to decline immediately following wildland fire, causing an increase in overland flows. Prior to vegetation regrowth, burned areas subjected to high intensity storms would contribute to flashy runoff and an increase in erosion and sediment transport. Strategies on all wildfires threatening or within riparian/wetland areas would be to fully suppress all possible fires. Most RCA's would not be adversely affected by fire if it is suppressed before entering an RCA. If conditions within RCA's are not meeting PFC, RMO's and water quality, then appropriate suppression strategies would call for stopping fire before it enters RCA's. Adverse effects to RCA's that are not functioning properly would be expected to be of similar type but at a greater intensity.

Short-term effects from fire suppression tactics in RCA's that are in PFC and have met RMO's would be less adverse, and functionally would respond quicker to revegetation and rehabilitation efforts. Also, the suppression tactics such as fireline construction and vegetation removal would be less adverse in RCA's that are properly functioning and capable of withstanding fire within the wetted riparian/wetland areas. Fire suppression activities in RCA's that are not in PFC would have the potential to cause increased short-term adverse effects to water quality and RMO's by potentially increasing sediment, streambank erosion and reducing thermal cover. Impacts from fire suppression tactics and fire surface disturbances would not be expected to be significant within those RCA's that are in PFC and have the ability to rebound.

Vegetation manipulation projects proposed outside RCA's would affect the physical characteristics of soil surfaces and alter the abundance and types of vegetation that shield soil from water erosion. Treatments aimed at reducing excessive undesirable woody species, such as sagebrush and western juniper, while increasing herbaceous species would aid in reducing excessive runoff and potential erosion, while improving soil stability and infiltration. Short-term loss of vegetation cover may result in increased erosion and a temporary increase in sedimentation from high intensity summer storms; however, erosion from snowmelt and gentle rainfall would be limited. Recovery of the desirable vegetation community would improve infiltration rates, help extend stream channel baseflow, and provide for sediment control. These would be contingent upon the degree of damage and revegetation success. Short-term effects, from overland runoff and sediment transport on RCA's, would not be significant because of the limited amount of acreage affected in riparian/wetland areas. Some RCA's would be excluded from use by fences which would create buffers areas along streams and riparian/wetland areas. Over the long term, these fenced areas would filter most overland flows and sediment transport produced from vegetation treatments within RCA's and uplands. Benefits derived from fencing would be increased soil stability and vegetation growth and improved water quality. In areas where RCA's are not fenced (buffer) along stream systems, short- and long-term impacts may increase from upland vegetation manipulations in the form of overland runoff and sediment transport into streams and riparian/wetland areas that are not in PFC. Impacts would not be expected to be significant when projects are implemented, if upland contributing areas are kept small, and upland vegetation buffers are left in place adjacent to riparian/wetland areas. Any potential adverse impacts that may occur to RMO's and water quality would be expected to be reduced in RCA's that are in PFC.

Regional long-term and cumulative adverse impacts to water resources and riparian/wetland areas are not expected from forest management. The effects, including those of associated road building, would be localized and short term because of the relatively small contributing acreage of the forestland within the watersheds and subbasins. The short-term impacts would be avoided or lessened by application of site-specific prescriptions, surface reclamation, and BMP's prior to, during, and after all proposed phases of operations.

Forest management practices within land that contains RCA's would require prescriptions (including the beneficial uses identified by ODEQ) that provide for the attainment of water quality standards, PFC, and RMO's in these areas.

Implementation would result in initial ground disturbances from stand entry for conducting forest management prescriptions. Short-term surface disturbances would increase the potential for on-site erosion and sediment transport to stream systems. Minor increases in sediment would also be expected from haul roads, skid trails, site preparation, and reclamation procedures. Most forest management practices would locally reduce short-term evapotranspiration rates and increase runoff. Potential erosive factors generated from actions such as site entry, precipitation impact, and increased snowpack accumulation in open areas would decrease as revegetation occurs. Increased vegetation cover would enhance site productivity and plant vigor over the long term. Use of existing trails would be emphasized also to reduce potential compaction and erosion.

Some forested areas contain thick conifer stands with heavy fuel loads presenting the possibility for intense slow-moving fire on steeper slopes and/or in scattered jackpots. Fuels that burn under these conditions tend to adversely affect soil nutrients and structure. To protect soil characteristics during prescribed fire applications, seasonal and moisture condition restrictions would be incorporated into burn plans. Prescribed fire would only be used when it helps restore upland soil productivity; invigorates shrub, forb, and grass components; promotes forest health; and enhances on-site vegetation growth.

Overland runoff and seasonal streamflow characteristics are expected to be altered from forest management prescriptions, such as under burning, thinning and harvesting. Upon completion of forest health prescriptions, water yield would increase from areas affected by vegetation removal. Increased water yield would continue from affected areas for many years, but would diminish each year as vegetation regrowth occurs on-site. Water yield and seasonal streamflow may increase over the short term, affecting water quantity and quality locally, but amounts would not be significant. This is because of the small number of acres affected, the site-specific forest health prescriptions, and the expected increase of existing vegetation cover and productivity on-site once operations are complete.

Increased water yield or concentration of flow caused by surface disturbances and subsequent sediment transport to stream channels and RCA's within the forestland require specific buffer areas to provide filter strips for sediment reduction to live streams. To further reduce possible sediment transport off-site, down-log requirements would be provided per acre to intercept and retard overland runoff. RCA buffer areas would aid in the protection and recovery of existing riparian vegetation, provide shade for air and water temperature control, and perform as filter strips for sediment reduction to live streams.

Increased herbaceous and shrub cover in open areas created by burning, thinning, and harvest prescriptions would tend to draw wildlife and livestock from streams and riparian/wetland areas allowing the existing riparian species to flourish, thus improving beneficial vegetation, sediment reducing and stream building factors associated with RCA's.

Woodland management on high priority riparian areas, quaking aspen stands, upland grasslands, forested areas, and shrublands would have short-term adverse effects on water quality and quantity and RCA's. Upland treatments that are aimed at reducing western juniper encroachment (75 percent or about 124,500 acres over the life of the plan), enhancing production of forage and wood products, and increasing desirable herbaceous, shrub, and tree species (including quaking aspen) would alter existing watershed runoff and erosion characteristics. In the short-term, water quantity and overland flow would increase within areas influenced from treatments such as, reduced raindrop interception, sparse herbaceous vegetation, and increased snowpack accumulations. Whereas water quality would decrease over the short-term within the same drainages associated with these treatments from increased surface disturbances and sediment transport. Over the long-term, western juniper management actions would benefit uplands, stream channels and RCA's by providing less competition between desirable vegetation, reducing erosion and stabilizing channels and banks.

Woodland management treatments would be aggressive on the improvement of quaking aspen stands in uplands and RCA's for the attainment, maintenance and protection of water quality, PFC and RMO's. RCA's would be managed for the removal of existing undesirable western juniper and the exclusion of western juniper reestablishment over the long-term within RCA's. Quaking aspen stands outside RCA's would benefit from upland woodland treatments while stands inside RCA's would have individual stand improvement emphasized. These treatments would increase the rate of improvement of quaking aspen stands within RCA's and assist in the attainment of water quality, PFC, and RMO's in those areas that are not in functioning condition.

Wild horse activities along stream channels and riparian/wetland areas would result in short-term adverse effects to water quality and the maintenance, protection, or attainment of PFC and RMO's in RCA's. Major effects that may occur from concentrated wild horse use on these areas are the rutting and trampling of soft and saturated ground, excessive yearlong streambank vegetation utilization, and increased potential for erosion and sediment transport. These impacts originate from well-used, entrenched access trails to water sources that intercept overland flow and allow stream channel alterations. Impacts to water quality, PFC, or RMO's in RCA's from wild horse use would be short term only because appropriate actions to adjust AML's to "meet a thriving ecological balance" would be implemented to prevent further degradation and promote improvement. Some new exclusion fences would be constructed (assumption for livestock grazing analysis) adjacent to streams to address adverse effects. Exclusion fences would be placed along streams and in RCA's that cannot meet water quality standards nor attain PFC and RMO's. Fencing would concentrate herds at water sources and limit their use to available water gaps and isolated access points along streams. Localized short- and possibly long-term impacts from wild horses would be the most prevalent along longer stretches of streams and RCA's. Regional, cumulative impacts would not be expected to be significant from wild horse use of RCA's.

Implementation of new rangeland grazing schedules on uplands and along stream channels and riparian/wetland areas would result in long-term beneficial effects to water quality and the maintenance, protection, or attainment of PFC and RMO's in RCA's. To provide for continuation of livestock grazing, new schedules would be proposed that may incorporate changes such as season of use, numbers, corridor fencing, and exclusion. Adverse effects to riparian/wetland areas (described in Chapter 2) would continue until new systems can be implemented. Corridor fencing along RCA's would not be emphasized within allotments and pastures, including those areas in the Owyhee NWSR system and streams determined administratively suitable for wild and scenic designation, that are conducive to new grazing schedules that allow for the maintenance, protection, or the attainment of water quality, PFC, and RMO's. Pastures containing RCA's that are neither conducive to grazing schedules nor feasible for corridor fence construction would require total exclusion from grazing. Although total exclusion acreage would be minimal in these cases, this prescription remains a valid possibility adjacent to springs, reservoirs, wet and dry meadows, and stream channels until RCA's have sufficient rest for maintenance and recovery of beneficial uses and attainment of water quality, PFC and RMO's.

Implementation and development of some rangeland projects would cause adverse effects to water quality and riparian/wetland areas. New rangeland projects in RCA's would cause short-term surface disturbances from construction and long-term localized soil compaction and interception of overland runoff from trails associated with concentrated livestock use around projects such as reservoirs and fences. Water quality and riparian/wetland areas would benefit from development of some corridor fences and off-stream water sources which remove livestock from drainage channels. Upland areas, such as around wells, pipeline troughs, springs and reservoirs, would encounter more adverse long-term impacts from concentrated livestock use. As livestock migrate outwardly from these areas, impacts attributed from concentration to the soil profile and overland runoff in the form of compaction and heavier utilization of vegetation lessen and become negligible. Ground disturbances from construction of rangeland projects, including cattleguards and pipelines, usually produce only short-term localized impacts to soils and overland runoff when BMP's are applied and projects are developed properly (Appendix S and O). Development of off-stream water sources are dependant on acquiring permits and water rights from Oregon's Water Resource Division. Water rights are increasingly more difficult to obtain because of the large demands for limited State-owned water and the restrictions, closure of basins, and changes in Oregon water laws. This difficulty could lead to fewer approved livestock watering developments off-stream and more livestock exclusion from pastures to meet water quality, PFC, and RMO's in RCA's. Another alternative to off-stream water is development of water gaps when corridor fencing is constructed. Long-term localized adverse impacts from these small watering areas along streams and riparian/wetland areas is the rutting of

soft and saturated ground, trampling of stream banks, alteration of channel vegetation, and increased sediment yield to streams. BMP's would be applied during construction of projects to minimize the effects on stream channels and riparian/wetland area vegetation.

Implementation of this alternative would provide for increased recreational use by providing or considering additional recreational sites or expanding existing areas to meet high public demand, address safety concerns, or for resource protection. Increased recreation use at developed sites and around water bodies would result in some adverse effects to water quality and the maintenance, protection, or attainment of PFC and RMO's in RCA's. These effects may include improper disposal of domestic, horse or other pack stock, and human waste; increased soil compaction and sediment yield from camping areas; boat ramps, trailheads, access roads and parking areas; and excessive seasonal or yearlong streambank and vegetation trampling and utilization. Dispersed recreation and use of undeveloped sites would be similar but of lesser magnitude and result in fewer impacts from parking areas and road use. Within RCA's, localized short-term impacts would occur from day-use areas and popular hiking trails that are well-used and entrenched, contain compacted soil surfaces, and intercept overland flow that permits sediment transport to streams. When impacts from recreational use are identified, appropriate actions would be implemented to prevent further degradation and promote improvement. The application of recreation BMP's would reduce adverse effects to water quality, and riparian/wetland areas.

OHV activities in stream channels and riparian areas may result in increased short-term adverse effects. Major effects from concentrated OHV use include the rutting of soft and saturated ground, streambank and channel alterations, and the increased potential for erosion and sediment transport. Historically, OHV use in RCA's and contributing watersheds has been sporadic and not presented a large adverse problem. When impacts from OHV use are identified, emergency limitations and closures would be implemented to prevent further degradation. Motorized vehicle supported camping in areas with a designation of limited to existing routes within 150 feet of the routes would be posted as needed to prevent further degradation. This restriction would result in reducing any increased short-term adverse effects to streams and RCA's.

Roads can be a major source of sediment transport from surface-disturbing activities in RCA's and contributing stream systems throughout watersheds. Roads currently located parallel to and across RCA's would continue to act as sediment corridors to stream channels, affecting water quality, PFC, and RMO's. This would continue until the district's transportation plan is developed and interdisciplinary teams can conduct evaluations and then manage problem areas. New road construction would not occur in RCA's and is expected to be extremely limited throughout contributing watersheds. Potential for adverse affects occurring in RCA's from existing roads could be reduced by seasonal road restrictions and those roads closed, recontoured, and revegetated that were no longer needed for current or foreseeable mineral, public use, or land management activities. Adverse effects to water quality and riparian values in RCA's would be expected to be low. The application of BMP's, and applying management for the maintenance, recovery, and attainment of water quality standards, PFC, and RMO's would reduce most road-related short-term and long-term impacts within RCA's.

New grazing schedules would be implemented to control livestock along riparian/wetland areas in NWSR's to protect and enhance ORV's, WSA's and other SMA's when existing schedules are not conducive for attainment of desired objectives. When WSA's overlap portions of NWSR corridors, WSA IMPLWR would present additional restrictions on the construction of fences to control livestock within riparian/wetland areas. If fencing is required to control livestock in these areas and cannot be constructed, then the only alternative left would be total exclusion within riparian/wetland area pastures.

Conclusion: Adverse cumulative impacts from locatable mineral development and exploration, would be significant locally but not regionally. Ground water resources would not be

adversely affected regionally, although elevated levels of water contaminants may occur in localized areas over the long term. Localized surface disturbances are expected over the short term from leasable mineral development.

Vegetation manipulation projects would create insignificant short-term adverse effects and significant long-term beneficial effects. Forest and woodland management would have short-term adverse effects. Long-term and cumulative impacts from forest management practices are expected to be insignificant because of the minor amount of stand entry, application of BMP's, and the relatively small contributing acreage of the forestland within the watersheds and subbasins. Over the long term, western juniper management actions would benefit uplands, stream channels and RCA's by providing less competition between desirable vegetation, reducing erosion, and stabilizing channels and banks.

Wild horse activities would result in short-term adverse effects until management is implemented to correct impacts. Implementation of corridor fencing needed to control impacts from horses along stream channels and riparian/wetland areas would create localize long-term effects from concentrated use and access to water sources.

Implementation of new rangeland grazing schedules would result in long-term beneficial effects. Existing long-term and cumulative adverse impacts would continue until new grazing schedules are implemented. Although regionally insignificant, localized and very site-specific long-term adverse effects from livestock watergap development would occur. Short-term and long-term adverse impacts from livestock developments would continue.

Recreational use at developed sites and concentrated use around water bodies would result in short-term adverse effects. Adverse short-term effects from dispersed recreation and use of undeveloped sites would be similar but of lesser magnitude and result in fewer impacts from parking areas and road use. Localized short-term impacts would occur from day-use areas and popular hiking trails.

OHV activities would result in increased short-term adverse effects. Long-term adverse impacts from roads would continue. However, a transportation management plan that includes BMP's would be developed and implemented to mitigate these impacts.

Water resource and riparian/wetland area management objectives would be met under this alternative except for areas influenced by locatable minerals. Implementation of new rangeland grazing schedules and vegetation manipulation projects would result in long-term beneficial-cumulative effects on a watershed scale, both for uplands and riparian/wetland areas. Short-term, long-term, localized, and cumulative adverse impacts would continue from livestock developments and watergaps that are developed for livestock and wild horse use. These impacts would also continue to occur in riparian/wetland areas that are not functioning properly and are associated with domestic livestock, until new grazing schedules are implemented. Recreational use at developed sites and concentrated use around water bodies would potentially result in both short- and long-term localized-adverse effects from dispersed recreation and use of undeveloped OHV activities, while long-term impacts from roads would continue.

Summary of Impacts

Alternatives A through D2, and the Proposed RMP would meet water resource and riparian/wetland (RCA's) objectives except for significant localized adverse impacts from locatable mining operations in riparian/wetland areas which are authorized under law. Alternative E would meet these objectives only in the absence of large scale catastrophic wildfires.

Alternative A would have more localized short- and long-term minor adverse impacts from most activities and uses occurring in uplands to streams and riparian/wetland areas than Alternatives B through D2, and the Proposed RMP. Alternatives B, C, and the Proposed

RMP would have more localized short- and long-term minor impacts from most activities than Alternative D and D2.

Fish and Aquatic Habitat

Objective: *Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.*

Assumptions common to alternatives: Analysis based on effects on stream habitat also represents effects on lake or reservoir habitat.

Management activities that improve vegetation in uplands and riparian areas are assumed to decrease spring or storm event flows and reverse the negative effects of excessive runoff on aquatic habitat.

Effects of water quality management plans or total maximum daily loads (TMDL's) on fish habitat under all alternatives are expected to be negligible or positive. The required management would not differ by alternative.

No saleable mineral activity would be permitted in RCA's (except in Alternative B).

Management for designated NWSR corridors would result in continued protection or enhancement of the river. Short- and long-term effects should be positive for fish resources within designated corridors for all alternatives.

Alternative A

Impacts: Any new or ongoing activity that contributes to surface disturbance could adversely affect fish habitat. By altering timing and amount of surface runoff, surface disturbance could result in increased erosive energy, loss of ground cover, and increase in fine sediments. For aquatic habitat, the result would be decreases in fish spawning substrates, decreases in overhanging vegetative cover, decreases in instream cover and habitat diversity (such as undercut banks, scour pools, woody debris, rootwads), increases in summer temperatures, decreases in summer dissolved oxygen, decreases in high flow holding areas, decreases in winter holding areas, and decreases in invertebrate production. Surface disturbance may occur in mining; active management for soils, water quality, riparian areas, and wildlife habitat; wildland and prescribed fire; range, woodland, forest and quaking aspen management; western juniper treatment; wild horses; grazing management; recreation; roads; and authorization for rights-of-way, leases, permits, and utility corridors. For this alternative, relative intensity of impacts due to surface disturbance will be discussed under specific activities.

Surface-disturbing activities associated with mineral activities include construction of access roads and site facilities as well as the surface or subsurface disturbance caused by the mining operation itself. Because fish habitat is affected by subsurface flow, negative impacts to fish habitat could occur through localized ground water contamination. Saleable mineral activity would not be permitted in RCA's; therefore, saleable mining would not directly impact fish habitat. In land designated as open for leasables and locatables, impacts to fish habitat could be severe; however, the incidence of mineral activity in the planning area is low. Significant long-term negative effects on fish habitat should not occur because standard stipulations require compliance with the "Clean Water Act" (CWA) and "Endangered Species Act" (ESA). For leasable with NSO designations, impacts on fish habitat would be reduced depending on location of the mine within the watershed. Fish resources could be protected with an additional NSO buffer beyond the riparian area to reduce impacts from directional drilling, access road construction, and erosion or runoff from the drill site. In areas closed to mineral development, no negative effects to fish habitat would occur.

Management for ACEC's, whether or not fish are designated as a relevant or important value, generally would have positive effects on fishery resources, but the extent of benefits would vary with the number, sizes, and use restrictions of the ACEC's proposed. The protections to resources afforded by ACEC's would be especially beneficial for those areas without other protective designations such as NWSR. This alternative proposes 4 ACEC's that impact fish-bearing streams.

Active management for soils, water quality, and riparian areas/wetlands, including management for wildlife habitat in these areas, would result in positive effects on fish habitat. Focus for soils management is on improving the productivity of the soils, which would allow improvements in the upland and riparian vegetation. Short-term negative effects may occur during project implementation, but effects would be minimized or eliminated through mitigation. Because Alternative A focuses on commodity-use fish species, long-term improvements for overall fish habitat would be slow to achieve.

Wildland fire, prescribed fire, and their associated management activities have the potential to affect fish habitat. Short-term negative affects could result from fire in general because of the temporary loss of vegetative ground cover. Because the high use of prescribed fire in this alternative would reduce the intensity of wildland fires and because prescribed fire plans can be designed to minimize negative impacts on fish habitat, long-term negative impacts to fish habitat by fire would be less. Long-term improvements in fish habitat are expected with the establishment of perennial plant communities that could occur after a fire.

Rangeland and woodland (western juniper and quaking aspen) management designed to establish or improve native plant communities may result in disturbances. Short-term effects may be negative from surface-disturbing practices, such as prescribed fire or mechanical vegetation removal, but these effects would be minimized through mitigation. Long-term improvements to fish habitat would occur.

Forest management at the proposed treatment rate of 300 acres per year could have short-term negative results on fish habitat because of vegetation removal and road or site construction. Although no fish-bearing streams occur in proposed commercial harvest areas, forest practices could impact headwaters and tributaries to fish habitat. Short-term negative effects could occur during site preparation and harvest activities, but mitigation would minimize these and forest management prescriptions for RCA's would provide additional protections. Noncommercial treatment for forest health may provide long-term benefits to fish habitat by reducing the potential for high and low intensity fires and their impacts on water quality.

Treatment for encroaching western juniper on 124,500 acres could result in potential short-term degradation from soil erosion and increased surface runoff until desired vegetation can become reestablished. In the long-term, treatment of encroaching western juniper would improve fish habitat. Greater species and structural diversity of rangeland and riparian vegetation would promote long-term improvements in water quality, riparian functioning condition, and instream processes (such as nutrients from leave litter) that affect fish habitat. Post-treatment vegetation management could also affect fish habitat but is addressed under effects of grazing management.

Aspen management would cause short-term negative effects on fish habitat due to temporary loss of species diversity, structure, and understory cover. A source for woody debris would also be lost in streamside quaking aspen areas, but impacts are expected to be mitigated prior to treatment. Long-term improvements to fish habitat would occur as quaking aspen stands recover and again contribute to natural hydrologic and ecological processes that influence fish habitat. Recovery may be delayed because livestock are not excluded from quaking aspen stands until grazing impacts are apparent.

Wild horses may cause short-term negative effects on fish habitat inside HMA's. Surface disturbances and loss of vegetation in the uplands and riparian areas could occur, especially

when numbers are concentrated around springs or riparian areas. These negative effects would continue until herds are maintained at levels that allow water quality standards and PFC to be met in streams and other surface waters that affect fish habitat.

Fish habitat in general is expected to improve under rangeland/grazing use management. Improvements to fish habitat would result from management developed to meet rangeland health standards. Livestock grazing systems would be maintained, developed or revised to improve upland and riparian vegetation and reduce physical degradation of streambanks and wet areas, such as springs, in order to attain water quality standards and PFC. Structural range improvement projects, such as fences, have the potential for short-term negative effects on fish habitat through surface disturbance, but the effects are expected to be minimized or eliminated through mitigation. Changes in grazing management would cause short-term improvements to fish habitat, especially with 1,000 miles of riparian corridor fence proposed under this alternative. Long-term improvements to fish habitat would occur as upland and riparian conditions throughout the associated watershed improve. Because Alternative A focuses on riparian area management and commodity fish species rather than entire watersheds, long-term improvements may be slow to achieve.

Construction of recreation facilities could cause short-term negative impacts to fish habitat due to surface disturbances, but because of small construction areas and potential for mitigation, overall negative effects to fish habitat are expected to be negligible. Increased recreation use may cause short-term negative effects on gamefish populations due to higher angling pressure, but coordination with Oregon Department of Fish and Wildlife (ODFW), which has jurisdiction over angling regulations, would lessen fishing impacts. Increased recreational use and higher foot or vehicular traffic can cause short-term disturbances to riparian areas and fish habitat until access restrictions are imposed. Alternative A provides for large numbers of recreational facilities that could indirectly provide long-term improvement to fish habitat by distributing recreation impacts.

Degradation of fish habitat from OHV's results from compaction of soils and riparian vegetation and sediment runoff from roads. Effects could be short- or long-term. When impacts from OHV use to riparian areas are identified, emergency limitations and closures would be implemented to prevent further degradation.

Streams found suitable for NWSR designation would be managed under interim measures to protect ORV's. If fisheries were identified as an ORV, emphasis would be on protection of fish as well as other ORV's, and the overall effect would be positive. If fisheries were not an ORV, protection of fish would be an indirect, long-term effect of the protection and enhancement of other ORV's. Some short-term negative effects to gamefish populations may occur due to increased visitor use and angling pressure whether or not fish are identified as an ORV, but long-term impacts on fish populations would be mitigated through coordination with ODFW.

Parcels of land containing waters with significant fish habitat would normally be retained or acquired. Effects on fish habitat from acquiring land is expected to be positive because of increased opportunity for watershed-level management. Effects on fish habitat from land disposal through exchanges or sales are expected to be negligible.

For Alternative A, authorization of rights-of-way, leases, and permits could result in short-term negative impacts to fish habitat through construction or other activities, but effects are expected to be minimized or eliminated through mitigation. Long-term effects are expected to be negligible or mitigated.

For Alternative A, utility or transportation corridors could result in short-term impacts to fish habitat during the construction or installation phase when surface disturbance could occur. Little fish habitat is located within these corridors. Impacts are expected to be minimized or eliminated through mitigation.

New road construction is expected to be extremely limited. Short-term effects could occur during construction but are expected to be minimized through mitigation and adherence to BMP's. Short- and long-term effects from upgrading road and stream crossings would be negligible.

Conclusion: The fish objective would be met under Alternative A. Short-term impacts may result from several surface-disturbing management activities, but most of these impacts could be minimized or eliminated through mitigation. Although long-term improvements in fish habitat may be slow, they would occur at a faster rate than under Alternative B. This alternative focuses on riparian areas instead of entire watersheds and emphasizes improvements to commodity fish species rather than fish communities.

Cumulative short-term disturbances to fish habitat may occur during restoration activities, such as prescribed burning, but would lead to overall watershed improvement. In areas where minerals and western juniper management both occur, cumulative effects of short-term disturbances could be reduced if timing of activities do not coincide.

Alternative B

Impacts: Impacts to fish habitat as described in Alternative A would be similar for wild horses, land acquisition, rights-of-way, utility corridors, and road construction. Impacts for mineral activities would be similar to Alternative A, except that RCA's, and consequently fish habitat, would be open for saleables.

For management of soils, water resources, riparian, wetland, and riparian-related wildlife habitat, long-term improvements to fish habitat would take longer to achieve, because this alternative focuses on species-specific management rather than riparian processes.

Because less prescribed fire would be used than Alternative A, fewer short-term negative impacts and long-term improvements on fish habitat would occur.

Effects of rangeland vegetation management are similar to Alternative A, except that less acreage would be manipulated for maximizing forage species.

Effects of forest management are similar to Alternative A, except more short-term negative effects may occur because harvest levels are slightly higher and the level of noncommercial harvest activities is higher.

For western juniper management, the potential for short-term negative effects and long-term positive effects on fish habitat is lower than Alternative A due to smaller treatment acreage.

For quaking aspen management, long-term improvements to fish habitat may be faster than under Alternative A because grazing practices could be altered before stand degradation occurs.

Fewer short-term beneficial effects of grazing management on fish habitat would occur, because fewer miles of riparian corridor fence would be constructed. Long-term improvements may be slower because this alternative emphasizes site-specific management instead of riparian area management.

Because Alternative B has no new recreation facilities to distribute impacts, recreation use may be concentrated in certain areas and negatively impact fish habitat. However, surface disturbance caused by construction would not occur, and absence of facilities would discourage increases in recreational use and associated degradation of fish habitat.

OHV use has less potential for negative impacts on fish habitat than Alternative A because less fish habitat occurs in areas open to OHV's.

Management for ACEC's would have fewer positive effects on fishery resources because most existing ACEC's are open for mineral activity, and no new ACEC's are proposed.

Management for suitable NWSR corridors may be less beneficial to fish habitat than Alternative A because fewer miles of fish habitat are proposed. All proposed corridor miles provide habitat for gamefish.

Conclusion: The fish objective would be met. Short-term impacts may result from several surface-disturbing management activities, but most of these impacts could be minimized or eliminated through mitigation. Long-term improvements in fish habitat would occur but may be slow. This alternative focuses on specific sites rather than riparian or watershed ecosystems. The emphasis on single-species management targets improvements to gamefish species rather than fish communities.

Cumulative effects are similar to those for Alternative A, except fewer short-term disturbances from construction of recreational facilities, OHV use, prescribed fire, and vegetation management would occur.

Alternative C

Impacts: Impacts to fish habitat described in Alternative A would be similar for wildland fire and prescribed fire, western juniper management, wild horses, land acquisition, rights-of-way, utility corridors, and road construction.

Effects of mineral activities on fish habitat would be somewhat less than under Alternative B because fewer stream miles would be open to energy and mineral activities.

For management of soils, water resources, riparian, wetland, and riparian-related wildlife habitat, long-term improvements to fish habitat would take less time to achieve than under Alternative A, because this alternative focuses on watershed-level management that restores native plant communities and natural processes that are expected to provide most long-term benefits to aquatic resources. Management for habitats that support communities of fish rather than single species would result in more effective long-term improvements.

Benefits of rangeland vegetation management to fish habitat would be greater because of emphasis on diverse plant communities rather than primarily forage species.

Potential impacts of forest management on fish habitat would be less than under Alternative A because harvest treatment rate is smaller.

For quaking aspen management, long-term improvements to fish habitat should be faster than Alternative A, because emphasis is placed on quaking aspen regeneration.

Fewer short-term beneficial effects of grazing management on fish habitat would occur because fewer miles of riparian corridor fence would be constructed, but long-term improvements may be greater because this alternative endorses management of watersheds and entire fish communities.

For recreation management, there is a greater potential for long-term benefits to fish populations and habitat than Alternative A. Emphasis is placed on the protection of natural values, but new construction or rehabilitation of recreation facilities should provide recreational opportunities and distribute impacts.

OHV use has less potential for negative impacts than Alternative A because less fish habitat occurs in areas open to OHV's.

Management for ACEC's would have significantly greater potential for beneficial effects on fishery resources because more fish habitat would occur within ACEC's than under Alternative A.

Management of suitable NWSR corridors is more likely to benefit fish habitat than Alternative A, because more fish habitat would occur within NWSR suitable corridors. These corridors all provide habitat for gamefish, and therefore potential is greater for short-term negative effects to gamefish populations from angling pressure than under Alternative A.

Conclusion: The fish objective would be met. Short-term impacts may result from several surface-disturbing management activities, but most of these impacts could be minimized or eliminated through mitigation. Long-term improvements in fish habitat under this alternative would occur at a faster rate than under Alternative A. The focus is on watershed-level management, and also includes proactive management for the restoration of diverse plant communities. The emphasis on fish communities rather than selected species would facilitate attainment of the fish objective.

The potential for positive, long-term cumulative effects is higher than that of Alternative A because of the increased benefits to fish habitat expected from watershed-level management and emphasis on diverse plant and aquatic communities.

Alternative D

Impacts: Impacts to fish habitat described in Alternative A would be similar for wild horses, land acquisition, and road construction.

Effects of mineral activities on fish habitat would be less than under Alternative A because fewer stream miles would be open to energy and mineral activities.

For management of soils, water resources, riparian, wetland, and riparian-related wildlife habitat, long-term improvements to fish habitat would take less time than under Alternative A, because this alternative focuses on watershed-level management and native fish communities. Without proactive restoration activities, it may take longer than Alternative C to achieve long-term improvements.

Because more prescribed fire is used than in Alternative A, more short-term negative effects and long-term improvements on fish habitat would occur.

Benefits of rangeland vegetation management to fish habitat would be greater because of its emphasis on diverse plant vegetation. This alternative would also provide more long-term improvements to fish habitat than Alternative C.

Potential impacts of forest management on fish habitat would be less than under Alternative B, because harvest treatment rate is smaller.

For western juniper management, the potential for short-term negative effects and long-term positive effects on fish habitat would be less than under Alternative A due to smaller treatment acreage.

For quaking aspen management, long-term improvements to fish habitat are expected to be faster than Alternative A, because emphasis is placed on quaking aspen regeneration. The effects would be similar to those under Alternative C.

Fewer short-term beneficial effects of grazing management on fish habitat would occur, because fewer miles of riparian corridor fence would be constructed, but long-term improvements may be faster because this alternative emphasizes watershed-level management.

Because construction or rehabilitation of recreation facilities emphasize protection of natural values, this alternative provides more potential for long-term positive effects on fish populations and habitat than the other alternatives.

OHV use has less potential for negative impacts than Alternatives A–Cbecause less fish habitat occurs in areas open to OHV's.

Management for ACEC's would have the greater potential for beneficial effects on fishery resources because this alternative provides the more extensive and restrictive management.

Management of administratively suitable NWSR corridors may have greater benefits than Alternative A because more miles of fish habitat would occur within NWSR suitable corridors. This alternative has more potential for short-term negative effects to gamefish populations from increased angling use than the other alternatives, but more potential for short- and long-term positive effects to fish habitat in general.

This alternative contains administratively suitable NWSR corridor segments that have recreation ORV's but not fisheries ORV's. Short-term negative impacts to fish habitat could occur during construction of facilities supporting recreation. However, because segments with recreation ORV's also provide habitat for the Federally listed Lahontan cutthroat trout, management under the ESA would disallow negative impacts to habitat from recreational development.

Authorization of rights-of-way, leases, and permits would be more restrictive and could result in fewer short-term negative impacts to fish habitat through construction or other activities.

Utility or transportation corridors would be more restrictive and could result in fewer short-term impacts to fish habitat during the construction or installation phase when surface disturbance could occur.

Conclusion: The fish objective would be met. Short-term impacts may result from several surface-disturbing management activities, but most of these impacts could be minimized or eliminated through timing or mitigation. Short-term disturbances from OHV use and recreation would be less than under AlternativeA. This alternative focuses on management at the watershed level although it does not include proactive management, such as fencing or plantings, for the restoration of plant communities. The emphasis on natural processes and diverse plant communities would achieve the fish objective. Long-term improvements in fish habitat under this alternative would occur.

The potential for positive, long-term cumulative effects is higher than under Alternative A because of increased benefits to fish habitat expected from watershed-level management. The potential for positive, long-term effects are also higher than Alternative C because of greater emphasis on native species and natural processes.

Alternative D2

Impacts: Impacts to fish habitat as described in Alternative D would be similar for minerals, forest and woodland management, soils, water resources, riparian/wetlands, fire, rangeland vegetation, wild horses, recreation, ACEC's, land acquisition, and road construction.

Impacts of grazing management on habitats where special status aquatic species do not occur would be similar to Alternative D, with two exceptions. In those stream segments where

PFC assessment ratings are functioning at risk with a downward trend or nonfunctioning, livestock grazing would be removed until systems are determined able to support reintroduction of grazing, and both short- and long-term beneficial effects provided to fish habitat would be greater than those provided by Alternative D. In stream segments that are part of designated NWSR corridors, or within the 42.5 miles of suitable NWSR corridors, no grazing would be allocated and again, greater short- and long-term beneficial effects would occur than in Alternative D.

Where stream segments provide habitat for Federally listed, proposed, or candidate aquatic species or "strongholds" for redband trout, livestock grazing would be permanently removed. These habitats would receive more immediate short- and long-term beneficial effects than would be provided by Alternative D.

Removal of grazing from certain riparian pastures and designated special status species strongholds would increase the potential for impacts from wildland fire by allowing the buildup of fine fuels. However, long term negative effects would not be likely if riparian areas are in good condition.

Conclusion: The fish objective would be met. Short-term impacts may result from several surface-disturbing management activities, but most of these impacts could be minimized or eliminated through timing or mitigation. This alternative focuses on management at the watershed level although it does not include proactive management, such as fencing or plantings, for the restoration of plant communities. The emphasis on natural processes and diverse plant communities would achieve the fish objective. Long-term improvements in fish habitat under this alternative would occur.

The potential for positive, long-term cumulative effects is higher than under Alternative A because of increased benefits to fish habitat expected from watershed-level management. The potential for positive, long-term effects are higher than Alternative C because of greater emphasis on native species and natural processes, and higher than Alternative D because of removal of livestock grazing from special status species habitats, designated and suitable NWSR corridors, and stream segments in poor condition.

Alternative E

Impacts: Mineral activities would not impact fish habitat. Because there is no specific management for soils, water resources, riparian, wetland, and riparian-related wildlife habitat, no short-term effects on fish habitat are expected. Although long-term improvement in fish habitat should occur as natural processes allow recovery of watersheds, proactive management would not correct degrading conditions unless health or safety concerns arise. The potential exists for long-term fish habitat deterioration in areas where proactive management is needed.

Effects from wildland fire on fish habitat are as described in Alternative A. Without use of prescribed fire to reduce fuels, the potential for intense wildland fire would be greater and fewer long-term improvements in fish habitat would result. Increases in fine fuels with removal of livestock grazing could also increase the potential for intense wildland fires, especially in fish habitats occurring in low elevation or annual plant communities.

No proactive rangeland vegetation management, such as prescribed fire of seeding, would be done. While some areas may recover naturally, in other areas native plant communities may be slow to recover. This alternative provides the least long-term benefit to fish habitat.

With no harvest treatment, forest management practices would have no effect on fish habitat under this alternative.

No western juniper management would occur, and consequently the potential for negative short-term and positive long-term effects to fish habitat is least under this alternative. Negative long-term effects to fish habitat may occur if western juniper continues to expand its area of encroachment. Ground cover, species diversity, and structural diversity would continue to decline, resulting in impairment of water quality, riparian condition, and instream processes that affect fish habitat.

No quaking aspen stands would be treated, and therefore no short-term negative effects on fish habitat would occur. However, some quaking aspen stands would not recover without intervention. Long-term improvement to fish habitat, where it is influenced by quaking aspen condition, is expected to be the least under this alternative.

Both short- and long-term negative effects from wild horses would be as described under Alternative A.

Fish habitats in general is expected to improve with no authorized livestock grazing. Short-term effects are as described under Alternative A for grazing management, except they would occur to all fish habitat areas. Long-term improvements, as described under Alternative A, would occur more quickly and are expected to be greater than under the other alternatives. All current fish communities would benefit.

Only recreation sites associated with congressionally designated areas would be managed in riparian areas, and the lack of recreation management to other areas could result in significantly degraded water resources and riparian conditions.

OHV use would be most restricted under Alternative E. Potential for beneficial effects is greatest under this alternative because OHV use would not occur in areas of fish habitat.

Because no ACEC's exist, no effects from ACEC management would occur.

Because there are no suitable NWSR corridors, no effects from interim NWSR management would occur.

No benefits from land acquisition would occur.

No effects from management for rights-of-way, leases, or permits would occur.

Management for hazardous materials would occur only if human health or safety were at risk. Hazardous materials could cause fish kills or degradation of fish habitat. This alternative has the highest potential for negative impacts to fish populations and habitat from hazardous materials.

No effects from management for transportation or utility corridors would occur.

No new roads would be constructed, but maintenance or reconstruction of existing roads would occur if human health or safety were at risk. Degradation of fish habitat could occur if sediment from eroding road surfaces entered water. This alternative has the highest potential for negative impacts to fish populations and habitat from roads.

Conclusion: Fish habitat improvements would occur over most of the planning area, but long-term fish habitat degradation may prevent attainment of the fish objective in some areas. Short-term impacts would be minimal under this alternative, though those that do occur would not be mitigated. Generally, where natural restoration of desired plant communities are possible, improvements would occur quickly. However, improvements would not occur in areas where natural processes may be unable to reverse negative trends, such as encroachment of western juniper. Closure of open OHV use areas would lessen short- and

long-term vehicular impacts to fish habitat, but deemphasis of recreation management could lead to degradation of popular areas.

Despite lack of restorative management in areas where natural processes may be unable to reverse negative trends, overall long-term cumulative effects would be positive. Removal of livestock, mining, and OHV use would greatly benefit fish habitat by reducing disturbances to streambanks, riparian areas, and upland portions of watersheds.

Proposed RMP

Any new or ongoing activity that contributes to surface disturbance could adversely affect fish habitat. By altering timing and amount of surface runoff, surface disturbance could result in increased erosive energy, loss of ground cover, and increase in fine sediments. For aquatic habitat, the result would be decreases in fish spawning substrates, decreases in overhanging vegetative cover, decreases in instream cover and habitat diversity (such as undercut banks, scour pools, woody debris, rootwads), increases in summer temperatures, decreases in summer dissolved oxygen, decreases in high flow holding areas, decreases in winter holding areas, and decreases in invertebrate production. Surface disturbance may occur in mining; active management for soils, water quality, riparian areas, and wildlife habitat; wildland and prescribed fire; range, woodland, forest and quaking aspen management; western juniper treatment; wild horses; grazing management; recreation; roads; and authorization for rights-of-way, leases, permits, and utility corridors. For this alternative, relative intensity of impacts due to surface disturbance will be discussed under specific activities.

Impacts: Surface-disturbing activities associated with mineral activities include construction of access roads and site facilities as well as the surface or subsurface disturbance caused by the mining operation itself. Because fish habitat is affected by subsurface flow, negative impacts to fish habitat could occur through localized ground water contamination. Saleable mineral activity would not be permitted in RCA's; therefore, saleable mining would not directly impact fish habitat. In land designated as open for leasables and locatables, impacts to fish habitat could be severe; however, the incidence of mineral activity in the planning area is low. Significant long-term negative effects on fish habitat should not occur because standard stipulations require compliance with the CWA and ESA. For leasable with NSO designations, impacts on fish habitat would be reduced depending on location of the mine within the watershed. Fish resources could be protected with an additional NSO buffer beyond the riparian area to reduce impacts from directional drilling, access road construction, and erosion or runoff from the drill site. In areas closed to mineral development, no negative effects to fish habitat would occur.

Wildland fire, prescribed fire, and their associated management activities have the potential to affect fish habitat. Short-term negative affects could result from fire in general because of the temporary loss of vegetative ground cover, but prescribed fire plans can be designed to minimize negative impacts on fish habitat. The use of prescribed fire in this alternative would reduce the intensity of wildland fires and promote long-term improvements in fish habitat with the establishment of perennial plant communities that could occur after a fire.

Rangeland vegetation management designed to establish or improve native plant communities may result in disturbances. Short-term effects may be negative from surface-disturbing practices, such as prescribed fire or mechanical vegetation removal, but these effects would be minimized through mitigation. Long-term improvements to fish habitat would occur because of emphasis on diverse plant communities rather than primarily forage species.

Forest management at the proposed treatment rate could have short-term negative results on fish habitat because of vegetation removal and road or site construction. Although no fish-bearing streams occur in potential commercial harvest areas, forest practices could impact headwaters and tributaries to fish habitat. Short-term negative effects could occur during site

preparation and harvest, but mitigation would minimize these and forest management prescriptions for RCA's would provide additional protections. Noncommercial treatment for forest health may provide long-term benefits to fish habitat by reducing the potential for high and low intensity fires and their impacts on water quality.

Treatment for encroaching western juniper on 124,500 acres could result in potential short-term degradation from soil erosion and increased surface runoff until desired vegetation can become reestablished. In the long-term, treatment of encroaching western juniper would improve fish habitat. Greater species and structural diversity of rangeland and riparian vegetation would promote long-term improvements in water quality, riparian functioning condition, and instream processes (such as nutrients from leave litter) that affect fish habitat. Post-treatment vegetation management could also affect fish habitat but is addressed under effects of grazing management.

Aspen management would cause short-term negative effects on fish habitat due to temporary loss of species diversity, structure, and understory cover. A source for woody debris would also be lost in streamside quaking aspen areas, but impacts are expected to be mitigated prior to treatment. Long-term improvements to fish habitat would occur as quaking aspen stands recover and again contribute to natural hydrologic and ecological processes that influence fish habitat. Because emphasis is placed on quaking aspen regeneration, livestock grazing activities would be altered to ensure timely recovery.

Active management for soils, water quality, and riparian areas/wetlands in these areas would result in positive effects on fish habitat. Short-term negative effects may occur during project implementation, but effects would be minimized or eliminated through mitigation. Because this alternative focuses on watershed-level management that restores native plant communities and natural processes, it is expected to provide significant long-term benefits to aquatic resources. In addition, management for habitats that support fish communities rather than single species would also result in effective long-term improvements.

Wild horses may cause short-term negative effects on fish habitat inside HMA's. Surface disturbances and loss of vegetation in the uplands and riparian areas could occur, especially when numbers are concentrated around springs or riparian areas. These negative effects would continue until herds are maintained at levels that allow water quality standards and PFC to be met in streams and other surface waters that affect fish habitat.

Fish habitat in general is expected to improve under rangeland/grazing use management. Improvements to fish habitat would result from management developed to meet rangeland health standards. Livestock grazing systems would be maintained, developed, or revised to improve upland and riparian vegetation and reduce physical degradation of streambanks and wet areas, such as springs, in order to attain water quality standards and PFC. Structural range improvement projects, such as fences, have the potential for short-term negative effects on fish habitat through surface disturbance, but the effects are expected to be minimized or eliminated through mitigation. Because this alternative emphasizes management of watersheds and entire fish communities rather than specific sites or species, long-term, area-wide benefits to fish habitat would occur as upland and riparian conditions throughout the associated watershed improve.

For recreation management, emphasis is placed on the protection of natural values, but construction of recreation facilities could cause short-term negative impacts to fish habitat due to surface disturbances. Small construction areas and potential for mitigation would minimize overall negative effects to fish habitat. Construction or rehabilitation of recreation facilities indirectly provide long-term benefits to fish habitat by distributing recreation impacts while still providing recreational opportunities. Recreation use may cause short-term negative effects on gamefish populations due to higher angling pressure, but coordination with ODFW, which has jurisdiction over angling regulations, would lessen fishing impacts.

Degradation of fish habitat from OHV's results from compaction of soils and riparian vegetation and sediment runoff from roads. Effects could be short- or long-term. When impacts from OHV use to riparian areas are identified, emergency limitations and closures would be implemented to prevent further degradation.

Management for ACEC's, whether or not fish are designated as a relevant or important value, generally would have positive effects on fishery resources, but the extent of benefits would vary with the number, sizes, and use restrictions of the ACEC's proposed. The protections to resources afforded by ACEC's would be especially beneficial for those areas without other protective designations such as NWSR. This alternative proposes 4 ACEC's that impact fish-bearing streams.

Streams found administratively suitable for NWSR designation would be managed under interim measures to protect fisheries ORV's. Where fisheries are not an ORV, protection of fish would be an indirect, long-term effect of the protection and enhancement of other ORV's. Some short-term negative effects to gamefish populations may occur due to increased visitor use and angling pressure whether or not fish are identified as an ORV, but long-term impacts on fish populations would be mitigated through coordination with ODFW.

Parcels of land containing waters with significant fish habitat would normally be retained or acquired. Effects on fish habitat from acquiring land is expected to be positive because of increased opportunity for watershed-level management. Effects on fish habitat from land disposal through exchanges or sales are expected to be negligible.

Authorization of rights-of-way, leases, and permits could result in short-term negative impacts to fish habitat through construction or other activities, but effects are expected to be minimized or eliminated through mitigation. Long-term effects are expected to be negligible or mitigated.

Utility or transportation corridors could result in short-term impacts to fish habitat during the construction or installation phase when surface disturbance could occur. Little fish habitat is located within these corridors. Impacts are expected to be minimized or eliminated through mitigation.

New road construction is expected to be extremely limited. Short-term effects could occur during construction but are expected to be minimized through mitigation and adherence to BMP's. Short- and long-term effects from upgrading road and stream crossings would be negligible.

Conclusion: The fish objective would be met. Short-term impacts may result from several surface-disturbing management activities, including mining, grazing, recreation facilities, OHV use, and prescribed fire, but most of these impacts could be minimized or eliminated through timing and mitigation. Long-term improvements in fish habitat would occur under this alternative. The focus would be on watershed-level management, and would also include proactive management for restoration of diverse plant communities. The emphasis on fish communities rather than selected species would facilitate attainment of the fish objective.

The potential for positive, long-term cumulative effects is high because of benefits to fish habitat expected from watershed-level management and emphasis on diverse plant and aquatic communities.

Summary of Impacts

The fish objective would be met under all alternatives.

Cumulative short-term negative impacts would be expected under all alternatives, with the highest level under Alternatives C and Proposed RMP. The overall differences in short-term negative effects among the other alternatives are not great, except for Alternative E, where surface-disturbing activities are greatly reduced due to absence of mining, grazing, open OHV use, and prescribed fire. For Alternatives A, B, C, D, D2, and Proposed RMP, effects could be lowered and evened through adjustments in timing of activities. The opportunity for mitigation of effects through management does not exist for Alternative E. Long-term benefits are expected under all alternatives. The level of long-term improvement under Alternatives C, D, D2, and Proposed RMP is much higher than that for Alternatives A, B, and E mainly because watershed-level management is emphasized. Improvement may occur faster in alternatives C and Proposed RMP because of proactive restoration management, but Alternative D2 may best achieve the fish objective because of its emphasis on native communities and natural processes while, in addition, short-term negative effects would be reduced by grazing restrictions.

Wildlife and Wildlife Habitat

Objective 1: *Maintain, restore, or enhance riparian areas and wetlands so they provide diverse and healthy habitat conditions for wildlife.*

Assumptions common to all alternatives: Appendix F describes grazing use considerations that would apply to wildlife habitat under all alternatives.

Alternative A

Impacts: Exploration for energy and minerals may cause some temporary and localized adverse impacts to game and nongame species due to human activities which disrupt wildlife security. Actual habitat losses could be incurred during surface-disturbing actions.

Adjustments in the location or timing of saleable mineral extraction sites would limit adverse impacts to wildlife where necessary.

Based on the energy and minerals development scenario, production activities would likely have localized adverse impacts to game and nongame species habitats. Adverse impacts could include direct mortalities to some species such as small mammals and reptiles and the destruction of habitat in the course of development. Most species of wildlife would likely vacate a majority of the immediate development areas and some adjoining land in order to avoid sustained human disturbances. Where development overlaps with an intensively used area, the resulting impacts would be considered significant but only at a local level. Following the cessation of development activities, reclamation, and mine closure, wildlife would reoccupy part of their former range. Due to the generally limited opportunities identified in the energy development scenario, no regional or significant cumulative impacts to habitat would be expected. Stipulations and restrictions would permit BLM to limit conflicts within important wildlife use areas through adjustments in the timing or location of activities for both exploration and production activities.

Due to the riparian management directive for attaining PFC, most general game and nongame species riparian habitat requirements adjoining rangeland settings would be met over the long term. This would result from a combination of grazing system modifications and temporary or permanent exclosures. However, the emphasis on game species requirements would limit the introduction of specific nongame habitat requirements as Desired plant community (DPC) objectives in various BLM activity plans. This would result in lost

opportunities to manage some habitats for nongame species that do not have a special status as indicated on Table 2-15.

Riparian areas excluded from livestock grazing use would provide habitats with abundant herbaceous and woody plant cover consistent with site potential. Some wildlife that prefer low stature herbaceous cover conditioned by grazing use would tend to avoid exclusion areas. However, in most cases the benefits of exclusion would be expected to outweigh the adverse impacts to wildlife associated with a reduction in conditioned forage.

Prescribed fire and wildland fire would be expected to contribute toward the improvement of woody riparian species where reproduction and structural diversity has been limited by grazing use and/or encroachment of woody upland species like western juniper. However, adverse impacts to wildlife habitat immediately adjacent to riparian areas, such as reduced cover for deer fawning and elk calving, would result where fires are frequent and the size of the area impacted is large.

In localized areas, wild horses would be expected to cause adverse impacts to streams, springs, and meadows as a consequence of yearlong grazing use. Wild horse use would contribute toward poor quality forage and cover for game and nongame species.

Forested riparian habitats would provide most game and nongame species needs through applying riparian buffers and other requirements associated with fisheries management objectives. Appendix F criteria for wildlife regarding snags, downed material, etc., would provide some special habitat features, but at a level lower than the current situation.

Where riparian habitat is identified as an ORV in NWSR's and ACEC's, management guidelines promoting natural conditions would facilitate the maintenance and improvement of quality habitat for game species.

Habitat characteristics consistent with those important to wildlife and described in Appendix F would be present in some areas.

Conclusion: Overall, the cumulative effects of management under this alternative would result in meeting most general riparian habitat requirements for game and nongame species over the long term. However, because of the emphasis on game species, special habitat requirements for some nongame species that do not have a special status as indicated in Table 2-11 would be limited.

Alternative B

Impacts: Although this alternative shifts emphasis slightly away from game species and more toward nongame, the impacts would be much the same as Alternative A. However, under this alternative, desired plant community objectives could be introduced into various BLM activity plans for the purpose of providing specific habitat conditions important to certain nongame species. This would result in meeting nongame species habitat needs that do not have a special status as indicated in Table 2-11.

Conclusion: Overall, the cumulative effects of management under this alternative would result in meeting most general riparian habitat requirements for game and nongame species over the long term.

Alternative C

Impacts: Management under this alternative would have the same impacts as Alternative A, except, as in Alternative B, desired plant community objectives could be introduced into various BLM activity plans for the purpose of providing specific habitat conditions impor-

tant to nongame species. This would result in meeting nongame species habitat needs that do not have a special status as indicated in Table 2-11.

Conclusion: Overall, the cumulative effects of management under this alternative would result in meeting most general riparian habitat requirements for game and nongame species over the long term.

Alternative D

Impacts: Management actions for exploration for energy and minerals; saleable mineral extraction; energy and minerals development; prescribed fire; and wild horses would be very similar to the impacts as described under Alternative A. However, fire effects would be slightly different from Alternative A in that there would be more fine fuels for carrying fire in low elevations.

The riparian management directive would be met the same as in Alternative A; however this alternative would result in a high quality and amount of riparian habitat from a combination of grazing system modifications and temporary or permanent exclosures. As in both Alternatives B and C, desired plant community objectives could be introduced into various BLM activity plans.

Because commercial harvest treatments would be eliminated, this alternative provides a higher quantity of forested riparian habitat. Attainment of habitat conditions described in Appendix F would meet wildlife habitat needs.

Conclusion: Overall, the cumulative effects of management under this alternative would result in meeting the riparian habitat requirements for both game and nongame species. This alternative provides for a high level of riparian habitat quality and quantity and the potential for introducing DPC goals for nongame species into activity plans.

Alternative D2

Impacts: Management actions for prescribed and wildland fire, wild horses, and forest habitats would be the same as described under Alternative A.

Management actions for exploration for energy and minerals; saleable mineral extraction; energy and minerals development; would have the same impacts as under Alternative A, but over a smaller area due to limitations that would apply in ACEC's and other SMA's.

Removal of livestock grazing use from 32 percent of the planning area would result in maximum levels of riparian habitat recovery, consistent with site potential, where grazing influences have been ongoing and limiting riparian habitat quality for wildlife. Riparian habitats already being managed under grazing systems that allow for good quality wildlife forage and structure would continue to improve but at an accelerated rate because the primary controllable influence on riparian recovery (livestock grazing) would be eliminated. DPC objectives needed to integrate wildlife habitat needs with multiple use management objectives in activity plans would become unnecessary where livestock grazing is removed. However, they may still be necessary outside of livestock exclusion areas.

Conditioned forage plant availability would be diminished in exclusion areas, resulting in some adjustments to wildlife use of riparian habitats. Although some species such as sage grouse may tend to avoid riparian areas that are unused by livestock over a long time period, diminished forage quality conditions resulting from livestock exclusion would be out-weighed by the overall beneficial effects to riparian communities resulting from livestock removal.

Conclusion: Overall, the cumulative effects of management under this alternative would result in meeting the general riparian habitat requirements for game and nongame species at a very high level due to permanent removal of livestock grazing from 32 percent of the planning area and short term removal of grazing use until properly functioning conditions were attained.

Alternative E

Impacts: Adverse impacts to wildlife habitat resulting from exploration and development of energy and saleable or leasable minerals such as habitat destruction, direct mortalities, and disturbances to animal security areas would be eliminated.

In some settings, wildland fire would be expected to contribute toward the improvement of woody riparian species where reproduction and structural diversity has been limited by grazing use and/or encroachment of woody upland species such as western juniper. Adverse impacts to wildlife habitat, such as cover for deer fawning and elk calving, would result where fires are frequent and the size of the area impacted is large. These adverse impacts would be primarily associated with lower elevation rangelands where invasive annuals such as cheatgrass are prevalent

Opportunities to introduce fire where it would contribute toward wildlife habitat improvement would be foregone.

Where livestock grazing use has limited riparian habitat quality, it is expected that improvement of riparian habitat for game and nongame wildlife would be maximized. This would be expected to occur over a large percentage of the riparian habitat within the analysis area since cattle have access to most riparian areas.

Conclusion: Many wildlife habitats would improve as a result of the cumulative effects of avoiding timber harvest, mining, and livestock grazing. Riparian habitats adjoining rangelands and forestlands susceptible to catastrophic wildfires, especially at lower elevations, would be expected to sustain significant cover and forage losses thereby reducing wildlife habitat quality and quantity. Opportunities to mitigate or restore range and forest land by seeding management intervention would be foregone.

Proposed RMP

Impacts: Exploration for energy and minerals may cause some temporary and localized adverse impacts to game and nongame species due to human activities which disrupt wildlife security. Adjustments to the timing, location, and duration of proposed activities would be expected to mitigate most adverse impacts to habitat security. Actual habitat losses could be incurred during surface-disturbing actions.

Based on the energy and minerals development scenario, production activities would likely have localized adverse impacts to game and nongame species habitats. Adverse impacts could include direct mortalities to some species, such as small mammals and reptiles, and the destruction of habitat in the course of development. Most species of wildlife would likely vacate a majority of the immediate development areas and some adjoining land in order to avoid sustained human disturbances. Where development overlaps with an intensively used area, the resulting impacts would be considered significant but only at a local level. Following the cessation of development activities, reclamation, and mine closure, wildlife would reoccupy part of their former range. Due to the generally limited opportunities identified in the energy development scenario, no regional or significant cumulative impacts to habitat would be expected. Stipulations and restrictions would permit BLM to limit some conflicts within important wildlife use areas through adjustments in the timing or location of activities for both exploration and production activities.

Prescribed and wildland fire would be expected to contribute toward the improvement of riparian habitat in areas where reproduction and structural diversity has been limited by grazing use and/or encroachment of woody upland species like western juniper. However, some short-term adverse impacts to wildlife habitat immediately adjacent to riparian areas, such as deer fawning and elk calving cover, would result where fires are frequent and the size of the area impacted is large.

Noxious weed control actions would be expected to benefit wildlife habitat values by limiting the spread of species that pose a threat to wildlife habitat productivity and suitability.

Forested riparian habitats would provide most game and nongame species needs by applying riparian buffers and other requirements associated with fisheries management objectives. Appendix F criteria for wildlife regarding snags, downed material, etc., would provide most habitat characteristics important to wildlife.

Due to the riparian management directive for at least attaining PFC, most general game and nongame species riparian habitat requirements adjoining rangeland settings would be met over the long term. This would result from a combination of grazing system adjustments and temporary or permanent exclosures. Under this alternative the option for introducing specific game or nongame habitat requirements in desired plant community objectives for various BLM activity plans could occur. DPC objectives could be used in any activity plan where trend objectives are judged to be inadequate for addressing locally important wildlife habitat needs. This would increase the opportunities to manage some habitats for game and nongame species whether or not they have a special status indicated in Table 2-15.

Removal of livestock grazing use would result in maximum levels of riparian habitat recovery (consistent with site potential) where grazing influences have been ongoing and limiting riparian habitat quality for wildlife. Conditioned forage plant availability would be diminished in exclusion areas, resulting in some adjustments to wildlife use of riparian habitats. Although some species such as sage grouse may tend to avoid riparian areas that are unused by livestock over a long time period, diminished forage quality conditions resulting from livestock exclusion would be outweighed by the overall beneficial effects to riparian communities resulting from livestock removal.

In localized areas, wild horses would be expected to continue to cause some adverse impacts to streams, springs, and meadows as a consequence of yearlong grazing use. Wild horse use would continue to contribute towards poor quality forage and cover conditions for game and nongame species. Proposed horse gathering in response to resource damage would reduce but not eliminate impacts to wildlife habitat. Limitations imposed upon recreation and OHV use, associated with PFC requirements, would be expected to avoid most adverse impacts to wildlife habitat and security.

Where riparian habitat is identified as an ORV in NWSR's and ACEC's, management guidelines promoting natural conditions would facilitate the maintenance and improvement of quality habitat for game species.

Refer to desired habitat characteristics for wildlife in riparian habitats, Appendix F.

Conclusion: Overall, the cumulative effects of management under this alternative would result in meeting the riparian habitat requirements for both game and nongame species in most areas. The alternative allows for the introduction of DPC goals for game and nongame species into activity plans.

Summary of Impacts

All of the alternatives would ultimately result in cumulative long-term improvement in riparian habitat valuable to wildlife. The highest levels of riparian improvement and beneficial cumulative effects for wildlife habitat would be attained in Alternatives E, D, and D2, because the amount of livestock grazing influence would either be diminished substantially or eliminated completely. The Proposed RMP would substantially meet the needs for game and nongame species and it would allow for the introduction of DPC objectives for either class of wildlife where it is appropriate and necessary to do so.

Objective 2: *Manage upland habitats in forest, woodland, and rangeland vegetation types so that the forage, water, cover, structure, and security necessary for wildlife are available on the public land.*

Assumptions common to all alternatives: Management actions in big sagebrush communities would be evaluated on the basis of their impacts to the seasonal habitat requirements of sage grouse and other species that use big sagebrush habitats. The alternatives foresee different management outcomes based on information disclosed under assumptions. Appendix F shows habitat descriptions and considerations that would (1) be used for evaluating whether or not wildlife objectives are being met at mid and fine scales, and (2) determine the success in meeting the S&G's for native and special status species wildlife.

Management assumptions for Wildlife and Wildlife Habitat Objective 2 and Special Status Animal Species Objective 1 are complimentary to one another and would result in an outcome that would support multiple species of wildlife at the landscape level.

Alternative A

Assumptions specific to Alternative A: Management actions in big sagebrush habitats emphasize values on big game winter range and within 2 miles of sage grouse leks. Other habitats are managed for general consistency with the definition of the alternatives.

This alternative assumes about 50 percent (+-10) of the habitat with the potential to support big sagebrush within each resource area would be managed to attain desired wildlife habitat conditions over the long term as described in Appendix F. Achievement of desired wildlife habitat conditions for sage grouse and other species that use sagebrush habitat would include a variety of methods to increase or decrease the big sagebrush overstory.

Impacts: Exploration for energy and minerals would likely cause some temporary and localized adverse impacts to game and nongame species due to human activities which disrupt wildlife security and direct habitat losses incurred during surface-disturbing actions. Stipulations and restrictions would permit BLM to limit conflicts within important wildlife use areas through adjustments in the timing or location of activities.

Adjustments in the location or timing of saleable mineral extraction sites would be expected to limit adverse impacts to wildlife where necessary.

Based on the energy and minerals development scenario, production activities would likely have localized adverse impacts to game and nongame species habitats including direct mortalities to some species such as small mammals and reptiles and the destruction of habitat. Most species of wildlife would likely vacate a majority of the immediate development areas and some adjoining land in order to avoid sustained human disturbances. Where development overlaps with an intensively used big game area, the resulting impacts would be considered significant but only at a local level. Following the cessation of development activities, reclamation, and mine closure, some wildlife would reoccupy all or part of their former ranges.

Wildfire, short of catastrophic levels, and prescribed fire, in large monoculture stands of big sagebrush or western juniper, would generally benefit most species of wildlife in the long and short term by diversifying habitat structure, providing short-term improvement in forage palatability, increasing the availability of herbaceous forage plants, and increasing the amount of habitat edge. Some of these habitat changes would result in adverse impacts to species reliant on large homogeneous blocks of vegetation types.

Although catastrophic rangeland fires are expected to be generally diminished in size and intensity, those that do occur within the vicinity of recent burns and grassland dominated sites would be expected to cause cumulative adverse impacts to shrub cover important for game and nongame wildlife. These impacts would be expected to occur at a large geographic scale with substantial cover losses affecting one or more watershed subbasins and particularly at the lower elevations. Depending on shrub overstory recovery rates and returning fire frequency, these impacts could extend over short and long term. Adverse effects would result which diminish habitat productivity and diversity for entire communities of sagebrush steppe and woodland wildlife as described in Chapter 2.

Due to lowered fire fuel conditions from proposed management actions, stand replacing wildfire in forested habitats would be reduced but not eliminated. Some significant short- and long-term cover, and structural losses for game and nongame species would occur. Cover and structural losses would dissipate over the long term, but for several decades adverse impacts such as losses of connectivity among habitats would persist.

Prescribed fire in forest types would be expected to foster long-term benefits to forest dwelling species by helping to restore natural processes and functions that have been disrupted over the last several decades. Prescribed fire would allow for the maintenance of thermal and security cover for deer and elk, while also avoiding many of the adverse impacts to special habitat features, such as snags and old growth required by several nongame species.

Wildlife habitats in mountain shrub and quaking aspen would be expected to respond favorably to the effects of periodic prescribed fires because of the stimulation to quaking aspen stand vigor and reductions in competition from some species such as western juniper. Compared to wildfires, prescribed fire would have a better potential to result in outcomes favorable to wildlife forage and structure as long as their size and sequence within geographic areas would accommodate wildlife needs.

Some wildfires would be expected to cause short and long-term losses of mountain shrub cover in species such as bitterbrush resulting in reductions in browse availability for big game and losses in nesting or hiding cover for nongame species. Rehabilitation for wildlife habitat values would be expected to restore some or most losses in local areas where anticipated natural recovery rates are slow.

Within big sagebrush habitats supporting big game winter use and within 2 miles of sage grouse leks, attainment of desired wildlife habitat conditions would provide habitat for most species of game and nongame wildlife. Outside of these areas, this alternative would result in the presence of important rangeland habitat shrub structure at most coarse scales but frequently lacking at fine scales. Nongame species directly or indirectly dependent on big sagebrush, would be displaced for the short and long term due to habitat fragmentation, losses of effective patch sizes, and decreased habitat connectivity resulting from the emphasis on grass production. Overall benefits would be provided to species such as pronghorn and horned larks that prefer grasslands or low vegetation structure.

Avoidance of prescriptive burning or seeding near recently burned areas or grassland dominated habitats would reduce some of the adverse cumulative impacts to cover values for game and nongame species associated with this alternative. Shrub cover rehabilitation within native range and some seedings, particularly those with large interior areas supporting

little or no shrub cover, would restore game and nongame species cover and forage values that are missing due to frequent fire or slow shrub overstory recovery.

Treatments designed to decrease or eliminate noxious weeds in rangeland, woodland, and forest types would benefit upland wildlife habitats by reducing or eliminating the chances for dominance of plant species with limited forage or cover values.

Due to the low potential for fire occurrence and the avoidance of commercial harvest, stands of old growth western juniper habitat would be maintained and left available for game and nongame wildlife use.

Increased levels of various western juniper treatments would be expected to restore plant species composition and dominance to conditions approaching site potential, thereby benefitting sagebrush steppe species as a whole. This would reduce the amount of existing habitat supporting communities of species associated with western juniper woodlands. Attainment of desired wildlife habitat conditions on big game winter ranges supporting western juniper would ensure that adequate winter thermal and security cover patches would be available for game use. However, the level of western juniper treatments proposed would also be expected to adversely impact several local areas that are currently supplying mule deer and elk fawning or calving habitat.

Quaking aspen and mountain shrub management prescriptions would be expected to provide adequate forage, cover, and structure for game and nongame species but probably at lower levels than the existing situation.

Alternative A provides the least amount of old growth forest habitat for wildlife. Existing old growth, which is already fragmented and limited, would be even more diminished in extent than at the present time. Habitat linkages to other adjoining forested land would be reduced. Suitable patches of habitat would be available for certain species that are either migratory or have small home ranges. Species requiring large acreages of old growth would continue to be unlikely to find enough contiguous habitat for them to become resident and self-sustaining.

Forest stands, outside of old growth management areas and subject to commercial harvest, would be managed in a manner that would meet most of the important habitat characteristics for game species such as mule deer and elk. There is likely to be more disruption to wildlife security, structure, and other habitat values due to an increase in the level of forest treatment activities. The emphasis on game species requirements would likely result in fewer acres of complex forested habitats which supply special habitat features, such as snags, important to nongame species.

Fisheries directives would be expected to compliment management of wildlife habitat values associated with this alternative.

Adverse impacts associated with wild horses include competition with big game for water resources during droughts and depletion of local areas of adequate forage and cover for wildlife. Under drought conditions, the presence of wild horses would increase competition for water which would periodically result in additional mortalities of pronghorn and, to a much lesser extent, mule deer.

Generally higher livestock utilization levels, increases in the number of rangeland development projects, and more efficient grazing systems would adversely affect more local areas than the current situation by reducing the amount of herbaceous cover available for game birds and other small species of wildlife. The potential for instances of forage competition between livestock and big game would increase locally in comparison with the existing situation but not at levels which would threaten ODFW management goals Grazing use

consistent with conditions described in Appendix F would be expected to meet the forage, cover, and structure needs for wildlife in upland habitats.

Adjustments in the timing, duration or location of uses that significantly impact forage availability for wildlife would allow BLM to continue to provide the forage base necessary to meet ODFW management objectives. Greenup in seedings that supply forage for wintering big game or Canada geese would continue to be available. Cattle use could be permitted on some greenup as long as big forage demands are met in MRA and JRA. This would be a change from current management in MRA and JRA.

The likelihood of disruptions to nesting or other activities adversely affected by livestock grazing activities would increase. New reservoirs or pipelines would provide additional sources of drinking water for wildlife. However, the expansion of grazing impacts in previously unused areas following water development and fence construction would reduce the availability of ungrazed or lightly used rangeland which are preferred or more productive for some species of wildlife.

The necessity for high levels of additional fencing would increase the likelihood of some unavoidable disruption to some big game movements, increased vulnerability to predation, and injury or death due to collision or entanglement. Where there is a wildlife need for escape from human disturbance or where heavy snow cover conditions are present, death losses or injury that are ultimately attributable to fencing can result. Properly designed fencing reduces the likelihood of death or injury to wildlife, but it does not completely eliminate potential for harm.

Recreational activity could cause some localized damage to vegetation, special habitat features used by wildlife, or adversely affect habitat security. These impacts could be considered significant locally and would be likely to foster the need for modification of uses to minimize impacts to wildlife. However, recreational use as proposed is not likely to reach levels that would seriously impact wildlife habitat values.

OHV's and roads would be expected to cause some localized damage and reductions in wildlife habitat. More importantly, an increased chance for disruptions of habitat security within seasonally important areas may occur. For example, snowmachine use on big game winter ranges would likely cause adverse impacts to big game security, forage availability and winter survival. These impacts would be considered significant locally and worthy of mitigation measures on a case-by-case basis. The impacts could be significant enough to trigger the need for seasonal or permanent closures to OHV's. The size and nature of seasonal closures would be determined on a case-by-case basis based on remedies needed for the species affected.

Management objectives within SMA's would allow for the maintenance or enhancement of a wide variety of wildlife habitat values by promoting natural conditions. For example, Canada geese and raptors, considered to be ORV's in the Owyhee NWSR corridor, would be protected or enhanced by adjusting uses when monitoring data indicate they are being adversely impacted. Directives in the "National Wild and Scenic Rivers Act" (NWSRA) to avoid substantial interference with public use and enjoyment would prevent BLM from maximizing wildlife ORV's in NWSR's but allow for a high level of protection.

Opportunities for guzzler water developments are likely be very limited within WSA's and NWSR's, in order to maintain natural values and avoid visual resource impacts. Except where consistent with IMPLWR or other objectives, this would result in the loss of several local opportunities to support wildlife where new water sources would expand distributions into unoccupied ranges. These foregone opportunities could be significant in some local areas but would not be a substantial hindrance to ODFW goals.

Areas unallocated to livestock grazing would provide for a very high level of quality forage, cover, and structure for wildlife in sagebrush, mountain shrub and other upland habitats. Unallocated areas would become reserves in which the combined values of forage, cover, and structure would be maximized for wildlife.

The habitat benefits to wildlife accrued from the removal of livestock grazing would substantially outweigh any negative consequences associated with reducing the amount of conditioned (grazed) forage on public land. Unforeseen adverse consequences resulting from changes in wildlife use, such as shifts of big game onto private land, could be resolved by periodic light grazing use during seasons which have the least effect on wildlife species occupying the area.

Beneficial impacts to wildlife forage, cover, and structure would be accrued in virtually all of the areas where grazing use is removed. However, these beneficial effects would be substantially diminished in their overall importance to wildlife habitat and population health where grazing use has been similar to or less than the utilization descriptions of Appendix F.

Most land and realty actions, such as issuance of rights-of-way, would have limited and temporary adverse impacts to wildlife habitat. Temporary restrictions and other adjustments would be expected to limit the adverse human disturbance impacts to seasonally sensitive wildlife use areas. Rehabilitation following surface disturbances would restore most structure and forage values impacted. Electrical utility corridors could pose some additional threats of electrocution or collision mortalities to several species of birds such as waterfowl, raptors, and some upland game birds. Meeting desired wildlife habitat conditions for power lines and other structures would minimize most significant impacts to wildlife.

Land tenure adjustments would have the potential to result in a wide variety of impacts that could be negative, positive, or with no effect. The effects would need to be analyzed on a case-by-case basis. This alternative would be expected to result in a similar number of realty-related actions beneficial to game species as in Alternative B.

Conclusion: This alternative emphasizes meeting forest, rangeland, and woodland habitat requirements for wildlife by focusing on attaining game management goals within big game winter ranges and 2 miles of sage grouse leks.

The cumulative adverse impacts to game species cover, forage and structure from actions such as fencing, water development, seedings, livestock grazing and the other commodity oriented actions described would be much greater than under Alternative B. Alternative A would still meet the objective for game species but at lower levels than Alternative B.

Nongame species habitat needs would be provided exclusively as by-products of meeting game species needs rather than by pursuing proactive nongame management. Current management direction does allow for some limited proactive measures to specifically benefit nongame species. Alternative A would result in upland habitat diversity and structure for nongame species that is evident at a mid scales but frequently lacking or with reduced habitat values at the fine scale due to a commodity emphasis. This Alternative A would not be expected to result in the need for listing any species under the ESA, and it would meet the objective.

Alternative B

Assumptions specific to Alternative B: Management actions would be based on specific goals identified in existing land use plans which primarily, although not exclusively, emphasize game species.

Impacts: Impacts to wildlife habitat from proposed actions would be similar to those in Alternative A with the following differences:

Within specific areas identified in current land use plans, forage, cover, and structure would be emphasized for selected species of game and nongame wildlife. Important rangeland habitat characteristics for wildlife would be present at most coarse scales, but remain lacking at some fine scales, especially in large seedings and some kinds of land treatment areas. Prescriptive management in land use plans, which failed in many instances to incorporate appropriate upland wildlife objectives, would drive wildlife habitat goals rather than a more adaptive management which conforms to desired wildlife habitat conditions described in Appendix F.

Under this alternative, forest management for wildlife values would be emphasized within the Castle Rock HMP area and to a much lesser extent outside of its boundaries. Suitable patches of old growth habitat would continue to be available for species that are either migratory or have small home ranges. Species requiring large acreage of old growth would continue to be unlikely to find enough contiguous habitat for them to become resident and self-sustaining. Public land would continue to support old growth capable of providing some valuable habitat linkage with other adjoining forested land.

Fewer impacts to western juniper associated species would occur under this alternative because of the smaller acreage of treatment areas. Opportunities to improve some habitats that have been affected by western juniper expansion would be foregone.

The types of impacts from livestock grazing uses and administration described in Alternative A, such as those resulting from fencing and water development, would be about the same under this alternative but they would affect less area and occur at lower levels.

OHV's and roads would have the same kinds of impacts as Alternative A, but there would be substantially fewer chances for them to occur because of the amount of area currently designated with seasonal and area restrictions.

Land exchanges have the potential to have either negative or positive impacts and would need to be analyzed on a case-by-case basis to determine their actual impacts. Because of the commodity emphasis, this alternative would result in slightly less beneficial actions for game species than Alternative A.

Conclusion: Alternative B is very similar to Alternative A in that it emphasizes meeting forest, rangeland, and woodland habitat requirements for wildlife by primarily focusing on attaining game management goals that are single species driven. This alternative is different from Alternative A in that it emphasizes goal attainment within areas defined in existing land use plans. Some important game use areas, primarily in JRA and MRA, lack vegetation management objectives favorable to wildlife. Under current management, some actions would be permitted which specifically benefit nongame species and address overall rangeland health for wildlife.

The cumulative adverse impacts to game species cover, forage, and structure from fencing, water development, seedings, livestock grazing, and the other commodity-oriented actions would not change and result in similar impacts as described in Alternative A. This alternative would continue to have local adverse impacts to forage and cover important to game and nongame species but would meet the objective.

Alternative B would not be expected to result in the need for listing additional species as special status under State or Federal definitions.

Alternative C

Assumptions specific to Alternative C: Management objectives in big sagebrush rangelands would be based on the attainment of desired wildlife habitat conditions that emphasize the habitat requirements of sage grouse on strutting grounds and all surrounding nesting/

wintering habitats, rather than exclusively focusing management direction within 2 mile buffer areas around leks and on winter ranges. A generally balanced emphasis on game and nongame species needs in all upland habitats would be pursued.

This alternative assumes about 70 percent (+-10) of the habitat with the potential to support big sagebrush within each resource area would be managed in a way that substantially conforms to the considerations described in Appendix F. Management actions would maintain or establish connectivity of big sagebrush types between geographic areas at mid and fine scales. To achieve desired wildlife habitat conditions management would include a variety of methods to maintain, increase, or decrease the big sagebrush overstory.

Impacts: Impacts to wildlife habitat from proposed actions would generally be similar to those described in Alternative A with the following differences:

The effects and extent of catastrophic rangeland fires would occur slightly more often than the current situation, especially at lower elevations.

Desired wildlife habitat conditions described in Appendix F would be attained in most big sagebrush habitats whether they are seedings or native range, yielding benefits to game species and a wider array of nongame species. These conditions would result from the combined effects of rehabilitation and various project design features that place a higher emphasis on supporting healthy, productive, and diverse plants and animals.

This alternative would meet more nongame wildlife needs for western juniper associated species as a result of incorporating more site-specific design features such as leave areas and desired vegetative configurations in burn plans. Nevertheless, western juniper cover that does not possess old growth character would be further reduced.

This alternative provides the widest distribution of forest habitat preferable to wildlife. Desired wildlife habitat conditions would be expected for the forest habitat as a whole in MRA rather than primarily within the Castle Rock HMP area. These conditions would be expected as a result of limited commercial harvest, and an increase in the level of treatments designed to mitigate current forest health problems. As under Alternative A, the extent and number of stand replacing wildfires would be reduced, but the cover and structure resulting from this alternative would be more favorable for wildlife.

The impacts associated with livestock grazing administration would be similar to Alternative A, but overall they would occur at lower levels and result in fewer local adverse impacts.

Conclusion: This alternative would meet most of the forest, rangeland and woodland habitat requirements of wildlife by equally emphasizing game and nongame species goals at community levels. Sagebrush habitats would be managed for the benefit of sage grouse throughout their range rather than by emphasizing only parts of their habitat (winter ranges and within 2-mile zones surrounding sage grouse leks). The cumulative effects of this alternative would result in attaining habitat conditions favorable to sage grouse and other wildlife that use sagebrush habitats over 70 percent (+-10) of each resource area.

Key items identified as rangeland health standards for wildlife would be more fully incorporated into activity plan objectives so that habitat diversity would not only be provided at mid scales but at many of the fine scales important to wildlife.

Due to some commodity considerations, local adverse impacts to forage and cover values important to wildlife would continue to be expected in the short and long term. However, Alternative C would meet the objective.

Alternative D

Assumptions specific to Alternative D: Same as Alternative C, except that a high level of emphasis would be placed on meeting desired habitat conditions for wildlife st the fine scale. More than 90 percent of the sagebrush habitats within each resource area would be managed in a way that substantially conforms to the considerations described in Appendix F.

Impacts: Impacts to wildlife habitat from proposed actions would generally be similar to those in Alternative A with the following differences:

This alternative would emphasize attaining fine scale habitat needs for wildlife cover, structure, and forage to a high degree. Where these conditions are attainable, complex habitat structure would be much more available than under Alternative A.

Desired wildlife conditions would be attained in most big sagebrush habitats whether or not they are seedings or native range, thus benefitting most game and nongame species. These conditions would result from the combined effects of rehabilitation and various project design features that place a higher emphasis on meeting rangeland health standards. Over the long term, cover conditions in big sagebrush habitats would be expected to result in healthier, more diverse and better connected habitats for sagebrush-dependent species. Due to a general increase in the amount of area impacted by wildfire under this alternative, some of the desired wildlife cover and structure conditions in certain forestland and lower elevation rangelands influenced by cheatgrass may be difficult to attain in the short and long term.

Fewer prescribed fires in rangelands and forestland would result in reduced opportunities to enhance wildlife conditions over the long term. However, this alternative would also pose fewer risks of short-term, adverse impacts to game and nongame species associated with losses in complex habitat structure.

This alternative would meet more game and nongame wildlife needs for western juniper associated species as a result of fewer acres of western juniper harvest, or prescribed burns, with an emphasis on resource values.

Impacts associated with grazing administration, such as fencing and water developments, would be similar to Alternative A, but they would occur at much lower levels and result in the least number of local adverse impacts.

Conclusion: This alternative provides for a much higher level of structurally complex and connected wildlife habitat in rangelands and forestlands than in Alternative A. It emphasizes game and nongame wildlife community requirements to the extent practical in virtually all habitats. This is in contrast to the current tendency for typically highlighting single species habitat requirements of game animals. The result of this alternative is that habitat diversity would be nearly maximized at the coarse, mid, and fine scales except where natural events with adverse consequences to wildlife may occur.

This alternative would meet most of the forest, rangeland, and woodland habitat requirements of wildlife by equally emphasizing game and nongame species goals at community levels rather than by exclusively emphasizing key areas such as winter ranges and 2-mile zones surrounding sage grouse leks. The overall result would be better connectivity between habitats and less chances for fragmentation that benefits species indicative of simple habitat structure such as horned larks.

Key items identified as rangeland health standards for wildlife would be more fully incorporated into activity plan objectives so that habitat diversity would not only be provided at coarse scales but at many of the fine scales important to wildlife.

Due to some commodity considerations and some limitations, such as cheatgrass influences, local adverse impacts to forage and cover values important to wildlife would continue to be expected in the short and long term. However, this alternative would meet the objective.

Alternative D2

Assumptions specific to Alternative D2: Similar to Alternative D but with livestock exclusion in 32 percent of the planning area. Management objectives in big sagebrush rangelands would be based on the attainment of desired wildlife habitat conditions that emphasize the seasonally important habitat requirements of sage grouse. Prescribed treatment in sagebrush habitats would be based on the general character and degree of fragmentation or connectivity within nesting/brood rearing habitat and winter range.

Impacts: Impacts to wildlife habitat from proposed actions would generally be similar to those in Alternative A with the following differences:

This alternative would emphasize attaining fine scale habitat needs for wildlife cover, structure, and forage to a high degree. Where these conditions are attainable, complex habitat structure would be much more available than under Alternative A.

Desired wildlife conditions would be attained in most big sagebrush habitats whether or not they are seedings or native range, thus benefitting most game and nongame species. These conditions would result from the combined effects of rehabilitation and various project design features that place a higher emphasis on meeting rangeland health standards. Over the long term, cover conditions in big sagebrush habitats would be expected to result in healthier, more diverse, and better connected habitats for sagebrush-dependent species. Due to a general increase in the amount of area impacted by wildfire under this alternative, some of the desired wildlife cover and structure conditions in certain forestland and lower elevation rangelands influenced by cheatgrass may be difficult to attain in the short and long term.

Fewer prescribed fires in rangelands and forestland would result in reduced opportunities to enhance wildlife conditions over the long term. However, this alternative would also pose fewer risks of short-term, adverse impacts to game and nongame species associated with losses in complex habitat structure.

This alternative would meet more game and nongame wildlife needs for western juniper associated species as a result of fewer acres of western juniper harvest, or prescribed burns, with an emphasis on resource values.

This alternative would provide for a very high level of quality forage, cover, and structure for wildlife in sagebrush, mountain shrub and other upland habitats due to the amount of area in which AUM's would be unallocated to livestock grazing. Unallocated areas would, in effect, become reserves in which the combined values of forage, cover, and structure would be maximized for wildlife. This alternative would further conserve quality habitat conditions by avoiding management practices or the placement of new projects which encourage grazing in areas currently unused or lightly used by livestock

Subsequent to the removal of grazing, it is likely that the habitat benefits to wildlife accrued from improved herbaceous understory cover quality would substantially outweigh any negative consequences associated with reducing the amount of conditioned (grazed) forage on public land. Unforeseen changes in wildlife use patterns (such as undesired shifts of big game use onto private land) could be remediated by periodic light grazing use during seasons which have the least adverse impact on wildlife species occupying the area.

Beneficial impacts to wildlife forage, cover, and structure would be accrued in virtually all of the areas where grazing use is removed. However, these beneficial effects would be substantially diminished in their overall importance to wildlife habitat and population health

where grazing use has been equal to or less than the utilization descriptions in Appendix F. For example, all or portions of the Zimmerman (01203), Willow Creek (11004), Allotment No. 4 (10203), and Anderson (01401) grazing allotments provide very good quality upland habitat conditions that are already consistent with Appendix F under existing activity plans.

Alternative E

Impacts to wildlife habitat from proposed actions would generally be similar to those in Alternative A with the following differences.

Adverse impacts associated with energy and minerals exploration and development such as habitat destruction, direct mortalities and displacement would be eliminated.

This alternative eliminates the possibility of influencing the quality and distribution of big sagebrush shrub cover by prescriptive burning or seeding sagebrush where conditions present a limitation to wildlife habitat values.

The risks of stand replacing forestland fires and significant adverse consequences to cover, forage, and structural losses for wildlife would be highest under this alternative. These effects would be expected to dissipate over the very long term, but for several decades adverse impacts to many game and nongame species would persist.

Wildlife habitats in mountain shrub and quaking aspen habitat types would be expected to respond favorably to the absence of livestock grazing influences, and natural fire regimes. The only exception to this outcome would be where exotic species such as cheatgrass have altered fire frequencies in bitterbrush areas important to game and nongame.

The opportunities would be foregone for various land treatments such as burning or small firewood sales to improve wildlife habitat by reducing western juniper overstories where they are not consistent with site potential. Tall cover values for deer, elk, and western juniper associated nongame species would be maximized in most areas because wildfire would not be expected to carry within a majority of the western juniper habitat. Long-term losses in shrubs and herbaceous species sought as forage and cover, particularly mule deer and elk, would be expected to occur. Relative to site potentials, overall habitat productivity for wildlife would be expected to decline as western juniper expansion continues. However, in the absence of human influences, several locations would be expected to naturally attain those cover and forage characteristics desirable for wildlife.

The absence of livestock grazing influences would be expected to be maximize wildlife cover and forage values for species adversely effected by grazing use. Livestock trampling and utilization impacts to herbaceous cover needed by small species of wildlife for hiding and other life-history functions would be completely eliminated. Disruptions to nesting or other activities would be eliminated as would the risks of localized forage competition between livestock and big game. Based on the preference of some animals to seek out areas periodically grazed, such as elk, an increase in the amount of wildlife use on private land would be likely to occur in several local areas.

OHV use is limited and would result in an increase in the amount of secure habitat available for wildlife. Based on the level and extent of current problem areas, the amount of benefit to wildlife would be considered of local value only. OHV limitations under this alternative would not be expected to drastically improve current wildlife habitat quality. Limitations identified would protect most wildlife habitat values immediately and reduce the probability for needing emergency or permanent closures.

Conclusion: This alternative provides some distinct advantages for wildlife such as maximized forage and structure in upper elevation rangelands not altered by the presence of cheatgrass and the total elimination of potential impacts from energy and minerals. Adverse

impacts from forest management practices and human cause reductions in western juniper cover would be avoided.

Proposed RMP

Assumptions specific to the Proposed RMP: Management objectives in big sagebrush rangelands would be based on the attainment of desired wildlife habitat conditions that emphasize the seasonally important habitat requirements of sage grouse. Prescribed treatments in sagebrush habitats would be based on the general character and degree of fragmentation or connectivity within nesting/brood rearing and wintering areas. An area of 2 miles or more, depending on fragmentation and canopy cover types, would be considered in management prescriptions and monitoring. A generally balanced emphasis on game and nongame species needs in all upland habitats would be pursued.

This alternative assumes 70 percent or more of the habitat with the potential to support big sagebrush within each resource area would be managed to attain desired wildlife habitat conditions over the long term as described in Appendix F. Management actions would maintain or establish connectivity of big sagebrush types between geographic areas at mid and fine scales. To achieve desired wildlife habitat conditions management would include a variety of methods to maintain, increase, or decrease the big sagebrush overstory.

Impacts: Exploration for energy and minerals would likely cause some temporary and localized adverse impacts to game and nongame species due to human activities which disrupt wildlife security and direct habitat losses incurred during surface-disturbing actions. Stipulations and restrictions would permit BLM to limit conflicts within important wildlife use areas through adjustments in the timing or location of activities.

Adjustments in the location or timing of saleable mineral extraction sites would be expected to limit adverse impacts to wildlife where necessary.

Based on the energy and minerals development scenario, production activities would likely have localized adverse impacts to game and nongame species habitats including direct mortalities to some species, such as small mammals and reptiles, and the destruction of habitat. Most species of wildlife would likely vacate a majority of the immediate development areas and some adjoining land in order to avoid sustained human disturbances. Where development overlaps with an intensively used big game area, the resulting impacts would be considered significant but only at a local level. Following the cessation of development activities, reclamation, and mine closure, some wildlife would reoccupy all or part of their former ranges.

Wildfire, short of catastrophic levels, and prescribed fire, in large monoculture stands of big sagebrush or western juniper, would generally benefit some species of wildlife in the long and short term by diversifying habitat structure, providing short-term improvement in forage palatability, increasing the availability of herbaceous forage plants, and increasing the amount of habitat edge. Some of these habitat changes would result in adverse impacts to species reliant on large tracts of connected sagebrush types.

Catastrophic rangeland fires within the vicinity of recent burns and grassland dominated sites would be expected to cause cumulative adverse impacts to shrub cover important for game and nongame wildlife. These impacts would be expected to occur at a large geographic scale with substantial cover losses affecting one or more GMA's, especially at lower elevations. Depending on shrub overstory recovery rates and returning fire frequency, these impacts could extend over short and long term. Adverse effects would result which diminish habitat productivity and diversity for entire communities of sagebrush steppe and woodland wildlife as described in Chapter 2.

Stand replacing wildfire in forested habitats would be reduced but not eliminated. Some significant short and long-term cover, and structural losses for game and nongame species would occur. Cover and structural losses would dissipate over the long term, but for several decades adverse impacts such as losses of connectivity among habitats would persist.

Prescribed fire in forest types would be expected to foster long-term benefits to forest dwelling species by helping to restore natural processes and functions that have been disrupted over the last several decades. Prescribed fire consistent with Appendix F would allow for the maintenance of thermal and security cover for deer and elk, while also avoiding many of the adverse impacts to special habitat features, such as snags and old growth required by several nongame species.

Wildlife habitats in mountain shrub and quaking aspen would be expected to respond favorably to the effects of periodic prescribed fires because of the stimulation to quaking aspen stand vigor and reductions in competition from some species such as western juniper. Compared to wildfires, prescribed fire would have a better potential to result in outcomes favorable to wildlife forage and structure as long as their size and sequence within geographic areas would accommodate wildlife needs.

Some wildfires would be expected to cause short and long-term losses of mountain shrub cover in species such as bitterbrush resulting in reductions in browse availability for big game and losses in nesting or hiding cover for nongame species. Rehabilitation for wildlife habitat values would be expected to restore some or most losses in local areas where anticipated natural recovery rates are slow.

Desired wildlife habitat conditions described in Appendix F would be attained in most big sagebrush habitats whether they are seedings or native range, yielding benefits to game species and a wider array of nongame species. Connectivity of important habitat characteristics (such as shrub overstory and herbaceous understory) would be present in most native and seeded rangelands These conditions would result from the combined effects of rehabilitation and various appropriate project design features that place a higher emphasis on supporting healthy, productive and diverse plants and animals.

Avoidance of prescriptive burning or seeding near recently burned areas or grassland dominated habitats would reduce some of the adverse cumulative impacts to cover values for game and nongame species associated with this alternative. Shrub cover rehabilitation within native range and some seedings (such as adaptive management based on conditions within GMA's) would restore game and nongame species cover and forage values that are missing due to frequent fire or slow shrub overstory recovery.

Treatments designed to decrease or eliminate noxious weeds in rangeland, woodland, and forest types would benefit upland wildlife habitats by reducing or eliminating the chances for dominance of plant species with limited forage or cover values.

Due to the low potential for fire occurrence and the avoidance of commercial harvest, stands of old growth western juniper habitat would be maintained and left available for game and nongame wildlife use.

This alternative would meet nongame wildlife needs for western juniper associated species as a result of incorporating more site-specific design features such as leave areas and desired vegetative configurations in burn plans. Nevertheless, western juniper cover that does not possess old growth character would be diminished overall and a reduction in wildlife species associated with western juniper types would occur.

This alternative provides the widest distribution of forest habitat preferable to wildlife. Desired wildlife habitat conditions would be expected for the forest habitat as a whole in MRA rather than primarily within the Castle Rock HMP area. These conditions would be

expected as a result of limited commercial harvest and an increase in the level of treatments designed to mitigate current forest health problems. As under Alternative A, the extent and number of stand replacing wildfires would be reduced, but the cover and structure resulting from this alternative would be more favorable for wildlife.

Adverse impacts associated with wild horses include competition with big game for water resources during droughts and depletion of local areas of adequate forage and cover for wildlife. Under drought conditions, the presence of wild horses would increase competition for water which would periodically result in additional mortalities of pronghorn, and to a much lesser extent, mule deer.

Adjustments in the timing, duration, or location of grazing use would allow BLM to continue to provide the forage base necessary to meet ODFW management objectives. Greenup in seedings that supply forage for wintering big game or Canada geese would continue to be available. Cattle use could be permitted on some greenup as long as big game forage demands are met and utilization levels are consistent with descriptions in Appendix F. This would be a change from current management in MRA and JRA.

Areas unallocated to livestock grazing would provide for a very high level of quality forage, cover, and structure for wildlife in sagebrush, mountain shrub, and other upland habitats. Unallocated areas would become reserves in which the combined values of forage, cover, and structure would be maximized for wildlife.

The habitat benefits to wildlife accrued from the removal of livestock grazing would substantially outweigh any negative consequences associated with reducing the amount of conditioned (grazed) forage on public land. Most public land is already grazed and conditioned forage for wildlife is not in short supply. Following the removal of livestock grazing, any unforeseen adverse consequences resulting from changes in wildlife use (such as shifts of big game use onto private land) could be resolved by periodic light grazing use during seasons which have the least impact on wildlife that occupy the area.

Beneficial impacts to wildlife forage, cover, and structure would be accrued in virtually all areas where grazing use is removed. However, the beneficial effects would be substantially diminished in their overall importance to wildlife habitat and population health where grazing use has been similar to or less than the utilization descriptions of Appendix F.

New reservoirs or pipelines would provide additional sources of drinking water important to some wildlife. However, the extension of grazing impacts in previously unused areas following water development and fence construction would reduce the availability of ungrazed or lightly used rangelands which are preferred or more productive for many species of wildlife. Avoiding the development of livestock water in ungrazed or lightly used rangelands would be beneficial for wildlife forage, cover, and structure.

The necessity for additional fencing would increase the likelihood of some unavoidable disruption to some big game movements, increased vulnerability to predation, and injury or death due to collision or entanglement. Where there is a need for wildlife to escape from human disturbance or where heavy snow cover conditions are present, death losses or injury that are ultimately attributable to fencing can result. Properly designed fencing reduces the likelihood of death or injury to wildlife, but it does not completely eliminate potential for harm to animals.

Recreational activity could cause some localized damage to vegetation, special habitat features used by wildlife, or adversely affect habitat security. These impacts could be considered significant locally and would be likely to foster the need for modification of uses to minimize impacts to wildlife. However, recreational use as proposed is not likely to reach levels that would seriously impact wildlife habitat values.

OHV's and roads would be expected to cause some localized damage and reductions in wildlife habitat. More importantly, an increased chance for disruptions of habitat security within seasonally important areas may occur. For example, snowmachine or helicopter use on big game winter ranges would likely cause adverse impacts to big game security, forage availability, and ultimately their winter survival. These impacts would be considered significant locally and worthy of mitigation measures on a case-by-case basis. The impacts could be significant enough to trigger the need for seasonal or permanent closures to OHV's. The size and nature of seasonal closures would be determined on a case-by-case basis based on remedies needed for the species affected.

Management objectives within SMA's would allow for the maintenance or enhancement of a wide variety of wildlife habitat values by promoting natural conditions. For example, Canada geese and raptors, considered to be ORV's in the Owyhee NWSR corridor, would be protected or enhanced by adjusting uses when monitoring data indicate they are being adversely impacted. Directives in the NWSRA to avoid substantial interference with public use and enjoyment would prevent BLM from maximizing wildlife ORV's in NWSR's but allow for a high level of protection.

Although SMA's clearly facilitate the protection of high wildlife resource values, their effectiveness in helping to meet landscape level wildlife habitat conservation is limited and substantially dependent upon the presence of healthy conditions in surrounding rangelands which often have no special designation.

Opportunities for guzzler water developments are likely be very limited within WSA's and NWSR's, in order to maintain natural values and avoid visual resource impacts. Except where consistent with IMPLWR or other objectives, this would result in the loss of several local opportunities to support wildlife where new water sources would expand distributions into unoccupied ranges. These foregone opportunities could be significant in some local areas but would not be a substantial hindrance to ODFW goals.

Most land and realty actions, such as issuance of rights-of-way, would have limited and temporary adverse impacts to wildlife habitat. Temporary restrictions and other adjustments would be expected to limit the adverse human disturbance impacts to seasonally sensitive wildlife use areas. Rehabilitation following surface disturbances would restore most structure and forage values impacted. Electrical utility corridors could pose some additional threats of electrocution or collision mortalities to several species of birds such as waterfowl, raptors, and some upland game birds. Meeting desired wildlife habitat conditions for power lines and other structures would minimize most significant impacts to wildlife.

Land tenure adjustments would have the potential to result in a wide variety of impacts that could be negative, positive, or with no effect. The effects would need to be analyzed on a case-by-case basis.

Conclusion: This alternative would meet most of the forest, rangeland, and woodland habitat requirements of wildlife by equally emphasizing game and nongame species goals at community levels. Sagebrush habitats would be managed for the benefit of sage grouse throughout their range rather than by emphasizing only parts of their habitat (winter ranges and within 2-mile zones surrounding sage grouse leks). The cumulative effect of attaining habitat conditions favorable to sage grouse and other wildlife that use sagebrush habitats over 70 percent or more of each resource area would be reasonably good connectivity among sagebrush habitats and a limited amount of area with simple habitat structure that supports grassland species such as horned larks.

Key items identified as rangeland health standards for wildlife would be more fully incorporated into activity plan objectives so that habitat diversity would not only be provided at coarse scales but at many of the fine scales important to wildlife.

Due to some commodity considerations, local adverse impacts to forage and cover values important to wildlife would continue to be expected in the short and long term. However, the Proposed RMP would meet the objective.

Summary of Impacts

Alternatives A and B result in cumulative impacts to upland wildlife habitat that still meet many of the basic ODFW management goals, but primarily at mid scales and often lacking at fine scales. Alternative A would result in the most risk for needing to place some animals on special status species lists in big sagebrush types and it would be expected to result in the least amount of habitat complexity and structure for game and nongame species.

Alternatives C, D, D2, and the Proposed RMP place a higher emphasis on meeting both mid- and fine-scale objectives for structure and other habitat requirements of wildlife especially in big sagebrush habitats. Consequently the cumulative effects of these alternatives would be favorable to sage grouse and other species that use sagebrush habitats. Under each of these alternatives animal and plant community integrity and connectivity would be more fully met in the process of pursuing rangeland health standards compared to Alternatives A or B.

Alternative D2 provides the greatest amount of quality forage, cover, and structure for wildlife due to the removal of grazing use on 32 percent of the planning area.

Given the natural occurrence of wildfires and other impacts to big sagebrush communities, attaining the amount of big sagebrush habitat suitable for sage grouse and other species that use big sagebrush habitats (90 percent or more within each resource area) described under Alternatives D and D2 would be very difficult.

There are some highly desirable features of Alternative E including reduced human impacts to wildlife security, no mining activity, and maximized forage and cover in upper elevation rangelands not currently affected by the presence of cheatgrass. However, in spite of BLM actions to suppress some wildfire in Alternative E, adverse impacts (sagebrush habitat fragmentation) from fires in lower elevation big sagebrush rangelands would likely accelerate and pose an even greater risk to species that use sagebrush habitats.

None of the alternatives would be expected to result in the need for listing animals under the protection of the ESA.

Special Status Animal Species

Objective 1: *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.*

Assumptions common to all alternatives: BLM actions that affect special status species will involve a process that includes consultation, cooperation, and coordination with the U.S. Fish and Wildlife Service (USFWS) and ODFW. With the exception of Alternative E, impact analyses that follow assume land uses will result in conformance with management guidance in existing conservation agreements and biological opinions (BO's) negotiated with the USFWS.

Desired wildlife habitat conditions for big sagebrush communities, the dominant vegetation type within the analysis area, are based on the intent of meeting most of the cover, forage, structure, and habitat diversity needs of sage grouse as described in Appendix F. The amount

of area resulting in conditions favorable to sage grouse varies by alternative consistent with the assumptions described under the wildlife objective for upland habitats.

Management assumptions for Wildlife and Wildlife Habitat Objective 2 and Special Status Animal Species Objective 1 are complimentary to one another and would result in an outcome that would support multiple species of wildlife at the landscape level.

Fish and Aquatic Species

Alternative A

Bull trout impacts: There are currently no mining claims within watersheds occupied by bull trout, and potential for mineral development is low. However, if locatable mineral development and exploration within RCA's were to occur, surface water quality, water table, and riparian integrity would be affected. Although all practicable measures to restore and maintain bull trout habitat are required of mining operators, impacts to resources would be likely. Stipulations and restrictions would permit BLM to limit conflicts within bull trout habitat through adjustments in the timing or location of activities. Additional impacts to RCA's from mining may occur when facilities and roads are located inside RCA's because no practicable alternatives exist. Although facilities are to be located and constructed in order to minimize impacts to RCA's and bull trout, localized surface impacts would nevertheless occur.

Any mining operations outside of RCA's, whether or not they are locatable, leasable, or saleable, that would adversely affect RMO's would be required to maintain, protect, or mitigate for impacts on bull trout. By designing operations to meet water quality standards, incorporating BMP's, and adhering to State and Federal regulations, there would be minimal adverse effects to RCA's and bull trout.

Strategy on all wildland fires that involve riparian areas would be total suppression. Most riparian areas would not be adversely affected if fires are suppressed before entering RCA's. Impacts to bull trout habitat from wildland fire surface disturbance and suppression tactics are not expected to be significant within those RCA's that are in PFC and have the ability to rebound. Wildland fire suppression in RCA's that are not in PFC would have the potential to cause short-term adverse effects to water quality and RMO's by increasing sediment and streambank erosion and reducing thermal cover.

Timber harvest would be prohibited in RCA's in bull trout habitat unless catastrophic events (such as fire, flood, insects) result in degraded riparian conditions that would benefit from salvage, and where salvage would not adversely affect bull trout or retard or prevent attainment of RMO's. Where forest management occurs in uplands, implementation of this alternative would result in the maximum amount of initial ground disturbance. This disturbance would increase surface flow and sediment transport to streams, but RCA's would act as buffer areas to protect existing riparian vegetation, provide shade for air and water temperature control, and trap sediment. Increased forage created by forest management in uplands would tend to draw wildlife and livestock from streams and RCA's, promoting attainment of RMO's.

No wild horse HMA's currently exist within the range of bull trout and consequently no impacts are anticipated.

Within bull trout streams, site-specific restrictions imposed on livestock grazing by USFWS's BO should confer long-term protection and benefits to trout populations.

When recreational use adversely affects bull trout or prevents or retards attainment of RMO's, appropriate actions would be implemented. Potential effects on water quality and RCA's resulting from concentrated recreational use include concentrations of solid wastes,

increased soil compaction, and increased erosion. Education, use limitations, traffic control devices, increased maintenance, relocation of facilities and/or specific site closures would be implemented; but if these are not effective in meeting RMO's and avoiding adverse effects on bull trout, the practices or occupancy would be eliminated. When impacts from OHV use on RMO's are identified, emergency limitations and closures would be used to prevent further degradation.

Roads are a major source of sediment transport from surface disturbances to stream systems. The influence of existing roads on RMO's would be determined, and road and drainage features that retard attainment of RMO's would be reconstructed. New roads would meet RMO's and avoid adverse effects to bull trout, but construction of new roads in areas which could impact bull trout would be extremely unlikely.

Land exchanges have the potential to have either negative or positive impacts and would need to be analyzed on a case-by-case basis. Land acquisition, exchange, and conservation easements would be used to meet RMO's and facilitate restoration of bull trout populations.

Lahontan cutthroat trout impacts: Impacts to Lahontan cutthroat trout would be similar to those described for bull trout, except for the following:

Mineral activity occurs in the region inhabited by Lahontan cutthroat trout, and likelihood for development and exploration is greater than for bull trout.

Impacts from juniper management activities would be unlikely because most Lahontan cutthroat trout habitat does not occur in juniper woodlands.

Wild horses may cause short-term negative effects on Lahontan cutthroat trout habitat inside HMA's. Surface disturbances and loss of vegetation in the uplands and riparian areas could occur, especially when numbers are concentrated around springs or riparian areas. These negative effects would continue until herds are maintained at levels that allow water quality standards and PFC to be met in streams and other surface waters that affect trout habitat. Implementation of this alternative would result in the largest increase of exclosure fencing constructed along RCA's to protect habitat from adverse effects of wild horse use. If fencing is required in HMA's, the acreage of riparian area available to wild horses would be minimized.

Columbia spotted frog impacts: As Federal candidates, Columbia spotted frogs receive higher priority for the application of management actions than other special status species except for those that are listed or proposed. However, they are not subject to protections inherent in the Section 7 consultation process. The BLM would manage spotted frog habitat in accordance with Alternative A of the Fish and Aquatic Habitat objectives, and Wildlife and Wildlife Habitat Objective 1, but specific habitat objectives would be introduced into BLM activity plans if habitat needs for the species are not met.

Short-term impacts to frog habitat may result from surface-disturbing activities such as mining, fire, grazing, forest management, wild horses, or recreation, but most of these impacts could be minimized or eliminated through timing or mitigation. This alternative focuses on riparian areas instead of entire watersheds and long-term improvements to frog habitat under this alternative may be slow.

Conclusion: Bull trout habitat management objectives would be met under Alternative A except for areas influenced by locatable minerals. Short-term negative impacts would be high from cumulative surface disturbances that could occur during plant community restoration combined with mineral extraction. However, mineral development in the region is unlikely, and mitigation would lessen the effects of surface disturbances in RCA's if they were to occur. Long-term benefits would be expected but at a relatively slow rate due to lack of management at a watershed level.

Lahontan cutthroat trout habitat management objectives would be met by Alternative A, except for possible impacts from authorized locatable mining operations in riparian areas. Short-term negative impacts would be high from cumulative surface disturbances that could occur during plant community restoration combined with mineral extraction. Long-term benefits would be expected but at a relatively slow rate due to lack of management at a watershed level.

Alternative A will meet habitat management objectives for the Columbia spotted frog, with short- and long-term effects similar to those of Lahontan cutthroat trout. However, spotted frogs would receive less protection from adverse effects of mineral activity.

Alternative B

Bull trout impacts: Impacts to bull trout habitat from proposed actions would be similar to those already described in Alternative A with the following exceptions:

The North Fork Malheur River (3.6 miles) would be suitable for NWSR designation, with bull trout identified as an ORV. The river corridor would be closed to mineral activity. Emphasis would be on protection of bull trout, and the overall effect would be positive. Some short-term negative effects may occur due to increased visitor use and impacts of catch and release angling, but long-term impacts on fish populations would be mitigated through coordination with ODFW.

Lahontan cutthroat trout impacts: Impacts to trout habitat from proposed actions would be similar to those already described in Alternative A with the following exceptions:

Stream segments within the Whitehorse Basin ACEC would be closed to saleable mineral activity.

Impacts to trout habitat from wild horses would be greater than Alternative A because less (25 percent less) exclusion fencing would be constructed along streams to mitigate adverse effects. Localized short and possibly long-term impacts from wild horses would be the most prevalent along longer stretches of streams and riparian/wetland areas. Regional cumulative impacts to riparian areas would not be expected to be significant from wild horse use.

Columbia spotted frog impacts: Impacts to frog habitat from proposed actions would be similar to those already described in Alternative A with the following exceptions:

NWSR designation of the North Fork Malheur River (3.6 miles) as suitable would protect frog habitat in that area from mining activity and greatly reduce probability of other surface disturbing activities.

Wild horse impacts would be similar to those for Lahontan cutthroat trout (above).

This alternative focuses on specific sites rather than riparian or watershed ecosystems, and long-term improvements to frog habitat under this alternative would occur but may be slow.

Conclusion: Bull trout habitat management objectives would be met under this alternative. NWSR designation would eliminate short- and long-term negative effects of mineral activity, thereby lessening the cumulative impacts caused by surface disturbances from plant community restoration. Any short-term negative effects of increased visitor use would be mitigated through coordination with ODFW. Long-term benefits would be expected but at a relatively slow rate due to lack of management at a watershed level.

Lahontan cutthroat trout habitat management objectives would be met by this alternative, but short and possibly long-term impacts from authorized locatable mining operations and wild

horses are possible in riparian areas. Long-term benefits would be expected but at a slower rate due to lack of management at a watershed level.

This alternative would meet habitat management objectives for the Columbia spotted frog, with short- and long-term effects similar to those of Lahontan cutthroat trout, but with less protection from impacts of mining operations.

Alternative C

Bull trout impacts: Impacts to fish habitat from proposed actions would be similar to those already described in Alternative A with the following exceptions:

Management strategies on wildland fires outside and within RCA's would be to use appropriate suppression, rather than full suppression. Most bull trout habitat would not be adversely affected by wildland fire if it is suppressed before entering RCA's or when RCA's are in PFC. Wildland fire suppression in RCA's that are not in PFC would have the potential to cause short-term adverse effects to water quality and RMO's by increasing sediment and streambank erosion, and reducing thermal cover. Bull trout habitat would benefit from fire if burning is needed to promote natural ecosystem function. This alternative minimizes potential for catastrophic fires that could severely impact fish habitat.

Implementation of this alternative would minimize the amount of initial ground disturbances from stand entry for conducting forest management prescriptions, and impacts to bull trout habitat would be less than in Alternative B.

Lahontan cutthroat trout impacts: Impacts to Lahontan cutthroat trout habitat would be similar to those already described in Alternative A with the following exceptions:

Impacts of wildland fire would be similar to those of bull trout in this alternative.

Wild horses may cause short-term negative effects on Lahontan cutthroat trout habitat inside HMA's because 50 percent less exclusion fencing would be constructed along streams than was proposed in Alternative A. Surface disturbances and loss of vegetation in the uplands and riparian areas could occur, especially when numbers are concentrated around water. These negative effects would continue until herds are maintained at levels that allow water quality standards and PFC to be met in streams and other surface waters that affect trout habitat.

Columbia spotted frog impacts: Impacts to frog habitat would be similar to those already described in Alternative A with the following exceptions:

Wild horse impacts would be similar to those for Lahontan cutthroat trout in this alternative (above).

Impacts of wildland fire would be similar to those of bull trout in this alternative.

SMA designations (both ACEC's and NWSR's) provide additional protections to frog habitat in the North Fork Malheur River and Dry Creek Gorge. Emphasis would be on protection of trout and spotted frogs, and the overall effect would be positive. Some short-term negative effects may occur due to increased visitor use, but impacts would be mitigated by appropriate limits or closures of recreational activity.

This alternative focuses on watershed-level management, and also includes dynamic restoration management of plant communities. Long-term improvements to frog habitat under this alternative would occur at a faster rate than under Alternative A.

Conclusion: Bull trout habitat management objectives would be met under this alternative. The greatest protection from adverse short-term impacts of severe wildland fires would exist. Long-term improvements to fish habitat will occur at a faster rate than under Alternative A due to watershed-level management.

Lahontan cutthroat trout habitat management objectives would be met by this alternative although impacts would be possible from authorized locatable mining operations in riparian areas. Short-term negative impacts from wild horses would be greater than Alternative A, but long-term improvements to fish habitat will occur at a faster rate than under Alternative A due to watershed-level management.

This alternative would meet habitat management objectives for the Columbia spotted frog, and, through SMA's, would offer protection from mining and other surface disturbing activities. Short-term impacts would be possible from mining operations in frog habitat outside SMA's and from wild horses. Long-term improvements to frog habitat will occur at a faster rate than under AlternativeA due to watershed-level management.

Alternative D

Bull trout impacts: Impacts to fish habitat from proposed actions would be similar to those in Alternative A, with the following exceptions:

Strategy for wildland fires involving riparian areas would be to use appropriate suppression, rather than full suppression. Implementation of this alternative would result in fewer environmental restrictions and would allow fires of larger magnitude, with greater possibility of catastrophic fire. However, more opportunities for vegetation rehabilitation and fuel reduction would exist. Most bull trout habitat would not be adversely affected by wildland fire if fire is suppressed before entering RCA's or when RCA's are in PFC. Bull trout habitat would benefit from fire if burning is needed to promote natural ecosystem function.

Implementation of this alternative would result in no initial ground disturbances from stand entry for forest management, and would minimize impact on bull trout habitat.

Dispersed recreation would be emphasized in this alternative, but when recreational use adversely affects bull trout or prevents or retards attainment of RMO's, appropriate actions would be applied.

Lahontan cutthroat trout impacts: Impacts to fish habitat would be similar to Alternative A with the following exceptions:

Impacts of wildland fire would be similar to those of bull trout in this alternative.

Trout habitat within Whitehorse Basin and Steens ACEC's would be protected from ground disturbing impacts associated with mining through mineral withdrawals or closures.

Wild horses may cause short-term negative effects on Lahontan cutthroat trout habitat inside HMA's because only 10 percent of the exclusion fencing proposed in Alternative A would be constructed along streams. Surface disturbances and loss of vegetation in the uplands and riparian areas could occur, especially when numbers are concentrated around water. These negative effects would continue until herds are maintained at levels that allow water quality standards and PFC to be met in streams and other surface waters that affect trout habitat.

Columbia spotted frog impacts: Impacts to frog habitat would be similar to Alternative A with the following exceptions:

Impacts of wildland fire would be similar to those of bull trout in this alternative.

Frog habitats that lie within proposed ACEC's, such as Dry Creek Gorge, or suitable NWSR segments, such as North Fork Malheur River, would be protected from all mining activities. This alternative focuses on watershed-level management, although it does not include proactive management for restoration of plant communities. Long-term improvements to frog habitat would occur at a faster rate than under Alternative A. The potential for positive, long-term benefits are also higher than Alternative C because of the greater emphasis on native species and natural processes.

Modified grazing practices on uplands and along stream channels would result in long-term beneficial effects to water quality and the maintenance, protection, or attainment of RMO's that benefit frog habitat. Pastures with RCA's that are not conducive to grazing schedules would require total exclusion from grazing. This alternative generates the maximum allotment and pasture exclusion acreage for the maintenance, protection, and attainment of RMO's in RCA's.

Conclusion: Bull trout habitat management objectives would be met under this alternative. Cumulative short-term negative impacts would be lessened compared to Alternative A by restrictions on timber harvest. Long-term improvements to fish habitat will occur at a faster rate than under Alternative A due to watershed-level management.

Lahontan cutthroat trout habitat management objectives would be met by this alternative. Short- and long-term negative impacts of mining would not occur in the majority of habitat areas, but short-term impacts of wild horses may be greater than Alternative A. Long-term improvements to fish habitat will occur at a faster rate than under Alternative A due to watershed-level management.

This alternative would meet habitat management objectives for the Columbia spotted frog, and, through SMA's, would offer protection from mining and other surface-disturbing activities. Impacts would be possible from mining operations in frog habitat outside SMA's. Long-term improvements to frog habitat will occur at a faster rate than under Alternative A due to a watershed-level perspective. The potential for positive, long-term effects are higher than Alternative C because of greater emphasis on native species and natural processes.

Alternative D2

Bull trout impacts: Impacts to bull trout habitat from proposed actions would be similar to those in Alternative D, except that livestock grazing would be permanently removed from stream segments which provide habitat for bull trout. These habitats would receive more immediate short- and long-term beneficial effects than would be provided by Alternative D.

Lahontan cutthroat trout impacts: Impacts to trout habitat from proposed actions would be similar to those in Alternative D, except that livestock grazing would be permanently removed from stream segments which provide habitat for Lahontan cutthroat trout. These habitats would receive more immediate short- and long-term beneficial effects than would be provided by Alternative D.

Columbia spotted frog impacts: Impacts to frog habitat from proposed actions would be similar to those in Alternative D, except that livestock grazing would be permanently removed from wetlands or stream segments which provide habitat for Columbia spotted frogs. These habitats would receive more immediate short- and long-term beneficial effects than would be provided by Alternative D.

Conclusion: Bull trout habitat management objectives would also be met under this alternative. The potential for positive, long-term effects are higher than Alternative C because of greater emphasis on native species and natural processes, and higher than Alternative D because of removal of livestock grazing from bull trout habitats.

Lahontan cutthroat trout habitat management objectives would be met by this alternative. The potential for positive, long-term effects are higher than Alternative C because of greater emphasis on native species and natural processes, and higher than Alternative D because of removal of livestock grazing from Lahontan cutthroat trout habitats.

Habitat management objectives would be met for the Columbia spotted frog, and long-term improvements to frog habitat would occur at a faster rate than under Alternative A due to a watershed-level perspective. The potential for positive, long-term effects are higher than Alternative C because of greater emphasis on native species and natural processes, and higher than Alternative D because of removal of livestock grazing from frog habitats.

Alternative E

Bull trout impacts: Mineral development would not exist under this alternative, and therefore no impacts of mining on bull trout populations or habitat would occur.

Wildland fire would not be suppressed except to protect human life and property, and the potential for catastrophic fire would be maximized. Fire could both benefit and harm bull trout habitat. Those riparian areas with diverse species composition and proper function would continue to improve and the chance of catastrophic fire would be reduced. However, stream channels and RCA's that are not in PFC would continue to function improperly. Because use of prescribed fire is prohibited, those RCA's with annual vegetation, excessive insect damage and disease, excessive fuel loadings, and low species diversity are at greater risk of intense wildfire that would damage bull trout populations. The greatest potential of long-term and cumulative impacts from affected uplands on bull trout habitat would occur under this alternative.

Timber harvest and forest management would not occur under this alternative. Without ground disturbances in uplands, no increases in overland flow or sediment transport to streams would occur, and bull trout habitat would benefit. Where silvicultural practices in RCA's would have facilitated achievement of RMO's (for such as by increasing woody debris), this alternative would retard the process and adversely affect bull trout.

Rangeland grazing would not occur under this alternative, and thus adverse effects from this action would not occur.

Only recreation sites associated with congressionally designated areas would be managed in RCA's, and the lack of recreation management to other areas could result in significantly degraded water resources and riparian conditions. Motorized OHV use would be the most restrictive, and therefore impacts from vehicles would not occur in bull trout habitat. New road construction in RCA's would not occur under this alternative, but adverse effects from erosion and sediment transport to streams would increase from deteriorating, unmaintained road systems.

Lahontan cutthroat trout impacts: Impacts to Lahontan cutthroat trout habitat would be similar to those for bull trout, except for :

Both short and long-term negative effects from wild horses would be as described under Alternative A.

Columbia spotted frog impacts: Impacts to frog habitat would be similar to those for bull trout and Lahontan cutthroat trout.

Conclusion: Bull trout management objectives would be met over most of the planning area except for areas where long-term habitat degradation has occurred. Short-term impacts would be minimal under this alternative, though those that do occur would not be mitigated. Generally, where natural restoration of desired plant communities are possible, improve-

ments would occur quickly. However, improvements would not occur in areas where natural processes may be unable to reverse negative trends, such as encroachment of western juniper. Closure of open OHV use areas would lessen short- and long-term vehicular impacts to trout habitat, but deemphasis of recreation management could lead to degradation of popular areas.

Despite lack of restorative management in areas where natural processes may be unable to reverse negative trends, long-term cumulative effects would be positive. Removal of livestock, mining, and OHV use would greatly benefit trout habitat by reducing disturbances to streambanks, riparian areas, and upland portions of watersheds.

Lahontan cutthroat trout habitat management objectives would be met by Alternative E in a manner similar to bull trout, except that short- and long-term impacts of wild horses would still occur.

Alternative E would meet habitat management objectives for the Columbia spotted frog in most areas, but long-term degradation of frog habitat could occur in some sites from lack of recreation and restorative management. Short-term impacts would be minimal under this alternative, though those that do occur would not be mitigated. Generally, where natural restoration of desired riparian communities is possible, improvements would occur quickly.

Proposed RMP

Bull trout and Lahontan cutthroat trout are managed according to site-specific BO's in compliance with USFWS and pertinent recovery plans, with the ultimate objective of delisting the species. BLM minimizes adverse impacts to listed species from any land use activity. With few exceptions, this plan does not describe site-specific activities. Because of this, determination of effects for site-specific activities and required Section 7 consultation would occur as those activities are planned.

Bull trout impacts: There are currently no mining claims within watersheds occupied by bull trout, and potential for mineral development is low. Because bull trout habitat lies in a designated suitable NWSR segment, all mining activity would be precluded within the river corridor. However, mineral activity elsewhere in the watershed could cause localized surface impacts that would affect surface water quality, water table, and riparian integrity. Any mining operations outside of RCA's, whether or not they are locatable, leasable, or saleable, that would adversely affect RMO's would be required to maintain, protect, or mitigate for impacts on bull trout. By designing operations to meet water quality standards, incorporating BMP's, and adhering to State and Federal regulations, there would be minimal adverse effects to RCA's and bull trout.

Management strategies on wildland fires outside and within RCA's would be to use appropriate suppression, rather than full suppression. Most bull trout habitat would not be adversely affected by wildland fire if it is suppressed before entering RCA's or when RCA's are in PFC. Wildland fire suppression in RCA's that are not in PFC would have the potential to cause short-term adverse effects to water quality and RMO's by increasing sediment and streambank erosion, and reducing thermal cover. Bull trout habitat would benefit from fire if burning is needed to promote natural ecosystem function. This alternative minimizes potential for catastrophic fires that could severely impact fish habitat.

Timber harvest would be prohibited in RCA's in bull trout habitat unless catastrophic events (such as fire, flood, insects) result in degraded riparian conditions that would benefit from salvage, and where salvage would not adversely affect bull trout or retard or prevent attainment of RMO's. Where forest management occurs in uplands, implementation of this alternative would result in the minimum amount of initial ground disturbance. This disturbance could increase surface flow and sediment transport to streams, but RCA's would act as buffer areas to protect existing riparian vegetation, provide shade for air and water tempera-

ture control, and trap sediment. Increased forage created by forest management in uplands would tend to draw wildlife and livestock from streams and RCA's, promoting attainment of RMO's.

No wild horse HMA's currently exist within the range of bull trout and consequently no impacts are anticipated.

Within pastures with bull trout streams, site-specific restrictions imposed on livestock grazing by USFWS's BO should confer long-term protection and benefits to trout populations. Because this alternative emphasizes management of watersheds and entire fish communities rather than specific sites or species, modified grazing practices on uplands and along stream channels would result in additional long-term benefits to bull trout habitat throughout the associated watershed.

When recreational use adversely affects bull trout or prevents or retards attainment of RMO's, appropriate actions would be implemented. Potential effects on water quality and RCA's resulting from concentrated recreational use include concentrations of solid wastes, increased soil compaction, and increased erosion. Education, use limitations, traffic control devices, increased maintenance, relocation of facilities and/or specific site closures would be implemented, but if these are not effective in meeting RMO's and avoiding adverse effects on bull trout, the practices or occupancy would be eliminated. When impacts from OHV use on RMO's are identified, emergency limitations and closures would be used to prevent further degradation.

In this alternative, the North Fork Malheur River (3.6 miles) would be suitable for NWSR designation, with bull trout identified as an ORV. Emphasis would be on protection of bull trout, and the overall effect would be positive. Some short-term negative effects may occur due to increased visitor use and impacts of catch and release angling, but long-term impacts on fish populations would be mitigated through coordination with ODFW.

Land exchanges have the potential to have either negative or positive impacts and would need to be analyzed on a case-by-case basis. Land acquisition, exchange, and conservation easements would be used to meet RMO's and facilitate restoration of bull trout populations.

Roads are a major source of sediment transport from surface disturbances to stream systems. The influence of existing roads on RMO's would be determined, and road and drainage features that retard attainment of RMO's would be reconstructed. New roads would meet RMO's and avoid adverse effects to bull trout, but construction of new roads in areas which could impact bull trout would be extremely unlikely.

Lahontan cutthroat trout impacts: Impacts to Lahontan cutthroat trout would be similar to those described for bull trout, except for the following:

Mineral development and exploration within RCA's may impact trout populations by affecting surface water quality, water table, and riparian integrity. Although all practicable measures to restore and maintain trout habitat are required of mining operators, impacts to resources would be likely. Stipulations and restrictions would permit BLM to limit conflicts within trout habitat through adjustments in the timing or location of activities. Additional impacts to RCA's from mining may occur when facilities and roads are located inside RCA's because no practicable alternatives exist. Although facilities are to be located and constructed in order to minimize impacts to RCA's and trout, localized surface impacts would nevertheless occur.

Wild horses may cause short-term negative effects on Lahontan cutthroat trout habitat inside HMA's. Surface disturbances and loss of vegetation in the uplands and riparian areas could occur, especially when horses are concentrated around springs or riparian areas. These

negative effects would continue until herds are maintained at levels that allow water quality standards and PFC to be met in streams and other surface waters that affect trout habitat.

Columbia spotted frog impacts: As Federal candidates, Columbia spotted frogs receive higher priority for the application of management actions than other special status species except for those that are listed or proposed. However, they are not subject to protections inherent in the Section 7 consultation process. The BLM would manage spotted frog habitat in accordance with the Proposed RMP described under Fish and Aquatic Habitat objectives and Wildlife and Wildlife Habitat Objective 1, but specific habitat objectives would be introduced into BLM activity plans if habitat needs for the species are not met.

In this alternative, SMA designations (both ACEC's and NWSR's) provide additional protections to frog habitat in the North Fork Malheur River and Dry Creek Gorge. Emphasis would be on protection of trout and spotted frogs, and the overall effect would be positive. Some short-term negative effects may occur due to increased visitor use, but impacts would be mitigated by appropriate limits or closures of recreational activity.

Conclusion: This alternative would meet habitat management objectives for bull trout, Lahontan cutthroat trout, and Columbia spotted frog. Possible adverse effects from authorized locatable mining operations in riparian areas would occur in some Lahontan cutthroat trout and Columbia spotted frog habitats which do not lie within SMA's, but, where ESA regulations apply, mining operators would be required to maintain and protect habitat, or mitigate for impacts.

The potential for positive, long-term cumulative effects is high because of benefits to habitat expected from watershed-level management and emphasis on diverse plant and aquatic communities. Habitat would likely be protected from adverse impacts of severe wildland fires.

Summary of Impacts

Bull trout: All alternatives would meet habitat objectives. Cumulative short-term negative impacts are expected under all alternatives, with the highest level under alternatives A, C and Proposed RMP, followed in order by Alternatives D, D2, B, and E. This ranking is mainly due to the amount of surface-disturbing activities that could occur during plant community restoration and, for Alternative A, mineral extraction. The overall differences in short-term negative effects among the alternatives are not large, except for Alternative E, where surface-disturbing activities are greatly reduced due to absence of mining, curtailment of open OHV use, and lack of prescribed fire. For Alternatives A, B, C, D, D2, and Proposed RMP, effects could be moderated through adjustments in timing of activities, but opportunities for mitigation of effects through management do not exist for Alternative E.

Cumulative long-term benefits are expected under all alternatives. The level of long-term improvement under Alternatives C, D, D2, and Proposed RMP is much higher than that for Alternatives A, B, and E mainly because watershed-level management is emphasized. Improvement may occur faster in alternatives C and Proposed RMP because of proactive restoration management, but Alternative D2 may best achieve bull trout habitat objectives because of its emphasis on native communities and natural processes while, in addition, short-term negative effects are reduced by grazing withdrawals.

Lahontan cutthroat trout: All alternatives would meet habitat objectives. Based on cumulative effects analysis, short-term negative impacts are expected under all alternatives, with the highest level under Alternatives C and Proposed RMP, followed in order by Alternatives D, B, A, D2, B, and E. This ranking is mainly due to the amount of surface-disturbing activities that could occur during plant community restoration. The overall differences in short-term negative effects among the alternatives are not large, except for Alternative E, where surface-disturbing activities are greatly reduced due to absence of mining, curtailment

of open OHV use, and lack of prescribed fire. For Alternatives A, B, C, D, D2, and Proposed RMP, effects could be moderated through adjustments in timing of activities, but opportunities for mitigation of effects through management do not exist for Alternative E.

Long-term benefits are expected under all alternatives. The level of long-term improvement under Alternatives C, D, D2, and Proposed RMP is much higher than that for Alternatives A, B, and E mainly because watershed-level management is emphasized. Improvement may occur faster in Alternatives C and Proposed RMP because of dynamic restoration management, but Alternative D2 may best achieve Lahontan cutthroat trout habitat objectives because of its emphasis on native communities and natural processes while, in addition, short-term negative effects are reduced by grazing withdrawals.

Columbia spotted frog: All alternatives would meet habitat objectives. Cumulative short-term negative impacts are expected under all alternatives, with the highest level under Alternatives A, C, and Proposed RMP, followed in order by Alternatives D, B, D2, and E. This ranking is mainly due to the amount of surface-disturbing activities that could occur during plant community restoration and, for Alternative A, mineral extraction. The overall differences in short-term negative effects among the alternatives are not large, except for Alternative E, where surface-disturbing activities are greatly reduced due to absence of mining, curtailment of open OHV use, and lack of prescribed fire. For Alternatives A, B, C, D, D2, and Proposed RMP, effects could be moderated through adjustments in timing of activities, but opportunities for mitigation of effects through management do not exist for Alternative E.

Long-term benefits are expected under all alternatives. The level of long-term improvement under Alternatives C, D, D2, and Proposed RMP is much higher than that for Alternatives A, B, and E mainly because watershed-level management is emphasized and portions of frog habitat lie within SMA's. Improvement may occur faster in alternatives C and Proposed RMP because of proactive restoration management, but Alternative D2 may best achieve spotted frog recovery because of its emphasis on native communities and natural processes while, in addition, short-term negative effects are reduced by grazing withdrawals.

Terrestrial Species

Assumptions common to all alternatives: BLM actions that affect Federally listed species will involve a process that includes consultation with USFWS. In the case of other special status species, BLM will collaborate with USFWS and seek technical assistance when warranted. Impact analyses that follow assume land uses will result in conformance with management guidance in existing conservation agreements and BO's negotiated with the USFWS.

The ODFW will be invited to participate in the consultation, cooperation and coordination process associated with constructing and evaluating activity plans.

Desired wildlife habitat conditions for big sagebrush communities, the dominant vegetation type within the analysis area, are based on the intent of meeting most of the cover, forage, structure and habitat diversity needs of sage grouse as described in Chapter 3 and Appendix F. The amount of upland habitat capable of supporting seasonal sage grouse habitat needs varies by alternative. These variations are described under assumptions for each alternative.

Alternative A

Assumptions specific to Alternative A: Management actions in big sagebrush habitats emphasize values on big game winter range and within 2 miles of sage grouse leks. This alternative assumes that about 50 percent (+-10 percent) of the total big sagebrush habitat within each resource area would be managed to attain desired wildlife habitat conditions

over the long term as described in F-5 of Appendix F. Other habitats are managed for general consistency with the definition of the alternatives.

Northern bald eagle (Federal threatened) impacts: Due to the absence of active bald eagle nest sites, no direct or indirect impacts to breeding activities would result from any of the proposed actions.

Eagle winter roost sites dependent upon riparian habitat would be managed for maintenance or improvement of mature growth suitable for roosting activity. Forested habitats occupied by wintering eagles in MRA would be managed to retain or improve the structure and canopy closure preferred by eagles. Human activities that significantly disrupt habitat security would be eliminated by avoiding authorized uses during the winter use period. Winter use areas would be identified annually to
Agricultural Plant and Animal Health Inspection Service (APHIS) so that the potential conflicts between animal damage control methods and bald eagle foraging may be avoided.

Gray wolf (Federal endangered) impacts: There are no wolf populations currently occupying the planning area and no denning or rendezvous sites have been identified in recent interagency efforts to compile wolf observations. Most BLM management activities for nonbreeding populations are compatible with wolf protection and recovery, and prey availability for wolves is not a limiting factor within the planning area.

Canada lynx (Federal threatened) impacts: There are no self-sustaining populations of lynx within the analysis area nor have there been any consistent observations of this species which would indicate the presence of seasonal travel corridors. As such, proposed BLM management activities would not be expected to have any effect on habitat for lynx. Habitats used sporadically for dispersal and exploration would continue to be available for their use.

Other special status species impacts: Exploration for energy and minerals would be likely to cause some temporary and localized adverse impacts to special status species due to human activities which disrupt wildlife security and actual habitat losses incurred during surface-disturbing actions. Stipulations and restrictions would permit BLM to limit conflicts within important use areas through adjustments in the timing or location of activities.

Adjustments in the location or timing of saleable mineral extraction sites would limit adverse impacts where necessary.

Based on the energy and minerals development scenario, production activities could likely have localized adverse impacts on habitats of special status species including direct mortalities to some species such as small mammals and reptiles, and the destruction of habitat in the course of development. Most species would be likely vacate a majority of the immediate development areas and some adjoining land in order to avoid sustained human disturbances. Where development overlaps with an intensively used special status species habitat, the resulting impacts would be considered significant but only at a local level. Following the cessation of development activities, reclamation, and mine closure, some species would reoccupy part of their former range. Due to the generally limited opportunities identified in the energy development scenario, no regional or significant cumulative impacts to special status species habitats would be expected.

Noncatastrophic fire and prescribed fire in large monoculture stands of big sagebrush or western juniper would generally benefit some species in the long and short term by diversifying habitat structure, providing short-term improvement in forage palatability, increasing the availability of herbaceous forage plants, and increasing the amount of habitat edge. Even though these effects would be beneficial to some wildlife, these changes could have some adverse impacts on species that prefer large blocks of homogeneous vegetation types.

Wildfire and prescribed fire within sage grouse nesting and wintering habitat (typically Wyoming sagebrush types) would reduce important shrub cover and forage values, resulting in diminished sage grouse habitat productivity. Reductions in the amount/quality of sage grouse breeding and wintering habitat would be expected to increase the likelihood of needing to list the species under the protection of the ESA given the importance of these habitats to the survival of the species and the cumulative adverse impacts that have been sustained in sagebrush steppe throughout the range of the species.

Wildfire and prescribed fire within sage grouse late brood-rearing habitat (in mountain sage types) and in rangelands influenced by the effects of western juniper expansion would benefit sage grouse by increasing the availability of forbs and limiting the loss of sagebrush cover values threatened by western juniper competition. Herbaceous cover improvements (in mountain sage types) would be expected where noxious or invasive species are absent and at least remnant communities of native forbs are present.

The consequences of fire related vegetation cover changes in sage grouse late brood-rearing habitat would be highly dependent upon whether existing habitats within GMA's are well connected or fragmented from the effects of seedings, fires, and other influences. This is a judgment that should be made at the project level and in light of field data which characterizes cover conditions present within GMA's.

Although catastrophic rangeland fires are expected to be generally diminished in size and extent, those that do occur within the vicinity of recent burns and grassland dominated sites would be expected to cause cumulative adverse impacts to shrub cover important for special status species such as sage grouse. These impacts would be expected to occur at a large geographic scale with substantial cover losses affecting one or more GMA's. Depending upon shrub overstory recovery rates and returning fire frequency, these impacts could extend over the short and long term. Adverse effects which diminish habitat productivity and diversity would result.

Due to lowered fuel conditions from management actions proposed, stand-replacing wildfire in forested habitats would be reduced, thus lowering the chances significant short- and long-term cover, forage, and structural losses for special status species. Where stand-replacing fires do occur, the effects would dissipate over the long term, but for several decades adverse impacts to many game and nongame species would persist.

Prescribed fire in forest types would be expected to help foster long-term benefits to forest-dwelling species by restoring old growth forest character which has been impaired over the last several decades and by reducing the likelihood of catastrophic stand-replacing fires. Prescribed fire would be expected to facilitate and meet many of the habitat features important to special status bats and woodpeckers.

Wildlife habitats in mountain shrub and quaking aspen habitat types would be expected to respond favorably to the effects of periodic prescribed fires because of the stimulation to quaking aspen stand vigor and reductions in some woody species such as western juniper. Prescribed fire has a better potential to result in outcomes that are favorable to wildlife habitat structure and arrangement needs than what may be expected from wildfire. Some fires would be expected to cause short-term losses of mountain shrub cover and mature quaking aspen overstories resulting in localized reductions of browse availability for special status animal's nesting or hiding. However, over the long term, a majority of these habitat values would be restored.

In general, outside of the distribution of game species the risks for adverse impacts to shrub-dependent nongame species would increase. Nongame species would be displaced due to habitat fragmentation, losses of effective patch sizes, and decreased habitat connectivity resulting from the emphasis on grass production. Benefits would be provided to special status species that prefer grasslands or low vegetation structure.

Treatments designed to decrease or eliminate noxious weeds in rangeland, woodland, and forest types would benefit special status species habitats by lowering the likelihood of areas becoming unusable due to noxious weed dominance.

Stands of old growth western juniper habitat would be maintained and left available for game and nongame wildlife due to the low potential for fire occurrence and avoidance of commercial harvest.

Increased levels of various land treatments such as burning or small firewood sales would be expected to improve most rangeland wildlife habitats that are currently supporting a western juniper overstory. The impacts of restoring plant species composition and dominance to conditions approaching site potential would benefit sagebrush steppe species as a whole. This would reduce the amount of western juniper wildlife habitat, but the impacts would occur within areas where western juniper is normally patchy, rare, or absent. Attainment of desired wildlife habitat conditions within western juniper treatment areas would ensure that adequate thermal and security cover would be available for big game and that suitable conditions would be left to support activities such as ferruginous hawk and northern goshawk nesting.

Grazing management prescriptions in quaking aspen and mountain shrub habitats would be expected to provide adequate forage, cover, and structure for game and nongame species.

The necessity for high levels of additional fencing would increase the likelihood of some unavoidable disruption to some big game movements, increased vulnerability to predation, and injury or death due to collision or entanglement. Where there is a wildlife need for escape from human disturbance or where heavy snow cover conditions are present, death losses or injury that are ultimately attributable to fencing can result. Properly designed fencing reduces the likelihood of death or injury to wildlife, but it does not completely eliminate potential for harm.

Areas unallocated to livestock grazing would provide for a very high level of quality forage, cover, and structure for special status species in sagebrush, mountain shrub, and other upland habitats. Unallocated areas would become reserves in which the combined values of forage, cover, and structure would be maximized for wildlife.

The habitat benefits to wildlife accrued from the removal of livestock grazing would substantially outweigh any negative consequences associated with reducing the amount of conditioned (grazed) forage on public land. Unforeseen adverse consequences resulting from changes in wildlife use, such as shifts of big game onto private land, could be resolved by periodic light grazing use during seasons which have the least effect on wildlife species occupying the area.

Beneficial impacts to wildlife forage, cover, and structure would be accrued in virtually all of the areas where grazing use is removed. However, these beneficial effects would be substantially diminished in their overall importance to wildlife habitat and population health where grazing use has been equal to or less than the utilization descriptions of Appendix F.

This alternative provides the least amount of old growth forest habitat for wildlife which is already substantially fragmented and limited in distribution. Old growth wildlife habitat would decrease and become even more fragmented. Habitat linkages to other adjoining forestland would be reduced. Suitable patches of habitat would be available for some special status species that are either migratory and spend only part of the time on public land or have small home ranges. Species requiring large acreages of old growth would continue to be unlikely to find enough suitable habitat for them to become resident and self sustaining.

Within commercially harvestable forest stands and outside of old growth management areas, this alternative is likely to be more disruptive to wildlife security, structure, and other habitat

values due to an increase in the level of forest treatments. The emphasis on game species requirements under this alternative would likely result in fewer acres of complex forested habitats which supply features important to special status songbirds and small mammals.

Attainment of PFC in riparian habitats would be expected to meet most minimum habitat requirements for special status species. However, where specific riparian plant composition or structure is necessary to improve or restore special status species habitats, additional adjustments to activity plans which would meet desired plant community goals would be necessary.

Under this alternative, adverse impacts associated with wild horses include competition for water with big game species such as bighorn sheep during drought. Under these circumstances, the presence of wild horses could result in additional mortalities to some special status species in localized areas. Adverse impacts to plant cover and composition important to special status species would occur in local areas where wild horse utilization is high.

Higher utilization levels, increases in the number of rangeland development projects, and more efficient grazing systems would adversely affect many local areas by reducing the amount of herbaceous cover needed by species such as sage grouse. The potential for instances of forage competition between livestock and species such as bighorn sheep would increase locally in comparison with the existing situation. The likelihood of disruptions to nesting or other activities adversely affected by livestock grazing activities would increase under this alternative. Grazing use consistent with conditions described in Appendix F would be expected to meet special status species forage, cover, and structure needs.

Recreational activity could cause some localized damage to vegetation and special habitat features such as caves. These impacts may reach levels considered significant locally and worthy of adjustments in use to minimize impacts. Overall, recreational use is not likely to reach levels that would cause serious impacts to special status wildlife habitats.

OHV use and roads would be expected to cause some localized damage to special status species habitat. More importantly, an increased chance for disruptions of habitat security within winter ranges and breeding habitats could occur. These impacts would be considered significant locally and may require mitigation. The impacts, which would need to be determined on a case-by-case basis, could be significant enough to cause the need for seasonal or permanent closures to OHV's.

Most management objectives within ACEC's, WSA's, and NWSR's would compliment the upland habitat needs of special status wildlife by promoting natural systems that maintain habitat values. For example, ferruginous hawks, considered to be ORV's in the Owyhee NWSR corridor, would be protected or enhanced by adjusting uses when monitoring data indicate they are being adversely impacted. However, opportunities for artificial water developments to enhance or extend special status species habitat would likely be limited within WSA's and NWSR's in order to avoid conflicts with other values such as visual resources. This would result in the loss of several local opportunities to enhance conditions or extend the ranges of special status species where water is a limiting factor.

Some land and realty actions, such as issuance of rights-of-way, may be expected to have significant local adverse impacts to special status species habitats. Temporary restrictions would be expected to limit most adverse impacts to seasonally sensitive wildlife use areas. In some cases, complete avoidance of special status species habitat may be required. Electrical utility corridors would pose some additional threats of large raptor electrocution or collision mortalities to birds such as waterfowl and sage grouse. Wiring configurations designed to reduce the risks of electrocution, and proper placement of power lines to reduce risks of collision, would minimize potential adverse impacts to special status species.

Land exchange impacts need to be analyzed case-by-case to determine their actual impacts.

Conclusion: Management direction that focuses primarily on habitat within 2 miles of sage grouse leks and on big game winter range poses the risk of being too limited in scope to meet special status wildlife needs throughout the planning area. In spite of mitigating measures, Alternative A would generally increase the risk of needing to list sage grouse and some nongame special status species as threatened or endangered because of commodity oriented actions which conflict with wildlife habitat needs. This outcome could reasonably be expected for species dependent on rangeland and forest habitats, but probably not in riparian and woodland areas. Planned Alternative A actions for sagebrush types in and of themselves may not lead to the need for Federal listing, but when combined with the cumulative affects of factors outside of BLM influence, the likelihood of Federal listings of special status species would increase.

Adherence to management recommendations in existing USFWS recovery plans for bald eagles (winter use) would avoid significant adverse impacts to the species.

Alternative B

Assumptions specific to Alternative B: Management actions would be based on specific goals identified in existing land use plans which primarily, although not exclusively, emphasize game species

Northern bald eagle impacts: Impacts would be the same as those in Alternative A.

Other special status species impacts: Impacts to wildlife habitat from proposed actions would be similar to those already described in the Alternative A with the following differences:

Both the beneficial and adverse impacts that result from fire would occur at slightly higher levels because suppression actions would occur less frequently and prescribed fire treatments would increase under Alternative A.

Within specific areas identified in the current land use plan, forage, cover, and structure would be provided for selected special status species. Important rangeland habitat characteristics for wildlife would be present at most mid scales but not at fine scales.

Outside of the distribution of special status game species the risks for adverse impacts to shrub dependent nongame species due to forage production objectives for livestock would remain unchanged. Nongame species would be displaced for short and long-term periods of time due to shrub habitat fragmentation, losses of effective patch sizes, and decreased habitat connectivity resulting from the emphasis on grass production.

This alternative would result in fewer acres of western juniper land treatments and the adverse impacts to western juniper associated species. Where western juniper has encroached into rangeland habitats, fewer opportunities for restoring plant species composition and dominance to conditions approaching site potential would be reduced for sagebrush steppe special status species as a whole.

Management of old growth forests would be confined to the Castle Rock HMP area. Suitable patches of old growth habitat would be available for certain species that are either migratory or have small home ranges. Species requiring large acreages of old growth would be unlikely to find enough contiguous habitat for them to become resident and self sustaining. Public land supporting old growth would continue to provide some valuable habitat linkage with other adjoining forestland, for all species including special status.

Commercially harvestable forest habitats outside of old growth management areas would be managed to maintain important habitat characteristics for special status game species. Case-by-case, opportunities would occur within the Castle Rock HMP area for management which meets most species habitat requirements.

Livestock grazing and all of the related facilities and projects would continue to have the same kinds of local affects as described in Alternative A, but at reduced levels.

OHV's and roads would be expected to cause some localized damage to special status species habitat. Seasonally important areas such as winter ranges and breeding habitat would be protected according to current land use plan.

Conclusion: This alternative would require no change in management for special status species and it would result in a continuation of management which meets many of the habitat needs of special status species. Overall, the cumulative effects of impacts from the various BLM land uses would not be expected to result in the need for listing additional species under the protection of the ESA. Some impacts on wildlife would be mitigated or avoided. Adherence to management recommendations in existing USFWS recovery plans for bald eagles (winter use) would avoid significant adverse impacts to the species.

Alternative C

Assumptions specific to Alternative C: Management objectives in big sagebrush rangelands would be based on the attainment of desired wildlife habitat conditions that emphasize the habitat requirements of sage grouse on strutting grounds, and all surrounding nesting habitats, rather than focusing management direction within 2-mile buffer areas around leks. This alternative assumes that about 70 percent (+-10 percent) of the total big sagebrush habitat within each resource area would be managed to attain desired wildlife habitat conditions over the long term as described in F-5 of Appendix F. A generally balanced emphasis on game and nongame species needs in all upland habitats would be pursued.

Other habitats are managed for general consistency with the definition of the alternatives.

Northern bald eagle impacts: Impacts would be similar to those described under Alternative A, except that a slightly higher potential for the chances of stand-replacing forest fires that impact winter roost sites may occur.

Other special status species impacts: Impacts to wildlife habitat from proposed actions would be similar to those described in Alternative A with the following differences:

The beneficial and adverse impacts that result from fire would both occur at slightly higher levels because suppression actions would occur less frequently and prescribed fire treatments would increase more than Alternative A. In comparison to the current situation, more acres of rangeland habitats would reflect variations in habitat that meet shrubland and grassland special status species.

Managing toward diverse and connected habitats for game and nongame wildlife communities would be emphasized at a higher level than under current management, resulting in an increase in the amount of rangeland habitat capable of supporting special status species wildlife. Desired wildlife habitat conditions for big sagebrush habitats as described in Appendix F would be present at coarse scales and most fine scales, reducing the impacts of shrub overstory fragmentation. Shrub cover rehabilitation to attain desired wildlife habitat conditions within some seedings and native range would restore cover and forage values that are missing due to fires, seedings, and slow reestablishment of native shrub cover.

Stands of old growth western juniper habitat would be maintained and left available for special status species of game and nongame wildlife due to the low potential for fire occurrence and the avoidance of commercial harvest.

As compared to Alternative A, increased levels of various land treatments such a burning or small firewood sales would alter more rangeland wildlife habitats currently supporting a western juniper overstory. The impacts of restoring plant species composition and dominance to conditions approaching site potential would benefit sagebrush steppe species as a whole. This alternative would reduce the amount of western juniper habitat in areas where western juniper is either absent or a minor vegetation component according to site potential guides. Attainment of desired wildlife habitat conditions within western juniper treatment areas would ensure that adequate thermal and security cover would be available for big game and that suitable conditions would be left to support nesting for species such as ferruginous hawks and northern goshawks.

Under this alternative, old growth forest habitats would be available at approximately the same levels as the current situation. Due to the generally fragmented and limited extent of old growth stands, they would be expected to provide suitable patches of habitat for some special status species that are either migratory or have small home ranges. special status species requiring large acreages of old growth would be unlikely to find enough habitat for them to be resident and self sustaining. Public land supporting old growth would continue to provide some valuable habitat linkage with other adjoining forestland at levels comparable with the present situation.

Forest stands subject to commercial harvest would be managed in a manner which would foster a generally balanced management approach which meets the needs of special status species of game and nongame wildlife.

Livestock utilization would continue to affect local areas very similarly to Alternative A, but at a lower level. The likelihood of disruptions to nesting or other activities adversely affected by livestock grazing activities would continue under this alternative. Low levels of risk for significant forage competition between livestock and big game would continue.

Recreational activity could cause some localized damage to vegetation, special habitat features such as caves, or adversely affect habitat security. These impacts would be considered significant locally and would be likely to cause the need for some regulation to minimize impacts to wildlife. Recreational use under this alternative is not likely to reach levels that would cause cumulative or regional adverse impacts to wildlife.

Conclusion: Alternative C would continue to address special status species issues similar to Alternative B, but in a way that would include more current concepts of landscape level habitat connectivity and with a greater emphasis on wildlife community health in resource evaluations. Management actions would result in cumulative effects which would maintain or establish connectivity of big sagebrush types between geographic areas at mid and fine scales. This alternative would be expected to result in better overall habitat conditions for special status species in much of the planning area.

Adherence to management recommendations in the existing USFWS recovery plan for bald eagle winter use would avoid significant adverse environmental impacts to the species.

Alternative D

Assumptions specific to Alternative D: Management objectives in big sagebrush rangelands would be based on the attainment of desired wildlife habitat conditions that emphasize the habitat requirements of sage grouse on strutting grounds, and all surrounding nesting habitats, rather than focusing management direction within 2 mile buffer areas around leks. This alternative assumes that more than 90 percent of the total big sagebrush habitat within

each resource area would be managed to attain desired wildlife habitat conditions over the long term as described in F-5 of Appendix F. A high level of emphasis would be placed on meeting desired wildlife habitat conditions at the fine scale. A generally balanced emphasis on game and nongame species needs in all upland habitats would be pursued.

Other habitats are managed for general consistency with the definition of the alternatives.

Northern bald eagle impacts: Impacts would be similar to those described under the Alternative A analysis, except that a slightly higher potential for the chances of stand-replacing forest fires that impact winter roost sites may occur.

Other special status species impacts: Impacts to wildlife habitat from proposed actions would be similar to those already described in Alternative A with the following differences:

Both the beneficial and adverse impacts that result from fire would occur at significantly higher levels because suppression actions would occur less frequently and less prescribed fire treatments to meet wildlife needs would be pursued. These impacts would be highest in lower elevation rangelands.

Due to current fire fuel conditions, stand-replacing wildfire in forested habitats would be expected to cause significant cover, forage, and structural losses for game and nongame species. These effects would dissipate over the long term, but for several decades adverse impacts to cover and structure for many game and nongame species would persist.

Livestock utilization would continue to affect local areas but at significantly lower levels than described in Alternative A. The lowest likelihood of disruptions to nesting or other activities adversely affected by livestock grazing activities would continue under this alternative. It would result in a lowered level of risk for significant forage competition between livestock and special status species.

Conclusion: Alternative D would address special status species issues similar to Alternative B, but at a much higher level. This alternative would include more current concepts of landscape level connectivity and place a greater emphasis on wildlife community health in resource evaluations. This alternative would be expected to result in better overall habitat conditions for special status species in much of the planning area.

Adherence to management recommendations in the existing USFWS recovery plan for bald eagle winter use would avoid significant adverse environmental impacts to the species.

Alternative D2

Assumptions specific to Alternative D2: Management objectives in big sagebrush rangelands would be based on the attainment of desired wildlife habitat conditions that emphasize the seasonally important habitat requirements of sage grouse. Prescribed treatments in sagebrush habitats would be based on the general character and degree of fragmentation or connectivity within resting/brood rearing habitats and winter range. An area of 2 miles or more, depending on fragmentation and canopy cover types, would be considered in management prescriptions and monitoring. This alternative would include a high level of emphasis on meeting desired conditions at the fine scale. More than 90 percent of sagebrush would be managed to meet desired wildlife conditions. A generally balanced emphasis on game and nongame species needs in all upland habitats would be pursued.

Other habitats are managed for general consistency with the definition of the alternatives.

Northern bald eagle impacts: Impacts would be similar to those described under the Alternative A analysis, except that a slightly higher potential for the chances of stand-replacing forest fires that impact winter roost sites may occur.

Other special status species impacts: Impacts to wildlife habitat from proposed actions would be similar to those already described in Alternative A with the following differences:

Both the beneficial and adverse impacts that result from fire would occur at significantly higher levels because suppression actions would occur less frequently and less prescribed fire treatments to meet wildlife needs would be pursued. These greatest level of impacts would be in lower elevation rangelands.

Due to current fire fuel conditions, stand-replacing wildfire in forested habitats would be expected to cause significant cover, forage, and structural losses for game and nongame species. These effects would dissipate over the long term, but for several decades adverse impacts to cover and structure for many game and nongame species would persist.

This alternative would provide for a very high level of quality forage, cover, and structure for special status species in sagebrush, mountain shrub, and other upland habitats due to the amount of area in which AUM's would be unallocated to livestock grazing. Unallocated areas would, in effect, become reserves in which the combined values of forage, cover, and structure would be maximized for wildlife. This alternative would further conserve quality habitat conditions by avoiding management practices or the placement of new projects which encourage grazing in areas currently unused or lightly used by livestock.

Subsequent to the removal of grazing, it is likely that the habitat benefits to wildlife accrued from improved herbaceous understory cover quality would substantially outweigh any negative consequences associated with reducing the amount of conditioned (grazed) forage on public land. Unforeseen changes in wildlife use patterns (such as undesired shifts of big game use onto private land) could be remediated by periodic light grazing use during seasons which have the least adverse impact on wildlife species occupying the area.

Beneficial impacts to wildlife forage, cover, and structure would be accrued in virtually all of the areas where grazing use is removed. However, these beneficial effects would be substantially diminished in their overall importance to wildlife habitat and population health where grazing use has been equal to or less than the utilization descriptions in Appendix F. For example, all or portions of the Zimmerman (01203), Willow Creek (11004), Allotment #4 (10203), and Anderson (01401) Allotments provide very good quality upland habitat conditions that are already consistent with Appendix F under existing activity plans.

Livestock utilization would continue to affect local areas but at significantly lower levels than described in Alternative A. The lowest likelihood of disruptions to nesting or other activities of special status species adversely affected by livestock grazing activities would result under this alternative.

Conclusion: Alternative D2 would address special status species issues at a very high level primarily because of the amount of habitat which would no longer be grazed by livestock and by avoiding water developments in habitats that are either ungrazed or lightly grazed by livestock. This alternative would include more current concepts of landscape level connectivity and place a greater emphasis on wildlife community health in resource evaluations. This alternative would be expected to result in a very high level of good quality habitat conditions for special status species in much of the planning area.

Adherence to management recommendations in the existing USFWS recovery plan for bald eagle winter use would avoid significant adverse environmental impacts to the species.

Alternative E

Impacts to wildlife habitat from proposed actions would be similar to those already described in Alternative A with the following differences:

Northern bald eagle impacts: Impacts would be similar to those described under the Alternative A analysis, except that a slightly higher potential for the chances of stand-replacing forest fires that impact winter roost sites may occur.

Other special status species impacts: Adverse impacts associated with energy and minerals exploration and development such as habitat destruction, direct mortalities, and displacement would be avoided. Based on the minerals development scenario, the resulting beneficial impacts to wildlife would be significant but only on a local scale. Because of the limited extent of the impacts foreseen, the elimination of mining impacts would not significantly enhance the regional productivity of wildlife habitat on the public land.

Fires short of catastrophic levels in size in large monoculture stands of big sagebrush or western juniper would generally benefit some special status species in the long and short term by diversifying habitat structure, providing short-term improvement in forage palatability, increasing the availability of herbaceous forage plants, and increasing the amount of habitat edge. Even though these effects would be beneficial to most wildlife, these changes could have some adverse impacts on species that prefer large blocks of homogeneous vegetation types.

The highest frequency of adverse fire-related impacts to shrub cover at large geographic scales, especially in cheatgrass dominated dry shrublands, would be expected to occur. This would not only adversely affect species of sagebrush-dependent species, but it would be expected to cause substantially higher losses to cover and forage on many important winter ranges of game species.

Alternative E eliminates the possibility of influencing the quality and distribution of big sagebrush shrub cover by way of prescriptive burning, where it is too abundant or dense; or seeding, where it is absent and presents a problem for habitat values.

The risks of stand-replacing wildfire and significant adverse consequences to cover, forage, and structural losses for special status species would be highest under this alternative. These effects would be expected to dissipate over the long term, but for several decades adverse impacts to many species would persist.

Habitats in mountain shrub and quaking aspen habitat types would be expected to respond favorably to the absence of livestock grazing influences and natural fire regimes. The only exception to this outcome would be where exotic species such as cheatgrass have altered fire frequencies and areas of occurrence.

Stands of old growth western juniper habitat would be maintained and left available for special status wildlife use due to the low potential for fire occurrence and the elimination of opportunities for commercial harvest or firewood sales.

Various land treatments that offer opportunities to manage cover conditions favorable to wildlife such as burning or cutting would be foregone. Cover values for species would be maximized in most areas because fire would not be expected to carry within a majority of the western juniper habitat within the planning area. Long-term losses in shrubs and herbaceous species sought as forage plants for some species would be expected to occur. Although the overall habitat productivity for wildlife would be expected to decline as western juniper expansion continues, some locations would ultimately attain those cover and forage characteristics desirable for wildlife naturally as a consequence of fire.

The absence of livestock grazing influences would be expected to have the same consequences as described under Alternative A. However, changes in wildlife use areas related to the availability of conditioned forage would be far more likely and the option to alter conditions by livestock grazing would be foregone.

Recreational activity could cause some localized damage to vegetation, special habitat features such as caves, or adversely affect habitat security. These impacts would be considered significant locally and would be likely to foster the need for some regulation to minimize impacts to wildlife. Recreational use under this alternative is not likely to reach levels that would cause cumulative or regional adverse impacts to wildlife.

Most land and realty actions such as issuance of rights-of-way would have limited and temporary adverse impacts to species habitat. Temporary restrictions would be expected to limit most adverse impacts to seasonally sensitive use areas.

Conclusion: Alternative E results in a cumulative effect which potentially maximizes the amount of habitat that is available for special status species by avoiding the conflicts associated with timber harvest, livestock grazing and mining. However, large fires in lower elevation rangelands (influenced by the presence of cheatgrass) and forestlands (influenced by the effects of fire control and high amounts of ladder fuels) present potential adverse impacts to special status species in forests and rangelands that might otherwise be mitigated or greatly reduced by management action.

Adherence to management recommendations in existing USFWS recovery plans for peregrine falcons (fall and spring migration) and bald eagles (winter use) would avoid significant adverse environmental impacts to both species.

Proposed RMP

Assumptions specific to the Proposed RMP: Management objectives in big sagebrush rangelands would be based on the attainment of desired wildlife habitat conditions that emphasize the seasonally important habitat requirements of sage grouse. Prescribed treatments in sagebrush habitats would be based on the general character and degree of fragmentation or connectivity within resting/brood rearing habitats and winter range. An area of 2 miles or more, depending on fragmentation and canopy cover types, would be considered in management prescriptions and monitoring. Management objectives in big sagebrush rangelands would be based on the attainment of desired wildlife habitat conditions that emphasize the habitat requirements of sage grouse on and around strutting grounds, and within nesting/wintering habitats, rather than focusing management direction within 2 mile buffer areas around leks.

This alternative assumes that about 70 percent or more of the total big sagebrush habitat within each resource area would be managed in a way that substantially conforms to the considerations described in Appendix F. Big sagebrush habitat conditions necessary to support sage grouse and other species that use sagebrush habitats would be present at most fine and mid scales. A generally balanced emphasis on game and nongame species needs in all upland habitats would be pursued.

Other habitats are managed for general consistency with the definition of the alternatives.

Northern bald eagle (Federal threatened) impacts: Due to the absence of active bald eagle nest sites, no direct or indirect impacts to breeding activities would result from any of the proposed actions.

Eagle winter roost sites dependent upon riparian habitat would be managed for maintenance or improvement of mature growth suitable for roosting activity. Forested habitats occupied by wintering eagles in MRA would be managed to retain or improve the structure and canopy closure preferred by eagles. Human activities that significantly disrupt habitat security would be eliminated by avoiding authorized uses during the winter use period. Winter use areas would be identified annually to APHIS so that the potential conflicts between animal damage control methods and bald eagle foraging may be avoided.

Gray wolf (Federal endangered) impacts: There are no wolf populations currently occupying the planning area and no denning or rendezvous sites have been identified in recent interagency efforts to compile wolf observations. Most BLM management activities for non-breeding populations are compatible with wolf protection and recovery, and prey availability for wolves is not a limiting factor within the planning area.

Canada lynx (Federal threatened) impacts: There are no self-sustaining populations of lynx within the analysis area nor have there been any consistent observations of this species which would indicate the presence of seasonal travel corridors. As such, proposed BLM management activities would not be expected to have any effect on habitat for lynx. Habitats used sporadically for dispersal and exploration would continue to be available for their use.

Other special status species impacts: Exploration for energy and minerals would be likely to cause some temporary and localized adverse impacts to special status species due to human activities which disrupt wildlife security and actual habitat losses incurred during surface-disturbing actions. Stipulations and restrictions would permit BLM to limit conflicts within important use areas through adjustments in the timing or location of activities.

Adjustments in the location or timing of saleable mineral extraction sites would limit adverse impacts where necessary.

Based on the energy and minerals development scenario, production activities would likely have localized adverse impacts on habitats of special status species including direct mortalities to some small mammals and reptiles and the destruction of habitat that supports them. Most species would be likely to vacate a majority of the immediate development areas and some adjoining land in order to avoid sustained human disturbances. Where development overlaps with an intensively used special status species habitat, the resulting impacts would be considered significant at the local level. Depending upon the species and significance of the habitat effected, these local impacts could result in effects at larger scales. Following the cessation of development activities, reclamation, and mine closure, some species would reoccupy part of their former range. Due to the generally limited opportunities identified in the energy and minerals development scenario, no regional or significant cumulative impacts to special status species habitats would be expected.

Noncatastrophic fire and prescribed fire in large monoculture stands of big sagebrush or western juniper would generally benefit some species in the long and short term by diversifying habitat structure, providing short-term improvement in forage palatability, increasing the availability of herbaceous forage plants, and increasing the amount of habitat edge. Even though these effects would be beneficial to some wildlife, these changes could have some adverse impacts on species that prefer large blocks of homogeneous vegetation types.

Wildfire and prescribed fire within sage grouse nesting and wintering habitat (typically Wyoming sagebrush types) would reduce important shrub cover and forage values, resulting in diminished sage grouse habitat productivity. Reductions in the amount/quality of sage grouse breeding and wintering habitat would be expected to increase the likelihood of needing to list the species under the protection of the ESA, given the importance of these habitats to the survival of the species and the cumulative adverse impacts that have been sustained in sagebrush steppe throughout the range of the species.

Wildfire and prescribed fire within sage grouse late brood-rearing habitat (in mountain sage types) and in rangelands influenced by the effects of western juniper expansion would benefit sage grouse by increasing the availability of forbs and limiting the loss of sagebrush cover values threatened by western juniper competition. Herbaceous cover improvements (in mountain sage types) would be expected where noxious or invasive species are absent and at least remnant communities of native forbs are present.

The consequences of fire related vegetation cover changes in sage grouse late brood-rearing habitat would be highly dependent upon whether existing habitats within GMA's are well connected or fragmented from the effects of seedings, fires and other influences. This is a judgment that should be made at the project level and in light of field data which characterizes cover conditions present within GMA's.

Catastrophic rangeland fires would have a high likelihood of causing cumulative adverse impacts to shrub cover important for special status species such as sage grouse. These impacts would be expected to occur at a large geographic scale with substantial cover losses affecting one or more GMA's. Depending upon shrub overstory recovery rates and returning fire frequency, these impacts could extend over the short and long term. Adverse effects which diminish habitat productivity and diversity would result.

Due to lowered fuel conditions from management actions proposed, stand-replacing wildfire in forested habitats would be reduced, thus lowering the chances significant short and long-term cover, forage, and structural losses for special status species. Where stand-replacing fires do occur, the effects would dissipate over the long term, but for several decades adverse impacts to many game and nongame species would persist.

Prescribed fire in forest types would be expected to help foster long-term benefits to forest-dwelling species by restoring old growth forest character which has been impaired over the last several decades and by reducing the likelihood of catastrophic stand-replacing fires. Prescribed fire would be expected to facilitate and meet many of the habitat features important to special status species such as bats and woodpeckers.

Wildlife habitats in mountain shrub and quaking aspen habitat types would be expected to respond favorably to the effects of periodic prescribed fires because of the stimulation to quaking aspen stand vigor and reductions in some woody species such as western juniper. Prescribed fire has a better potential to result in outcomes that are favorable to wildlife habitat structure and arrangement needs than what may be expected from wildfire. Some fires would be expected to cause short-term losses of mountain shrub cover and mature quaking aspen overstories, resulting in localized reductions of browse availability for special status animal's nesting or hiding. However, over the long term, a majority of these habitat values would be restored through natural recovery processes.

In general, habitat needs for both game and nongame species would be provided in most areas.

Treatments designed to decrease or eliminate noxious weeds in rangeland, woodland, and forest types would benefit special status species habitats by lowering the likelihood of areas becoming unusable due to noxious weed dominance.

Stands of old growth western juniper habitat would be maintained and left available for game and nongame wildlife due to the low potential for fire occurrence and avoidance of commercial harvest.

Increased levels of various land treatments such as burning or small firewood sales would be expected to improve some rangeland wildlife habitats that are currently supporting a western juniper overstory. The impacts of restoring plant species composition and dominance to conditions approaching site potential would benefit sagebrush steppe species as a whole. This would reduce the amount of western juniper wildlife habitat, but the impacts would occur within areas where western juniper is normally patchy, rare, or absent. Attainment of desired wildlife habitat conditions within western juniper treatment areas would ensure that adequate thermal and security cover would be available for big game and that suitable conditions would be left to support activities such as ferruginous hawk and northern goshawk nesting.

Grazing management prescriptions in quaking aspen and mountain shrub habitats would be expected to provide adequate forage, cover, and structure for game and nongame species.

The necessity for additional fencing would increase the likelihood of some unavoidable impacts to wildlife. Fences can adversely affect wildlife by increasing the likelihood of: (1) some unavoidable disruption to traditional movement corridors, (2) death or injury due to predation because fences can indirectly aid species such as coyotes in their capture of prey, and/or (3) death or injury due to collision or entanglement. Properly designed fencing according to BLM standards would reduce the likelihood of death or injury to wildlife but it does not remove the potential for inflicting harm to animals.

Under this alternative, old growth forest habitats would be available at approximately the same levels as the current situation. Due to the generally fragmented and limited extent of old growth stands, they would be expected to provide suitable patches of habitat for some special status species that are either migratory or have small home ranges. special status species requiring large acreages of old growth would be unlikely to find enough habitat for them to be resident and self sustaining. Public land supporting old growth would continue to provide some valuable habitat linkage with other adjoining forestland.
Forest stands subject to commercial harvest would be managed in a manner which would foster a generally balanced management approach which meets the needs of special status species of game and nongame wildlife.

Attainment of PFC in riparian habitats would be expected to meet most minimum habitat requirements for special status species. However, where specific riparian plant composition or structure is necessary to improve or restore special status species habitats, additional adjustments to activity plans which would meet desired plant community goals would become necessary.

Under this alternative, adverse impacts associated with wild horses include competition for water with big game species such as bighorn sheep during drought. Under these circumstances, the presence of wild horses could result in additional mortalities to some special status species in localized areas. Adverse impacts to plant cover and composition important to special status species animals would occur in local areas where wild horse utilization is high.

Grazing use consistent with conditions described in Appendix F would be expected to meet special status species forage, cover and structure needs.

Areas unallocated to livestock grazing would provide for a very high level of quality forage, cover, and structure for special status species in sagebrush, mountain shrub, and other upland habitats. Unallocated areas would become reserves in which the combined values of forage, cover, and structure would be maximized for wildlife. This alternative would further conserve quality habitat conditions in some areas by avoiding management practices or the placement of new projects which encourage grazing in areas currently unused or lightly used by livestock.

The habitat benefits to wildlife accrued from the removal of livestock grazing or avoiding those actions which result in grazing areas currently unused or lightly used by livestock would substantially outweigh any negative consequences associated with reducing the amount of conditioned (grazed) forage on public land. Unforeseen adverse consequences resulting from changes in wildlife use, such as shifts of big game onto private land, could be resolved by periodic light grazing use during seasons which have the least effect on wildlife species occupying the area.

Beneficial impacts to wildlife forage, cover, and structure would be accrued in virtually all of the areas where grazing use is removed. However, these beneficial effects would be substantially diminished in their overall importance to wildlife habitat and population health

where grazing use has been equal to or less than the utilization descriptions of Appendix F. For example, all or portions of the Zimmerman (01203), Willow Creek (11004), Allotment #4 (10203), and Anderson (01401) Allotments provide very good quality upland habitat conditions that are already consistent with Appendix F. Where these kinds of conditions are present, grazing use is not considered to be a significant limiting factor for upland wildlife habitat quality and population health.

Recreational activity could cause some localized damage to vegetation and special habitat features such as caves. These impacts may reach levels considered significant locally and worthy of adjustments in use to minimize impacts. Overall, recreational use is not likely to reach levels that would cause serious impacts to special status wildlife habitats.

OHV use and roads would be expected to cause some localized damage to special status species habitat and cause disruptions to habitat security on winter ranges and breeding habitats. These impacts would be considered significant locally and may require mitigation. The impacts, which would need to be determined on a case-by-case basis, could be significant enough to cause the need for seasonal or permanent closures to OHV's.

Most management objectives within ACEC's, WSA's, and NWSR's would compliment the upland habitat needs of special status wildlife by promoting natural systems that maintain habitat values. For example, ferruginous hawks, considered to be ORV's in the Owyhee NWSR corridor, would be protected or enhanced by adjusting uses when monitoring data indicate they are being adversely impacted. However, opportunities for artificial water developments to enhance or extend special status species habitat would likely be limited within WSA's and NWSR's in order to avoid conflicts with other values such as visual resources. This would result in the loss of several local opportunities to enhance habitat suitability for wildlife or to extend the ranges of special status species where water is a limiting factor.

Some land and realty actions, such as issuance of rights-of-way, may be expected to have significant local adverse impacts to special status species habitats. Temporary restrictions would be expected to limit most adverse impacts to seasonally sensitive wildlife use areas. In some cases, complete avoidance of special status species habitat may be required. Electrical utility corridors would pose some additional threats of large raptor electrocution or collision mortalities to birds such as waterfowl and sage grouse. Wiring configurations designed to reduce the risks of electrocution, and proper placement of power lines to reduce risks of collision, would minimize potential adverse impacts to special status species.

Land exchange impacts need to be analyzed case-by-case to determine their actual impacts.

Conclusion: The Proposed RMP would continue to address game and nongame special status species but in a way that would include more current concepts of landscape level habitat connectivity and with a greater emphasis placed on wildlife community health in resource evaluations. This alternative would be expected to result in better overall habitat conditions for special status species in much of the planning area.

Adherence to management recommendations in the existing USFWS recovery plan for bald eagle winter use would avoid significant adverse environmental impacts to the species.

Summary of Impacts

Alternative A presents the highest level of long-term cumulative impacts and risks for causing the need to list some special status species associated with big sagebrush habitats (especially those vulnerable to common land treatments in big sagebrush types such as burning and seeding) under the protection under the ESA. Alternative B has some similarities with Alternative C but does not emphasize wildlife habitat community health and landscape connection concerns as strongly as in Alternative C and the Proposed RMP. Based

on the assumptions of Alternative C and the Proposed RMP, the cumulative effects of management in sagebrush habitats would be beneficial for sage grouse and other species that use sagebrush habitats. Sagebrush habitat conditions favorable to wildlife in sagebrush habitats would be present at most mid and fine scales.

Alternatives D and D2 would be the most highly proactive options for improving and maintaining special status species habitats. Alternative D2 offers substantially higher benefits than Alternative D for wildlife forage, cover, and structure values by removing livestock grazing within 32 percent of the planning area and avoiding grazing use within areas that are currently unused or lightly used by livestock. Removal of livestock grazing or avoiding grazing in unused or lightly used areas would occur in the Proposed RMP also, but at a lower level than Alternative D2.

Alternative E would provide for very high quality habitat at upper elevations by removing the impacts of timber harvest, grazing, and mining on public land. However, the potential for adverse impacts to wildlife habitats from fires in some forest types and lower elevation rangelands would still remain.

Adherence to management recommendations in existing USFWS recovery plans for peregrine falcons (fall and spring migration) and bald eagles (winter use) would avoid significant adverse environmental impacts to both species.

Objective 2: *Facilitate the maintenance, restoration and enhancement of bighorn sheep populations and habitat on public land. Pursue management in accordance with the 1997 "Oregon's Bighorn Sheep Management Plan" (OBSMP) in a manner consistent with the principles of multiple use management.*

Assumptions common to Alternatives A, B, C, D, D2 and Proposed RMP: Locatable and leasable mineral development would overlap with some habitat currently used by bighorn sheep. For analysis purposes, guzzlers would be installed to benefit bighorn sheep, as long as they meet planning criteria such as wilderness IMP, and others.

Management buffers between bighorn sheep and domestic sheep areas of use would be based on BLM guidelines which are currently up to 9 miles "except where topographic features or other barriers prevent physical contact between bighorn sheep and domestic sheep" (1998 "Revised Guidelines for Domestic Sheep and Goat Management in Native Wild Sheep Habitats"). These guidelines are reviewed every three years by a work group comprised of representatives from the livestock industry, State wildlife agencies, BLM and bighorn sheep organizations.

Alternative A

Impacts: This alternative proposes that a total of approximately 2,643,000 acres of public land would be open to bighorn sheep occupancy as shown on Map WLDF-2. Within this area, ODFW could pursue new releases, supplemental releases, or relocations of bighorn sheep on public land in order to meet State management goals.

Based on the hypothetical minerals development scenario, it is possible that field development and production of leasable and locatable minerals could adversely impact bighorn sheep habitat. This could result in displacing them from a preferred use area, or destroying habitat in the process of development. Bighorn sheep would likely vacate most of the development areas, as well as some adjoining land, in order to avoid sustained human disturbances. Where the development site overlapped with an intensively used bighorn sheep area, impacts would be considered a significant local threat to ODFW management goals for bighorn sheep. Following the cessation of development activities and mine closure, some bighorn sheep may reoccupy part of their former range.

Exploration for locatable and leasable minerals would not be likely to cause significant adverse impacts to bighorn sheep. Stipulations and restrictions would permit BLM to limit conflicts with bighorn sheep through adjustments in the timing or location of activities. Adjustments in the location or timing of saleable mineral extraction sites would be expected to limit adverse impacts to bighorn sheep.

Influences on rangelands that enhance grass and forb production, such as prescribed fire, wildfire, and native seedings, would increase bighorn sheep forage quality and availability. Most of these beneficial impacts would be slight given that forage availability and quality is not considered a limiting factor within the planning area.

There may be some risk of local conflict where special status plants are consumed as a forage plant by bighorn sheep and utilization levels or seasons of use adversely impact plant health. In these instances, BLM may request relief from ODFW by either increasing bighorn sheep harvest or relocating some animals to another region. These would be considered relatively minor adjustments in available bighorn sheep habitat and would not be expected to significantly impact State management goals for the species.

In light of existing water developments and fencing, no significant competition for forage would be expected from cattle or wild horses in most bighorn sheep range. This outcome would be expected based on the absence of significant problems at the present and the tendency for domestic livestock, wild horses, and bighorn sheep to occupy different areas.

New pipelines and wells may benefit bighorn sheep by giving them additional sources of drinking water. Positive impacts would be expected to occur as long as the new projects do not overlap with known important bighorn sheep use areas such as lambing range or winter range. Local adverse impacts to bighorn sheep may occur where new fencing and water developments foster higher livestock utilization levels and increase forage competition.

This alternative increases the likelihood of fence-related conflicts with bighorn sheep. BLM fence design features to accommodate wildlife would limit but not fully remove the potential for entanglement or disruption of bighorn sheep movements.

Bighorn sheep occupancy would not be allowed within suitable habitat that is currently being grazed by domestic sheep (see Map WLDF-2). This restriction would be considered significant in local areas but minor in contrast to the total amount of bighorn sheep habitat still available. In the future, voluntary conversions from sheep to cattle by livestock operators would offer an opportunity for the State to reintroduce bighorn sheep where they are currently limited by domestic sheep grazing use.

New domestic sheep grazing permits would only be issued outside those areas shown on Map WLDF-2, eliminating new potentials for disease transmission in Malheur County. However, disease could still be transmitted from stray domestic sheep.

Opportunities for natural bighorn sheep expansion beyond habitat identified on Map WLDF-2 would be foregone because animals found outside of the area would be harvested or relocated by the ODFW.

Maintenance and new construction of bighorn sheep watering facilities would be beneficial and allow them to occupy additional habitat. However, opportunities for bighorn sheep habitat expansion through guzzler development in WSA's or ACEC's may be limited due to SMA guidelines. This may limit bighorn sheep expansion but would not be expected to be a significant limiting factor to bighorn sheep habitat management. The potential for adverse impacts from OHV's would be the highest under this alternative. OHV use and new road construction could potentially cause adverse impacts to bighorn sheep security as a result of human presence and vehicle disturbances. Activities occurring during the breeding season or winter use period would adversely affect habitat quality and potentially limit bighorn sheep

productivity or winter survival. These anticipated impacts would be short term given that emergency closures would be pursued to protect bighorn sheep habitat.

However, SMA's would benefit bighorn sheep by fostering the maintenance of quality natural conditions.

Most land and realty actions would have limited and temporary adverse impacts to bighorn sheep habitat. Land exchanges have the potential to have either negative or positive impacts and would need to be analyzed on a case-by-case basis to determine their actual impacts to bighorn sheep.

Conclusion: The net cumulative effect of actions proposed would be an improvement in bighorn sheep habitat and populations. This alternative enhances the opportunities for ODFW to meet their management goals for bighorn sheep by increasing the amount of area allowed for new bighorn sheep releases, supplemental releases, and relocations. It also removes the potential for new domestic sheep grazing within bighorn sheep range in MRA and JRA. Opportunities for bighorn sheep expansion beyond habitat shown on Map WLDF-2 would be foregone. Potential for adverse impacts from leasable and locatable mineral development is minimal. Existing domestic sheep permits would limit the opportunities for bighorn sheep occupation in Malheur County, but would not seriously impede the progress in reestablishing bighorn sheep.

Alternative B

Impacts: This alternative proposes no change in the amount of public land approved for bighorn sheep occupancy. It allows for approximately 800,000 acres of land to be open for bighorn sheep use as identified in the existing land use plan and habitat management plans. Within this area, ODFW could pursue new releases, supplemental releases, or relocations of bighorn sheep in order to meet State management goals. Limitations identified in the current BLM bighorn sheep habitat management plan for Malheur County would restrict the amount of area open to new or supplemental releases. This alternative would slow the process of reestablishing bighorn sheep in suitable, unoccupied range by limiting the acreage approved for releases.

Impacts to bighorn sheep described in Alternative A would be the same for locatable, leasable and saleable minerals; wildfire; special status plants; existing water developments; wild horses; OHV's; SMA's; and land and realty actions.

Alternative B would differ from the analysis shown in Alternative A and be more favorable to bighorn sheep because there would be less new fencing, fewer new water developments for livestock, a higher overall proportion of native seedings, and generally lighter livestock utilization levels. This alternative also allows an opportunity for bighorn sheep to remain in areas outside of bighorn sheep habitat shown on Map WLDF-2 if no significant multiple use conflicts result.

Bighorn sheep disease mortalities could result from new domestic sheep use permits in MRA and JRA. There is no explicit limitation on new domestic sheep grazing permits within bighorn sheep range in these resource areas. The Andrews Resource Area (ARA) land use plan protects bighorn sheep habitat because it does not authorize domestic sheep grazing permits in current or potential bighorn sheep range.

Conclusion: The cumulative effect of actions proposed would result in maintenance of current bighorn sheep habitat and populations. Alternative B maintains current opportunities for assisting the ODFW in meeting their management goals for bighorn sheep, but limits the amount of area authorized for releases in Malheur County. Opportunities for bighorn sheep expansion beyond habitat shown on Map WLDF-2 are allowed under this alternative as long as significant multiple use conflicts do not occur as a result. Local adverse impacts from

leasable and locatable mineral development could occur. Domestic sheep grazing would limit the opportunities for bighorn sheep occupation in some areas but would not seriously impede the progress in reestablishing bighorn sheep.

Alternative C

Impacts: This alternative proposes the same number of public land acres (2,643,000) open to bighorn sheep occupancy as Alternative A. Impacts to bighorn sheep described in Alternative A would be the same for locatable, leasable and saleable minerals; wildfire; special status plants; existing water developments; new pipelines and wells; new domestic sheep grazing permits; OHV's; wild horses; SMA's; and land and realty actions.

This alternative differs from Alternative A in that it would be more favorable to bighorn because there would be less new fencing, fewer new water developments for livestock, a higher overall proportion of native seedings, and lighter livestock utilization levels.

This alternative allows for the potential of natural bighorn expansion beyond habitat identified on Map WLDF-2 where their presence did not cause any significant multiple use conflicts.

Potential impacts from OHV use and new road construction would be similar to the analysis shown under Alternative A.

Conclusion: The net cumulative effect of actions proposed would be an improvement in bighorn habitat and populations in ways described under Alternative A. This alternative would benefit bighorn by allowing no new domestic sheep grazing permits within bighorn range in MRA and JRA. Alternative C would also differ from the analysis shown in Alternative A and be more favorable to bighorn because there would be less new fencing, fewer new water developments for livestock, a higher overall proportion of native seedings, and lighter livestock utilization levels.

Alternative D

Impacts: This alternative would increase the amount of habitat open for bighorn sheep use to more than 2,643,000 acres by eliminating some domestic sheep grazing where it is currently allowed (see Map WLDF-2). This would expand the amount of area open for ODFW to pursue new releases, supplemental releases, or relocations.

Impacts to bighorn described in Alternative A would be the same for locatable, leasable and saleable minerals; wildfire; special status plants; existing water developments; new pipelines and wells; wild horses; SMA's; and land and realty actions.

This alternative would differ from Alternative A and be more favorable to bighorn because there would be less new fencing, fewer water developments for livestock, a higher overall proportion of native seedings, and lighter livestock utilization levels. Natural bighorn expansion beyond the area indicated on Map WLDF-2 would be allowed where significant multiple use conflicts do not result. Temporary impacts from OHV's would be avoided before any problems arose because access would be limited to existing roads and seasonal limitations in important habitats would protect wildlife security.

This alternative would increase the available amount of bighorn habitat for reintroductions and be the most proactive approach for furthering State bighorn sheep management goals primarily because it proposes the elimination of one or more domestic sheep grazing permittees.

Domestic sheep would be limited to those areas outside bighorn sheep range, with the same types of impacts possible for disease transmission as in Alterative A.

This alternative carries much lower risks of adverse OHV impacts due to additional OHV restrictions in areas that include most bighorn habitat.

Land and realty actions would have the same impacts as Alternative A.

Conclusion: This alternative would result in cumulative effects which nearly maximize the ability of BLM to meet the habitat needs of bighorn on public land by eliminating some domestic sheep grazing. Enhanced management options include increasing the amount of area allowed for natural bighorn occupation and increasing the area authorized for new releases, supplemental releases, and relocations. Opportunities for bighorn expansion beyond habitat shown on Map WLDF-2 would be allowed as long as no significant multiple use conflicts result. Local adverse impacts from leasable and locatable mineral development could occur. Domestic sheep grazing would limit the opportunities for bighorn occupation in some areas but would not seriously impede the progress of the State in reestablishing bighorns within the analysis area.

Alternative D2

Impacts: This alternative would increase the amount of habitat open for bighorn sheep use to more than 2,888,000 acres and eliminate some domestic sheep grazing where it is currently allowed (see Map WLDF-2). This would expand the amount of area open for ODFW to pursue new releases, supplemental releases, or relocations.

Impacts to bighorn described in Alternative A would be similar for locatable, leasable, and saleable minerals; wildfire; special status plants; existing water developments; new pipelines and wells; wild horses; SMA's; and land and realty actions. However, fewer acres would be available for locatable mining activities, resulting in the avoidance of impacts to bighorn habitat and security where there is overlap with SMA's.

This alternative would differ from Alternative A and be more favorable to bighorn because there would be less new fencing, fewer water developments for livestock, a higher overall proportion of native seedings, and lighter livestock utilization levels. In bighorn habitat overlapping with areas unallocated to livestock grazing, forage availability for bighorn would be maximized. Within such areas, virtually all forage competition potential between livestock and bighorn would be eliminated.

Natural bighorn expansion beyond the area indicated on Map WLDF-2 would be allowed where significant multiple use conflicts do not result. Temporary impacts from OHV's would be avoided before any problems arose because access would be limited to existing roads and seasonal limitations in important habitats would protect wildlife security.

This alternative would increase the available amount of bighorn habitat for reintroductions and be the most proactive approach for furthering State bighorn sheep management goals primarily because it proposes the elimination of one or more domestic sheep grazing permittees.

Domestic sheep would be limited to those areas outside bighorn sheep range, with the same types of impacts possible for disease transmission as in Alterative A.

This alternative carries much lower risks of adverse OHV impacts due to additional OHV restrictions in areas that include most bighorn habitat.

Conclusion: This alternative would result in cumulative effects which nearly maximize the ability of BLM to meet the habitat needs of bighorn on public land by eliminating some domestic sheep grazing and increasing the amount of area allowed for new bighorn releases, supplemental releases, and relocations. In addition, since much of the area unallocated or

excluded from livestock grazing overlaps with bighorn habitat, the potential for future forage competition between bighorn and livestock would be greatly diminished.

Opportunities for bighorn expansion beyond habitat shown on Map WLDF-2 would be allowed as long as no significant multiple use conflicts result. Local adverse impacts from leasable and locatable mineral development could occur. Domestic sheep grazing would limit the opportunities for bighorn occupation in some areas but would not seriously impede the progress of the state in reestablishing bighorns within the analysis area.

Alternative E

Impacts: Bighorn sheep would be allowed to occupy the maximum amount of public land suitable for their use. ODFW would continue to pursue new releases, supplemental releases, or relocations within areas shown on Map WLDF-2, because they are thought to be the most suitable regions for bighorn within the analysis area.

Minerals exploration and development impacts to bighorn would be completely avoided. Based on the hypothetical minerals development scenario, this could avoid adverse impacts to some localized important bighorn use areas.

Wildland fire frequency and extent in typical bighorn habitat would result in an increase in the availability of grasses and forbs which would slightly benefit bighorn forage. In some areas, this would be expected to improve the quality as well as quantity of bighorn habitat.

Potential relocations or increased harvest of bighorns to mitigate adverse impacts to special status plants would be avoided because the consequences of bighorn use would be accepted regardless of their impacts to plants.

Forage competition from cattle use would be eliminated on public land. Given that there are no known significant bighorn and cattle forage competition problem areas identified, this alternative would be expected to have some local beneficial impacts to bighorn. However, forage availability and forage health are not thought to be the most limiting factors for bighorn within the analysis area.

No limitations to bighorn sheep from domestic sheep grazing on public land would be present. However, in some occupied bighorn range with substantial amounts of private or State land, where sheep could graze, risks of disease transmission to bighorns from domestic sheep could still occur. There is no way of knowing how common or widespread the domestic sheep on private and State lands might be under this alternative.

Because wild horse numbers would be regulated, some limited forage competition or habitat alteration problems such as the replacement of perennial grass sites with annual weedy species would occur. These impacts would be considered significant in some local areas but not enough to seriously impact bighorn populations.

Existing bighorn sheep watering facilities would not be maintained and, over the long term, would cease to supply water for their use. No new watering facilities would be constructed resulting in some foregone opportunities for supporting bighorns in habitats currently and potentially occupied. This limitation would be considered limited and localized.

No additional fencing would be necessary for livestock grazing administration which would remove the potential for new entanglement or disruption of movement problems for bighorn.

OHV use could potentially cause adverse impacts to bighorn security as a result of human presence and vehicle disturbances. Activities occurring during the breeding season or winter use period would adversely effect habitat quality and potentially limit bighorn productivity

or winter survival. These anticipated impacts would be short term, given that emergency closures would be pursued to protect bighorn habitat.

New road construction impacts adverse to bighorns would be avoided.

Where bighorns are identified as ORV's in NWSR's and ACEC's, management guidelines would facilitate the maintenance of quality bighorn sheep habitat. For example, designated road access in ACEC's would further limit the opportunities for human intrusions into occupied bighorn range.

Conclusion: This alternative eliminates a variety of potential and existing management problems for bighorn. It increases the land base available for new releases, supplemental releases and relocations, eliminates adverse impacts associated with leasable and locatable mineral development, and removes domestic sheep grazing from public land. However, some new risks of conflicts with domestic sheep grazing on private and State land intermingled with public land could result. Although there are some known areas where this is likely, the overall extent and magnitude of the potential problems are unknown.

Proposed RMP

The Proposed RMP would allow for a total of approximately 2,030,000 acres of public land being open to bighorn sheep occupancy as shown on Map WLDF-2. Within this area, ODFW could pursue new releases, supplemental releases, or relocations of bighorn sheep on public land in order to meet State management goals.

Exploration for locatable and leasable minerals would not be likely to cause significant adverse impacts to bighorn sheep. Stipulations and restrictions would permit BLM to limit conflicts with bighorns through adjustments in the timing or location of activities. Adjustments in the location or timing of saleable mineral extraction sites would be expected to limit adverse impacts to bighorn.

Based on the hypothetical minerals development scenario, it is possible that field development and production of leasable and locatable minerals could adversely impact some bighorn habitat. This could result in displacing them from a preferred use area, or destroying currently or potentially occupied habitat in the process of development. Bighorns would likely vacate most of the development areas, as well as some adjoining land, in order to avoid sustained human disturbances. Where the development site overlapped with an intensively used bighorn area, impacts would be considered a significant local threat to ODFW management goals for bighorns. Following the cessation of development activities and mine closure, some bighorns may reoccupy part of their former range.

Influences on rangelands that enhance grass and forb production, such as prescribed fire, wildfire, and native seedings, would increase bighorn forage quality and availability. Most of these beneficial impacts would be slight given that forage availability and quality is not considered a limiting factor.

There may be some risk of local conflict where special status plants are consumed as a forage plant by bighorns and utilization levels or seasons of use adversely impact plant health. In these instances, BLM may request relief from ODFW by either increasing bighorn harvest or relocating some animals to another region within the planning area. These would be considered relatively minor adjustments in available bighorn habitat and would not be expected to significantly impact State management goals for the species.

In light of existing water developments and fencing, no significant competition for forage would be expected from cattle or wild horses in most bighorn range. This outcome would be expected based on the absence of significant problems at the present and the tendency for domestic livestock, wild horses, and bighorns to occupy spatially separated areas.

New pipelines and wells may benefit bighorns by giving them additional sources of drinking water. Positive impacts would be expected to occur as long as the new projects do not overlap with known important bighorn use areas such as lambing range or winter range. Local adverse impacts to bighorn may occur where new fencing and water developments foster higher livestock utilization levels in key bighorn use areas.

BLM fence design features for bighorn habitat would limit but not fully remove the potential for entanglement or disruption of bighorn movements. Fence realignment or removal may be necessary in some areas in order to accommodate local bighorn patterns of use.

Bighorn occupancy would not be allowed within suitable habitat that is currently being grazed by domestic sheep (see Map WLDF-2). This restriction would be considered significant in local areas but minor in contrast to the total amount of bighorn habitat still available. In the future, voluntary conversions of sheep to cattle by livestock operators would offer an opportunity for the State to reintroduce bighorns where they are currently limited by domestic sheep grazing use. This option would be considered following the proper consultation, cooperation, and communication among affected individuals and the public.

New domestic sheep grazing permits would only be issued outside those areas shown on Map WLDF-2, eliminating new potentials for disease transmission in Malheur County. However, disease could still be transmitted from stray domestic sheep originating from public or private lands.

Opportunities for natural bighorn expansion beyond habitat identified on Map WLDF-2 would be allowed as long as the consequences of bighorn presence do not present significant multiple use conflicts.

Maintenance and new construction of bighorn sheep watering facilities would be beneficial and allow them to occupy additional habitat that is either unoccupied or lightly used due to water availability. However, opportunities for bighorn habitat expansion through guzzler development in WSA's or ACEC's may be limited due to SMA guidelines. This may limit bighorn expansion but would not be expected to be a significant limiting factor to bighorn habitat management.

OHV use and new road construction could potentially cause adverse impacts to bighorn security as a result of human presence and vehicle disturbances. Activities occurring during the breeding season or winter use period would adversely affect habitat quality and potentially limit bighorn productivity or winter survival. These anticipated impacts would be short term given that emergency closures, if necessary, would be pursued to protect bighorn habitat values.

SMA's would be expected to provide indirect benefits to bighorn habitat by fostering the maintenance or improvement of quality natural conditions.

Most land and realty actions such as rights of way would have limited and temporary adverse impacts to bighorn habitat. Seasonal stipulations or other adjustments to such actions would be expected to mitigate most adverse impacts to bighorn habitat. Land exchanges have the potential to have either negative or positive impacts and would need to be analyzed on a case-by-case basis to determine their actual impacts to bighorn.

Conclusion: The net cumulative effect of actions proposed would be an increase in the amount of public land authorized to support bighorn populations. This alternative enhances the opportunities for ODFW to meet their management goals for bighorn sheep by increasing the amount of area allowed for new bighorn releases, supplemental releases, and relocations. It also removes the potential for new domestic sheep grazing within bighorn range in MRA and JRA. Opportunities for bighorn expansion beyond habitat shown on Map WLDF-2

would be allowed where multiple use concerns are not significant. The potential for adverse impacts from leasable and locatable mineral development is minimal. Existing domestic sheep permits would limit the opportunities for bighorn occupation in Malheur County, but would not seriously impede the progress in reestablishing bighorns within the State of Oregon or Malheur and Harney Counties.

Summary of Impacts

Alternatives A, C, D, D2, E and the Proposed RMP all result in net cumulative effects beneficial to bighorn by increasing the amount of area that would be available for ODFW to pursue new bighorn releases and supplemental releases.

Alternative B offers a reasonable amount of public land open to bighorn occupancy, but would limit the amount of area where ODFW can pursue active management with new and supplemental releases in MRA and JRA. Bighorn reoccupation into formerly occupied range would be dependent upon natural movements rather than proactive releases.

Alternative C and the Proposed RMP provide a good mix of bighorn habitat management features consistent with the philosophy of multiple use management, and enhances bighorn population and habitat management with limited adverse impacts to domestic sheep permittees.

Alternatives D and D2 present the most proactive multiple use bighorn management because they would allow for the retirement of one or more current domestic sheep operations. Alternative E completely eliminates many of the potential and existing problems for bighorn. However, it may introduce some new uncertainty to bighorn management by potentially forcing some new sheep grazing to occur on private or State land within the current range of bighorn. The amount and degree of new domestic sheep impacts from this alternative are highly uncertain.

Wild Horses

Objective: *Maintain and manage wild horse herds in established herd management areas (HMA's) at appropriate management levels (AML's), to ensure 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.*

Alternative A

Impacts: Based on the energy and minerals projected development scenarios, exploration and production activities would have minimal impact on horses. These activities could change areas of use.

Aggressive initial attack and full suppression of all natural or human caused wildfire would minimize short-term impacts to wild horse habitat and forage. Although prescribed fire may impact availability of forage and habitat over the short term, pending recovery of vegetation from direct fire impacts; it would, over the long term, maintain vegetative productivity and diversity. This would retain the viability of wild horse herds, where not in conflict with livestock grazing, as well as continuing the capability of meeting established AML's.

Many of the proposed vegetation management actions would benefit horses by providing increased production of available forage, when not in conflict with providing livestock forage. Diet quality, and thermal and security cover may be impacted on a site-specific basis where the various proposed projects are implemented. Current AML's could benefit from integrated weed management actions, in cooperation with private landowners, the State, and

counties, which would limit the spread of established stands and control establishment of new infestations of noxious weeds.

Where special status plant species occur within HMA's, opportunities for enhancement of wild horse populations would be reduced. Although, there is little known overlap between wild horse HMA's and currently identified special status plants, the exception to this is Three Fingers. In this HMA, ash soils support a variety of plants with limited global distribution. In order to protect these plants, wild horse gathering or exclusion may be required on a site-specific basis.

Where these values occur within HMA's, management of RCA's for the attainment of PFC, RMO's, and State water quality standards and to provide suitable habitat for aquatic organisms would limit opportunities for enhancement of wild horse populations. Riparian fencing could be constructed to avoid the need for downward adjustments in AML's. Fencing could be used when it is consistent with maintaining the free-roaming nature of the horses and still provide adequate water. Wild horse gather or exclusion may be required on a site-specific basis where use by grazing animals, including trampling is impacting water quality, riparian communities, or aquatic habitats.

Management of special status animals species that occur within HMA's, including the implementation of conservation agreements, would limit opportunities for enhancement of wild horse populations. Some proposed actions for game species of wildlife would also minimally limit these opportunities. As recognized by the "Wild Horse and Burro Act" of 1971, protection of a natural ecological balance, including endangered and all other wildlife species, shall be a consideration when making wild horse management decisions.

The proposed increase in bighorn sheep distribution may lead to greater competition for habitat between these animals, a special status species, and wild horses. If management objectives are not achieved or maintained, adjustments in wild horse or bighorn sheep populations may be necessary.

Maintenance and periodic adjustments of AML's may be necessary to ensure that wild horses are managed consistent with meeting other management objectives. Emphasis on providing additional available forage to livestock would limit potential increases in AML on a site-specific basis.

Herd characteristics would be maintained by limiting wild horses released into HMA's to those exhibiting the special and unique characteristics designated for that particular area. This method of releasing horses would also provide a mechanism to introduce genetic diversity into small wild horse herds. Herd health and viability would decline without the genetic variation this would provide.

Although water is the limiting factor in several HMA's, water developments for wild horses and livestock could open up areas previously unavailable due to lack of water. Habitat condition may deteriorate in the immediate vicinity of these water projects; however, they would generally be a positive impact for wild horses.

Implementation of livestock grazing management could modify wild horse distribution, as well as their free-roaming nature, while ensuring maintenance of values important to sustaining wild horse herds within HMA's. As resource conditions improve, authorized active livestock grazing could potentially increase without any affect on wild horse AML's. However, when grazing creates unacceptable impacts to resource values and it cannot be rectified by changing livestock management, site-specific reductions in AML's could occur. During drought conditions, the need for reduction in wild horse use could be compounded.

Construction of additional fences would not be beneficial to wild horses even though impacts would be minimized or mitigated through project layout and design. Fences could limit access to historic range and water, and restrict their free-roaming nature.

The emphasis placed on the growth of recreational uses such as commercial opportunities, dispersed recreation, and development of additional recreation sites, would affect most HMA's. These recreation uses would increase visitor numbers, motorized vehicles and noise, thereby triggering an instinctive behavioral change in wild horses to avoid encounters with humans. Wild horses may slowly adapt to some of this increased use, but maximized recreation could create continued or prolonged disturbances. This could reduce or eliminate wild horse use in a portion of an HMA which would essentially decrease habitat acreage. Wild horses would concentrate in a smaller, more remote section of the HMA, increasing the competition with wildlife and livestock for available forage and space, which may result in reductions in AML's. Additional recreation use also increases the potential for displacement of wild horses to outside designated HMA boundaries, which would create the need for removal.

Implementation of additional open OHV designations in HMA's would increase the potential for wild horse/human interaction, especially in areas near human population centers. Sand Springs, Sheepsheads, and Coyote Lake HMA's would be opened to OHV use. This use would have much the same impacts as discussed under recreation above.

Management opportunities for wild horses may be limited when HMA's overlap with special designations. These designations include ACEC's, NWSR's, WSA's, and identified acquired land adjacent to WSA's. Limitation of management activities within these SMA's may require modification of proposed wild horse management actions. Refer to Table 3-12, Table 3-13, and Map WSA-1 for areas affected.

Conclusion: Overall, it is projected that wild horses would be sustained long term in all HMA's, though adverse impacts on a site-specific basis may result from conflict with emphasizing livestock production and providing for tourism and recreational opportunities. The wild horses may slowly adapt to the increased disturbances and competition with livestock, but with confined living space their tolerance threshold may be exceeded. Wild horses may be concentrated into smaller use areas, and increased competition for forage and water between consumptive species would occur. The wild horses may be forced outside the identified HMA and would have to be gathered periodically and returned or removed. However, in order to be in compliance with the "Wild Horse and Burro Act" of 1971, limitations may be placed on other uses to ensure viable populations within HMA's. Emphasis on construction of exclusion fencing to protect resource values would result in a long-term negative impact to the free-roaming nature of wild horses.

The objectives would marginally be met with viable populations of wild horses maintained in all HMA. In some instances, primarily in smaller HMA with fewer animals identified in AML's, conflict with objectives to emphasize livestock production would be great. Similarly, conflicts with emphasizing recreational opportunities would confine horses to more restricted portions of each HMA. The AML may be reduced in some HMA's over the long term to meet all management objectives.

Alternative B

Impacts: Fire, both wildfire and prescribed, would have the same impacts as Alternative A, except without the development of effective vegetative firebreaks.

Impacts from proposed vegetation management actions would be the same as Alternative A, except less emphasis is placed on commodity production.

Impacts from management for special status plant species would be the same as Alternative A.

Impacts from management of riparian/wetlands would be the same as Alternative A, except RCA's would not apply under this alternative and fencing may be used to limit the need for adjustments in AML's.

Management of special status animal species would have the same impacts as Alternative A except as related to very common wildlife species with a wide distribution.

Bighorn sheep distribution would have the same impacts as Alternative A, except the area of use would be maintained rather than increased.

AML's would be managed much the same as Alternative A, except less emphasis is placed on providing livestock forage over wild horse forage. The potential for AML adjustments would be less under Alternative B than under Alternative A.

Releases of wild horses would be managed the same as in Alternative A, with the same impacts.

Proposed water development projects would have the same impacts as Alternative A.

Implementation of livestock grazing management would have the same impacts as Alternative A, except any potential increases from resource improvement could be shared between wild horses and livestock and adjustments would affect both groups.

Proposed rangeland projects would have the same impacts as Alternative A.

Although, projected growth in recreational uses would cause the same impacts as Alternative A, they would be somewhat less due to recreation not being emphasized as heavily.

Continuation of existing OHV designations would lead to a moderate increase in the potential for disturbance to wild horses. Vehicles in Sand Springs, Sheepshead, and Coyote Lake HMA's would continue to be limited to existing roads, but the remaining HMA's would be open. Impacts from OHV activities would be the same as under Alternative A.

Designation and management of SMA's would have the same impacts as Alternative A, except as related to the difference in areas managed for values recognized in WSR's, WSA's, identified acquired lands adjacent to WSA's, and ACEC's, including ACEC/RNA's, as identified in Tables 3-12, 3-13, and Map WSA-1.

Conclusion: The objectives would be met long term with viable populations of wild horses maintained in all HMA's. In some instances, conflicts with objectives to maintain livestock production may occur. Similarly, conflicts with anticipated increased recreation use would confine horses to more restricted portions of each HMA. AML's would remain constant in most HMA's over the long term.

Alternative C

Impacts: Impacts from wildland and prescribed fire management would be the same as Alternative A, except AMR would be used. Also, prescribed fire would be used at levels which approximate natural functions within vegetative communities. The viability of wild horse herds would be maintained consistent with other uses and established AML's would be supported in the short term and may increase in the long term with improving vegetative conditions.

Proposed vegetation management actions would have somewhat less of an impact than Alternative A, due to less emphasis placed on commodity production for livestock.

Management of special status plant species would have the same impacts as Alternative A.

Management of riparian and wetland communities in RCA would create the same impacts as Alternative A, except riparian protective fencing would be limited which would benefit access for wild horse herds and help maintain their free-roaming character.

Management of special status animal species would have the same impacts as Alternative A. Actions for game and nongame wildlife would limit opportunities for wild horse populations, and would be considered when making wild horse management decisions.

The proposed increase in bighorn sheep distribution would have the same impacts as Alternative A.

Maintenance and periodic adjustments of AML's, consistent with limiting each species unacceptable impacts and providing additional forage, where available, would ensure that wild horses are managed consistent with meeting other management objectives.

Releases of wild horses would be the same as in Alternative A.

Proposed water developments would have the same impacts as Alternative A.

Implementation of livestock grazing management would have the same impacts as Alternative A, with the exception that necessary adjustments to wild horse AML's and authorized use by livestock would be proportionate. Thus livestock management would only marginally affect long-term AML's. Although potential new rangeland projects would have the same type of impacts as Alternative A, there is a lower potential for project development under this alternative.

The impacts from recreational use would be of the same as Alternative A. There is still a potential for horses to be displaced outside HMA boundaries, and the need to gather them.

OHV designations would have the same impacts as Alternative A.

Designation and management of SMA's would have the same impacts as Alternative A except as related to acreage affected by ACEC designation as listed in Table 3-12.

Conclusion: The objectives would be met with viable populations of wild horses maintained in all HMA. Conflict with objectives to provide for livestock production and recreational opportunities would occur on a site-specific basis. AML in many HMA would remain constant or may increase long term as resource conditions improve.

Alternative D

Impacts: Impacts from wildland fire would be the same as Alternative A except AMR would be used in lieu of prescribed fire that would be limited. The viability of wild horse herds would be maintained consistent with other uses, and established AML's would be supported in the short term and may increase in the long term with improving vegetation.

Although there are less vegetation management actions than in Alternative A, the impacts would be the same.

Management of special status plant species would have the same impacts as Alternative A.

Management of riparian and wetland communities in RCA's would have the same impacts as Alternative A, except limited riparian fencing would benefit access for wild horse herds and help maintain their free-roaming character.

Special status animal species management would have the same impacts as Alternative A. Actions for game and nongame species of wildlife would limit opportunities for wild horse populations and would be considered where making wild horse management decisions.

The proposed increase in bighorn sheep distribution would have the same impacts as Alternative A.

Maintenance and periodic adjustments of AML's would be the same as under Alternative A, except emphasis here would be on providing the additional available forage to wild horses which would maximize the potential for increases in AML's on a site-specific basis.

Wild horse releases would be managed the same as in Alternative A with the same impacts.

Proposed water developments would have the same impacts as Alternative A.

Implementation of livestock grazing management would be the same as Alternative A; however, the impacts would be different in that potential increases in wild horse AML's would not be impacted by authorized active livestock grazing use. The necessary reductions in grazing use would be borne by livestock permittees.

Even though construction of rangeland projects would have the same types of impacts as under Alternative A, minimal projects are proposed under this alternative. Therefore, the amount of impacts would be less.

Although recreational use would emphasize management of undeveloped and dispersed recreation opportunities, the impacts of such use would be the same as under Alternative A.

The OHV designation would decrease the extent of the planning area accessible to OHV use, thereby reducing the potential for additional disturbance of wild horses. Disturbances would continue in those HMA's remaining open to this type of use. Impacts from these disturbances would be the same as under Alternative A, but less widespread.

Designation and management of SMA's would have the same impacts as Alternative A, except as related to the difference in areas managed for values recognized in WSR's, WSA's, identified acquired lands adjacent to WSA's, and ACEC's, including ACEC/RNA's as identified in Tables 3-12 and 3-13, and Map WSA-1.

Conclusion: The objectives would be met with viable populations of wild horses maintained in all HMA's. Minimal conflict with objectives to provide for livestock production and recreational opportunities would occur on a site-specific basis. AML's in many HMA's would remain constant or may increase long term as resource conditions improve.

Alternative D2

Impacts: Impacts to wild horses and habitat from wildland fire would be the same as analyzed in Alternative A. Dependence on AMR in lieu of prescribed fire in locations where fire could benefit habitat management would limit opportunities for improvement of forage. The viability of wild horse herds would be maintained consistent with other uses. Established AML's would be supported in the short term and may increase in the long term with improving vegetation.

Although Alternative D2 includes fewer vegetation management actions proposed as compared to Alternative A, the types of impacts would not differ from those identified

previously. Precluding use of adapted perennial nonnative species in herbaceous seed mixes would limit opportunities for establishment of dependable perennial forage in portions of HMA's which currently are dominated by competitive weed and annual species and/or receive limited effective precipitation.

Management of special status plant species would have the same impacts to horses as analyzed in Alternative A.

Management of riparian and wetland communities in RCA's would have the same impacts to horses as analyzed in Alternative A, except limited use of riparian fencing would benefit wild horse herds by maintaining access to water and maintaining their free-roaming character.

Special status animal species management would have the same impacts to horses as analyzed in Alternative A. Actions for game and nongame species of wildlife would be considered where making wild horse management decisions and could limit opportunities for increase of wild horse populations.

The proposed increase in bighorn sheep distribution would have the same impacts to horses as analyzed in Alternative A.

Maintenance and periodic adjustments of AML's would be the same as under Alternative A, except emphasis here would be on providing additional forage available for allocation to wild horses. Opportunities to provide additional forage would maximize the potential for increases in AML's on a site-specific basis.

Wild horse releases would be managed the same as in Alternative A with the same impacts.

Proposed water developments would have the same impacts as Alternative A, though in areas of light grazing use, restrictions on project development could preclude opportunities to develop additional water sources for wild horses.

Impacts to horses resulting from implementation of livestock grazing management actions would be the same as analyzed in Alternative D throughout those portions of the planning area remaining allocated to livestock grazing. Potential increases in wild horse AML's would not be limited by authorized active livestock grazing use, since necessary reductions in grazing use would be borne by livestock permittees.

Removal of livestock grazing from approximately 273,000 acres within four HMA's would likely allow increases in wild horse AML's through the adaptive management process as limited resources currently used by cattle become available. Additionally, proposals for cross fencing or gap fencing for livestock management within these HMA's would be precluded, limiting a number of potential conflicts between implementation of actions beneficial to livestock managment and legislation which limitw actions which interfer with the free roaming nature of wild horses. Methods of maintaining water developments, other than depending on livestock operators, in areas of HMA's where livestock are removed would need to be identified.

Even though construction of rangeland projects would have the same types of impacts as under Alternative A, minimal projects are proposed under this alternative. Therefore, the amount of impacts would be less.

Although recreational use would emphasize management of undeveloped and dispersed recreation opportunities, the impacts of such use would be the same as under Alternative A.

The OHV designation would decrease the extent of the planning area accessible to OHV use, thereby reducing the potential for additional disturbance of wild horses. Disturbances would

continue in those HMA's remaining open to this type of use. Impacts from these disturbances would be the same as under Alternative A, but less widespread.

Designation and management of SMA's would have the same impacts as Alternative A, except as related to the difference in areas managed for values recognized in WSR's, WSA's, identified acquired lands adjacent to WSA's, and ACEC's, including ACEC/RNA's as identified in Tables 3-12 and 3-13, and Map WSA-1.

Conclusion: The objectives would be met with viable populations of wild horses maintained in all HMA's. Minimal conflict with objectives to provide for livestock production and recreational opportunities would occur on a site-specific basis. AML's in many HMA's would remain constant or may increase long term as resource conditions improve. AML's in four HMA's would likely be increased short term and be sustained with livestock removed from portions of Sand Springs, Coyote Lakes, Hog Creek, and Three Fingers HMA's.

Alternative E

Impacts: Implementation of aggressive initial attack and full suppression of only wildfire which threatens human life, property values of other ownership, and annual grasslands would significantly impact wild horses. Few fires which have the potential to effect wild horses would be suppressed since most HMA's are removed from centers of human population, predominantly public domain, and not dominated by annual species. As a result, short-term impacts to wild horse habitat and forage would be significant on a site-specific basis when wildfire burns within HMA's.

Wild horse populations would increase unconstrained until new AML's, in the absence of livestock grazing, are defined within each HMA by a thriving natural ecological balance . Wild horses populations within the 7 identified HMA's would increase at a rate of approximately 15 to 20 percent per year.

With no livestock grazing authorized, direct impacts from livestock resulting from seasonal or spacial competition for habitat or forage would be eliminated. Benefits from rangeland projects constructed to facilitate livestock grazing, primarily water developments, would no longer be present. In the absence of maintenance of water developments, wild horses would be further restricted in their range to those portions of HMA's and eventually areas outside administrative boundaries, where adequate water is present. Removal and reclamation of fences within HMA's would contribute to enhancing the free-roaming nature of wild horses.

With the potential increase in undeveloped and dispersed recreational use in the region and limited management of recreational activities, human interactions with wild horses would increase. Impacts from this use would be the same as Alternative A.

Management of motorized vehicle use under limited and closed OHV designations would limit disturbance of wild horses to those areas adjacent to roads and trails designated open. Disturbance of wild horses would alter their use of an HMA as summarized in the impacts from recreational use. The potential for interactions between vehicular use of designated roads and wild horses would increase within HMA's as horse populations increase and new AML's are established.

Continued management of NWSR's and WSA's would retain and may require additional constraints on wild horse management activities in HMA's, similar to analysis in Alternative A, where these SMA designations overlap HMA's.

Conclusion: This alternative would significantly benefit wild horses by removing livestock grazing from HMA's and making available additional resources for horse use. The objective would be met short term as wild horses populations are allowed to increase to larger AML's and long term once populations are stabilized in balance with available resources. With

fence removal, the free roaming nature of horses would be enhanced within those HMA's which are currently cross-fenced into two or more pastures.

Proposed RMP

Impacts: Based on the energy and minerals projected development scenarios, exploration and production activities would have minimal impact on horses. These activities could cause short term change in areas of use within HMA's as horses avoid encounters with human activity.

Implementation of AMR on all wildfire, including aggressive initial attack and full suppression of fires which would not meet management objectives, would limit impacts from fire to those resulting from short-term impacts to vegetation and forage availability. Although prescribed fire may cause short-term impacts to availability of forage and habitat pending recovery of vegetation from direct fire impacts, over the long term it would maintain vegetative productivity and diversity. Short-term removal and holding of horses following fire may be necessary to protect vegetation and soil resources following wild fire. The viability of wild horse herds would be maintained consistent with other uses and established AML's would be supported in the short term and may increase in the long term with improving vegetative conditions. Use of prescribed fire to manipulate vegetation communities within HMA's may require the temporary removal of wild horses to preclude unacceptable impacts to recovering vegetation and soil resources or establish seeded species.

Many of the proposed vegetation management actions would benefit horses by providing increased vegetation diversity and productivity. Diet quality as well as thermal and security cover may be impacted on a site-specific basis where the various proposed projects are implemented. Current AML's would continue to be supported with integrated weed management actions, in cooperation with private landowners, the State, and Malheur County.

Where special status plant species occur within HMA's, opportunities for enhancement of wild horse populations and construction of rangeland projects which benefit horses would be reduced. At this time, overlap is limited to Three Fingers HMA. In this HMA, ash soils support a variety of plants with limited global distribution. In order to protect these plants which are an additional factor in the thriving natural ecological balance in this HMA, wild horse gathering or exclusion may be required on a site-specific basis.

Where riparian values occur within HMA's, management of RCA's for the attainment of PFC, RMO's, and State water quality standards and to provide suitable habitat for aquatic organisms may limit opportunities for enhancement of wild horse populations and rangeland projects which benefit horses. Limited riparian fencing could be constructed to avoid the need for downward adjustments in AML's when it is consistent with maintaining the free-roaming nature of the horses and still provide adequate water. Wild Horse gathering or exclusion may be required on a site-specific basis where use by wild horses, including trampling, is impacting water quality, riparian communities, or aquatic habitats.

Management of special status animals species that occur within HMA's, including the implementation of conservation agreements, would limit opportunities for enhancement of wild horse populations. As recognized by the "Wild Horse and Burro Act" of 1971, protection of a natural ecological balance, including endangered and all other wildlife species, shall be a consideration when making wild horse management decisions and could limit opportunities.

The proposed increase in bighorn sheep distribution may lead to greater competition for habitat between sheep and wild horses. If management objectives are not achieved or maintained, adjustments in wild horse or bighorn sheep populations may be necessary.

Maintenance and periodic adjustments of AML's, consistent with limiting wild horse and other species unacceptable impacts to resources and providing additional forage, where available, would ensure that wild horses are managed consistent with meeting other management objectives and maintaining a thriving natural ecological balance as required in the Act.

Limiting wild horses released into HMA's to those exhibiting the special and unique characteristics designated for that particular area would maintain identified herd characteristics. It would also provide a mechanism to introduce genetic diversity into small wild horse herds. Herd health and viability may decline in the absence of genetic variation that new releases could provide.

Development of additional water sources for wild horses and livestock could open up areas previously unavailable due to limited water availability in portions of several HMA's. Water development would generally be a benefit for wild horses, though habitat conditions may deteriorate in the immediate vicinity of these projects.

Implementation of livestock grazing management, including administrative actions and project construction, could modify wild horse distribution and aspects of their free-roaming nature. Appropriate livestock management implemented through the adaptive management process would also ensure maintenance of values important to sustaining wild horse herds within HMA's. Improving vegetation condition resulting from appropriate livestock management could result in potentially increase of wild horse AML's. In the event that site-specific grazing creates unacceptable impacts to resource values which cannot be rectified solely by changing livestock management, wild horse gathers may occur and site-specific adjustments in wild horse AML's could occur. During drought conditions, the need for reduction in wild horse use could be compounded by livestock use.

Adverse impacts to the free-roaming nature of wild horses caused by construction of additional livestock management fences would be minimized or mitigated through project layout and design. As a result, fences would not limit access to historic range and water, nor restrict their free-roaming nature. Additional water development in HMA's would benefit wild horses, though in areas of light grazing use, restrictions on project development and other actions which increase use could preclude opportunities to utilize available water sources.

Opportunities for growth of recreational uses such as commercial endeavors, dispersed recreation, and development of additional recreation sites, would affect most HMA's. These recreation uses would increase visitor numbers, motorized vehicles and noise, thereby triggering an instinctive behavioral change in wild horses to avoid encounters with humans. Wild horses may slowly adapt to some of this increased use, but moderate levels of recreation use could create continued or prolonged disturbances. This could reduce or eliminate wild horse use in a portion of an HMA which would essentially decrease habitat acreage. Wild horses would concentrate in more remote section of the HMA, increasing the competition with wildlife and livestock for available forage and space, which may result in reductions in AML's. Additional recreation use also increases the potential for displacement of wild horses to areas outside designated HMA boundaries, which would create the need for gathering and possibly removal.

Implementation of OHV designations in HMA's would affect the potential for wild horse/human interaction, especially in areas near human population centers. Jackies Butte HMA would remain open to OHV use, while portions of Cold Springs HMA which were limited to existing roads would be open in Proposed RMP. Portions of Sand Springs, Coyote Lakes, and Hog Creek HMA's would remain open. OHV use in open areas, and to a lesser extent in areas limited to existing or designated roads, would have much the same impacts as discussed under recreation above. Greater restrictions on OHV use within portions of Three Fingers HMA's would reduce the potential for horse/human interactions.

Management opportunities for wild horses may be limited within HMA's so as to protect values for which special management areas would be designated. These designations include NWSR's, WSA's, identified acquired land adjacent to WSA's, and ACEC's, including RNA's. Limitation of management activities within these SMA's may require modification of proposed wild horse management actions including project construction, gathering, and adjustment of AML's. Refer to Table 3-12, Table 3-13, and Map WSA-1 for areas affected.

Conclusion: The objectives would be met long term with viable populations of wild horses maintained in all HMA's. Conflict with opportunities to provide for livestock production and recreational use would occur on a site-specific basis though would likely be mitigated in most instances. AML's in each HMA would remain constant or may increase long term as resource and vegetation conditions improve providing additional available forage and more stable habitat. Impacts to resources which hinder meeting management objectives and are caused by wild horses, though not yet identified, may limit the number of horses which may remain in any HMA while maintaining a thriving natural ecological balance.

Summary of Impacts

Implementation of Alternative E would maximize wild horse numbers long term within established HMA's, though would not provide for maintenance of a number of developed water sources currently used by livestock. Implementation of Alternatives B, C, D, D2, or Proposed RMP with constraints on livestock management actions, limited additional fence construction, and appropriate management of dispersed recreation would best meet management objectives over the long term to maintain and manage viable herds of wild horses in established HMA's. Proposed emphasis on livestock production and recreational use in Alternative A would favor resources which provide commodity values and increase disturbance of wild horses, restricting use of habitat and availability of forage resources for horses in HMA's.

Rangeland/Grazing Use

Objective: *Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.*

Alternative A

Assumptions specific to Alternative A: One hundred percent of additional herbaceous production would be allocated to commodities, including livestock.

New rangeland projects, including springs, reservoirs, wells, guzzlers, cattleguards, and pasture division fences, would be constructed at approximately 150 percent of the rate at which project construction occurred from 1987–1996.

About 750 miles of new fence would be constructed to restrict or exclude livestock from sensitive resources, including riparian areas.

Impacts: Mineral exploration and development may reduce forage production in localized areas, but impacts across the landscape would be insignificant. Livestock operations within the limited number of allotments with high mineral potential could be significantly impacted by development.

Aggressive initial attack and full suppression of wildfire would limit the acreage of unplanned fire to current levels or less. Where wildfire reduces woody species competition,

forage production would increase. Rest or deferment of grazing following fire and emergency rehabilitation would temporarily reduce AUM's in localized areas.

Prescribed fire would increase forage production over the long term within a maximum of 373,000 acres of western juniper, shrub, and annual grass dominated communities. Cumulative effects of extensive use of prescribed fire to emphasize commodity production may result in significantly greater forage from targeted communities. A short-term loss of forage in localized areas would result from preburn fuels management, postburn rest, and rehabilitation. Browse production may decline where sagebrush and palatable shrub species are reduced.

Restoration and maintenance of vegetation communities to DRFC's would increase forage production. Emphasis on adapted nonnative species would further increase forage production. Maintenance of sagebrush for sagebrush-dependent game and special status wildlife may limit additional forage production on some sites. Mechanical vegetation treatments may result in localized, short-term forage loss.

Integrated weed management actions would minimize competition with desirable forage producing species. Soil disturbance and seed dispersal from resource uses and other actions, may increase noxious weeds and decrease forage production over the long term on some sites.

Reduction in the dominance and distribution of western juniper would increase forage production within a small portion of the planning area. Improved soil stability would sustain forage production over the long term. Livestock use within a small portion of the planning area may periodically be limited to maintain existing quaking aspen stands.

Implementation of forest health actions would result in increased forage production and management flexibility within a small portion of MRA. Short-term reductions in authorized livestock use may occur in order to implement prescribed burning and other actions.

Management of special status plant and animal species may constrain opportunities for enhancement of livestock grazing and construction of rangeland projects where site-specific impacts are identified. Actions to protect species listed under the ESA, including the implementation of conservation agreements, may further constrain options.

Site-specific forage availability would decline with implementation of grazing schedules consistent with achieving PFC and meeting RMO's in RCA's. Additional livestock management actions may also be required to meet other management objectives associated with riparian communities including springs, reservoirs, and meadows. Extensive fencing of riparian areas would minimize the acreage where livestock management is constrained by riparian objectives. Livestock production in some pastures may be further limited to meet water quality standards.

Within bighorn sheep range, there would be no increase in domestic sheep AUM's. Existing domestic sheep grazing would remain unaffected by management of bighorn sheep populations. Impacts to cattle grazing would be limited due to minimal spacial overlap in areas of use by bighorn sheep and cattle.

Periodic evaluation and adjustment of wild horse AML's, with a preference for providing livestock forage, would minimize impacts to livestock production. Water development to benefit wild horses may enhance livestock management flexibility.

Current grazing practices and levels of use would be maintained unless site-specific evaluations identify needed revisions. Grazing schedules would improve health, vigor, and productivity of desirable perennial vegetation, resulting in additional forage availability. Construction of rangeland projects, to provide additional sources of livestock water, manage

livestock distribution, implement improved grazing schedules, or access underutilized forage resources, may increase management flexibility and forage availability.

Eliminating livestock grazing from public land adjacent to Owyhee Reservoir State Park, the Deary Pasture area of Jackies Butte Summer Allotment, and Luscher Pasture of 15-Mile Community and Whitehorse Butte Allotments, would remove 8,730 acres of public land from grazing. Because these areas have not been grazed or have been grazed only intermittently, they do not contribute to the base AUM's of each allotment and current forage would not be affected. Authorization of a permit application to graze livestock within the acquired Historic Birch Creek Ranch would provide an additional 100 to 150 AUM's in one allotment.

Authorization of TNR grazing use, consistent with management objectives, would provide additional forage during years of above average production.

Development of recreation sites and increased focus on extensive recreation opportunities may restrict livestock grazing on some sites. Minimal acreage may be excluded from livestock grazing through the adaptive management process to avoid recreation-livestock conflicts at existing and proposed developed sites.

OHV designations would increase the area accessible to OHV use. The potential for reduced forage production through impacts to vegetation resources and disturbance of livestock would increase. Impacts to grazing could result from soil disturbance, disruption of livestock, and increased fire occurrence. Since livestock are normally off public land during winter, snowmachine use conflicts would be minimal.

Livestock management activities within designated and administratively suitable NWSR's may be adjusted or eliminated to protect and enhance ORV's (Appendix V). Similarly, protection of relevant and important values within ACEC's may limit certain livestock management activities including construction of rangeland projects (see Table 3-12). Protection fencing of SMA's may be necessary to optimize forage availability on adjacent rangeland. Continued management of WSA's and identified adjacent acquired land could also restrict livestock management activities, including the development of rangeland projects.

Conclusion: The objective for rangeland/grazing use would be met. Actions proposed would generally enhance rangeland grazing opportunities and management flexibility through the sustained production of additional forage. Other resource values would often be protected through project construction which maintains grazing use of adjacent rangeland without negatively impacting localized resource values. Permitted AUM's would remain constant or increase as much as 10 percent over the long term. Prescribed fire and other vegetation management which favors herbaceous perennials; rangeland project development; and authorization of TNR, would increase forage availability. Other actions may minimally increase forage production and availability both short and long term.

Actions which may cumulatively contribute to AUM reductions and decreased management flexibility include: restriction or exclusion of livestock to meet objectives within pastures not currently managed for riparian values; revisions to grazing schedules to meet objectives in pastures currently managed for riparian values; actions to protect ORV's in NWSR's, relevant and important values in ACEC's, and significant resources in other SMA's; actions to protect special status plant and animal species; and actions to protect cultural resources. Other actions may minimally reduce AUM's and management flexibility both short and long term.

Changes in permitted use within an individual allotment would depend on the array of resources affected by livestock use, management objectives, intensity of livestock management actions implemented by livestock operators, and opportunities to develop and implement livestock grazing use while sustaining resource values.

Regional standards of rangeland health may be minimally met in some upland and riparian vegetation communities, though would be met at the broad scale.

Alternative B

Assumptions specific to Alternative B: About 50 percent of additional herbaceous production would be allocated to commodities, including livestock, while 50 percent would be allocated to other values.

New rangeland projects, including springs, reservoirs, wells, guzzlers, cattleguards, and pasture division fences, would be constructed at the same rate at which project construction occurred from 1987–1996.

About 525 miles of new fence would be constructed to restrict or exclude livestock from sensitive resources, including riparian areas.

Impacts: Impacts from mineral exploration and development would be similar to those identified in Alternative A.

Impacts from wildfire and suppression actions would be similar to those identified in Alternative A, as a result of aggressive initial attack and full suppression of all wildfire.

Short- and long-term impacts from prescribed fire would be similar to those identified in Alternative A, except the maximum acreage burned would be approximately 40 percent of that identified in that analysis. Cumulative effects of planned burning would result in less than full production of potential forage.

Impacts from vegetation management actions would be similar to those identified in Alternative A. Equal use of native and nonnative seed mixtures would increase herbaceous production, and thus, forage availability. Maintenance of sagebrush for sagebrush-dependent wildlife may limit additional forage production on many sites.

Benefits from weed management actions would be similar to those identified in Alternative A.

Impacts from management of western juniper and quaking aspen stands, and implementation of forest health actions would be similar to those identified in Alternative A. Acreage available for timber harvest would be greater, resulting in a cumulatively greater production of forage. Acreage of western juniper control would be less, resulting in a less increase in forage production than identified in analysis of Alternative A.

Management of special status plant and animal species may constrain livestock grazing as identified in Alternative A.

Impacts associated with management of riparian communities and meeting water quality standards would be similar to those identified in Alternative A. Reduced emphasis on fencing of riparian areas would increase the acreage where livestock management is constrained by riparian objectives.

Management of bighorn sheep and their range would have impacts similar to those identified in Alternative A. Site-specific consideration to authorize new domestic sheep grazing permits within bighorn sheep ranges would provide opportunities for additional growth of domestic sheep use.

Management of wild horses and HMA's would have impacts similar to those identified in Alternative A, though additional available forage would be used for livestock production less often.

Livestock management actions would benefit livestock grazing similar to Alternative A, except fewer rangeland projects would be constructed, resulting in less additional forage.

Authorization of a permit application to graze livestock within the acquired Historic Birch Creek Ranch would provide an additional 100 to 150 AUM's in one allotment.

Authorization of TNR grazing use would benefit livestock production the same as identified in Alternative A.

Impacts from development of recreation sites and focus on extensive recreation opportunities would be similar to those identified in Alternative A, though to a lesser degree as a result of less emphasis on providing recreation opportunities.

Impacts from OHV designations would be similar to those identified in Alternative A. Continuation of extensive acreage of closed and limited designations while retaining only a moderate acreage of open designation would limit the magnitude of impacts to less than that identified in Alternative A.

Impacts from designated NWSR's and ACEC's would be the same as those identified in Alternative A. No additional impacts would result from designation of new SMA's.

Conclusion: The objective for rangeland/grazing use would be met long term. Current management would generally maintain rangeland grazing opportunities and management flexibility. Project construction, designed to protect other resource values, would maintain grazing use of adjacent rangelands. Permitted AUM's would not vary more than 5 percent from current levels over the long term within the planning area. Actions which may cumulatively contribute to AUM reductions and decreased management flexibility include: implementation of livestock management to meet objectives within pastures not currently managed for riparian values; revisions to grazing schedules to meet objectives in pastures currently managed for riparian values; actions to protect ORV's in NWSR's, relevant and important values in ACEC's, and significant resources in other SMA's; actions to protect special status plant and animal species; and actions to protect cultural resources. Other actions may minimally reduce AUM's and management flexibility. Prescribed fire and other vegetation management which favors herbaceous perennials, rangeland project development, and authorization of TNR, would increase forage availability. Other actions may minimally increase forage production and availability.

Changes in permitted use within an individual allotment would depend on the array of resources affected by livestock use, management objectives, intensity of livestock management actions implemented by livestock operators, and opportunities to develop and implement livestock grazing use while sustaining resource values.

Regional standards of rangeland health would be met in upland and riparian vegetation communities.

Alternative C

Assumptions specific to Alternative C: About 50 percent of additional herbaceous production would be allocated to commodities, including livestock, while 50 percent would be allocated to other values.

New rangeland projects, including springs, reservoirs, wells, guzzlers, cattleguards, and pasture division fences, would be constructed at approximately 20 percent of the rate at which project construction occurred from 1987–1996.

About 300 miles of new fence would be constructed to restrict or exclude livestock from sensitive resources, including riparian areas.

Impacts: Impacts from mineral exploration and development would be similar to those identified in Alternative A.

Impacts from wildfire and suppression actions would be similar to those identified in Alternative A. AMR would provide for use of wildfire to manage vegetation communities toward DRFC's thus benefitting livestock by increasing perennial herbaceous production.

Short- and long-term and cumulative impacts from prescribed fire within a maximum of 373,000 acres of western juniper, shrub, and annual grass dominated communities would be similar to those identified in Alternative A, except the vegetation communities involved would emphasize improvement of resource values in addition to consideration of forage production.

Impacts from vegetation management actions would be similar to those identified in Alternative A. Emphasizing native seed mixes would increase herbaceous production, and thus, forage availability. Maintenance of sagebrush for sagebrush-dependent wildlife may limit additional forage production on many sites.

Benefits from weed management actions would be similar to those identified in Alternative A.

Short- and long-term and cumulative impacts from management of western juniper and quaking aspen stands, and implementation of forest health actions would be similar to those identified in Alternative A. Sites selected for treatment would include greater consideration for improving resource values as opposed to greater forage production.

Management of special status plant and animal species may constrain livestock grazing as identified in Alternative A.

Impacts associated with management of riparian communities and meeting water quality standards would be similar to those identified in Alternative A. Considerably less fencing of riparian areas would increase the acreage where livestock management is constrained by riparian objectives.

Management of bighorn sheep and their range would have impacts similar to those identified in Alternative A.

Management of wild horses and HMA's would have impacts similar to those identified in Alternative B.

Livestock management actions, including the limited construction of new rangeland projects, would benefit livestock grazing similar to Alternative A. Less additional forage production would result from improving vegetation health or project construction.

Authorization of TNR grazing use would benefit livestock production the same as identified in Alternative A, though to a lesser degree since greater consideration for maintaining resource values would result in TNR authorizations less often.

Impacts from eliminating livestock grazing from public land adjacent to Owyhee Reservoir State Park, the Deary Pasture, and Luscher Pasture would be the same as identified in Alternative A. Exclusion of grazing of acquired Historic Birch Creek Ranch would not affect historic grazing levels on public land, since these properties have not been grazed since acquisition by BLM. Authorization of TNR in these areas to meet management objectives and interpretive needs would periodically provide a small amount of additional forage.

Impacts from development of recreation sites and increased focus on extensive recreation opportunities would be similar to those identified in Alternative A, though to a lesser degree as a result of less emphasis on providing recreation opportunities.

Impacts from OHV designations would be similar to those identified in Alternative A, though with minor differences in the acreage of open and limited designations.

Impacts from designation of administratively suitable NWSR's would be the same as those identified in Alternative A, though occur in additional areas (Table 3-13). Similarly, impacts from designation of ACEC's would occur in more areas than identified in Alternative A (see Table 3-12). Impacts from management of identified acquired land adjacent to WSA's would be the same as identified in Alternative A.

Conclusion: The objective for rangeland/grazing use would be met long term. Actions proposed would generally maintain rangeland grazing opportunities and management flexibility. Limited project construction, designed to protect other resource values, would maintain grazing use of adjacent rangelands. Permitted AUM's would remain constant or decrease as much as 10 percent from current levels over the long term within the planning area. Actions which may cumulatively contribute to AUM reductions and decreased management flexibility include: implementation of livestock management to meet objectives within pastures not currently managed for riparian values; revisions to grazing schedules to meet objectives in pastures currently managed for riparian values; actions to protect ORV's in NWSR's, relevant and important values in ACEC's, and significant resources in other SMA's; actions to protect special status plant and animal species; and actions to protect cultural resources. Other actions may minimally reduce AUM's and management flexibility. Prescribed fire and other vegetation management which favor herbaceous perennials, rangeland project development, and limited authorization of TNR, would increase forage availability. Other actions may minimally increase forage production.

Changes in permitted use within an individual allotment would depend on the array of resources affected by livestock use, management objectives, intensity of livestock management actions implemented by livestock operators, and opportunities to develop and implement livestock grazing use while sustaining resource values.

Regional standards of rangeland health would be met in upland and riparian vegetation communities.

Alternative D

Assumptions specific to Alternative D: About 25 percent of additional herbaceous production would be allocated to commodities, including livestock, while 75 percent would be allocated to other values.

New rangeland projects, including springs, reservoirs, wells, guzzlers, cattleguards, and pasture division fences, would be constructed at approximately 5 percent of the rate at which project construction occurred from 1987–1996.

About 50 miles of new fence would be constructed to restrict or exclude livestock from sensitive resources, including riparian areas.

Impacts: Impacts from mineral exploration and development would be similar to those identified in Alternative A.

Impacts from wildfire and suppression actions would be similar to those identified in Alternative A. AMR would provide for use of wildfire to manage vegetation communities toward DRFC's, thus increasing livestock management flexibility.

Short- and long-term and cumulative impacts from prescribed fire would be similar to those identified in Alternative A, except the maximum acreage burned would be approximately 50 percent of that identified in that analysis.

Restoration and maintenance of vegetation communities to DRFC's, with exclusive use of native seed mixes, would increase herbaceous production and thus livestock management flexibility. Maintenance of sagebrush for sagebrush-dependent wildlife may limit additional forage production on many sites, the same as identified in the analysis of Alternative C.

Benefits from weed management actions would be similar to those identified in Alternative A.

Impacts from management of western juniper and quaking aspen stands, and implementation of forest health actions would be similar to those identified in Alternative A, except fewer acres would be treated. Sites selected for treatment would include significant consideration for improving resource values and limited consideration for providing additional forage.

Management of special status plant and animal species may constrain livestock grazing as identified in Alternative A.

Impacts associated with management of riparian communities and meeting water quality standards would be similar to those identified in Alternative A. Management of livestock on more acres would be constrained by riparian objectives due to limited fencing.

Elimination of domestic sheep grazing from bighorn sheep range would result in significant impacts to one or more existing livestock operations. Opportunities to increase domestic sheep production within bighorn sheep range would be foregone. Though the livestock industry dependent on public land forage would be minimally affected, one or more sheep operators may be forced to relocate or go out of business.

Management of wild horses and HMA's would have impacts similar to those identified in Alternative A, though additional available forage would be allocated to livestock infrequently.

Livestock management actions, including limited construction of rangeland projects, would benefit livestock grazing similar to Alternative A. Additional forage production resulting from improving vegetation health would infrequently benefit livestock production.

Impacts from eliminating livestock grazing from public land adjacent to Owyhee Reservoir State Park, the Deary Pasture, and Luscher Pasture would be the same as identified in Alternative A. Exclusion of grazing of acquired Historic Birch Creek Ranch would not affect historic grazing levels on public land as identified in the analysis of Alternative C.

No authorization of TNR grazing use would result in no benefit to livestock production in years of above average production from vegetation communities.

Impacts from development of recreation sites and increased focus on extensive recreation opportunities would be similar to those identified in Alternative A, though to a lesser degree with less emphasis on providing recreation opportunities at developed sites.

Impacts from OHV designations would be similar to those identified in analysis of Alternative A. The extent of impacts resulting from open designation would be limited as a result of significantly fewer acres open and additional acreage limited.

Impact from designation of administratively suitable NWSR's would be the same as those identified in Alternative A, though occur in additional areas (Table 3-13). Similarly, impacts from designation of ACEC's would occur in more areas than identified in Alternative A (see

Table 3-12). Impacts from management of identified acquired land adjacent to WSA's would be the same as identified in Alternative A.

Conclusion: The objective for rangeland/grazing use would be met. Actions proposed would generally maintain rangeland grazing opportunities and management flexibility. Infrequent project construction, designed to protect other resource values, would maintain grazing use of adjacent rangelands. Permitted AUM's would remain constant or decrease as much as 20 percent from current levels over the long term within the planning area. Actions which may cumulatively contribute to AUM reductions and decreased management flexibility include: implementation of livestock management to meet objectives within pastures not currently managed for riparian values; revisions to grazing schedules to meet objectives in pastures currently managed for riparian values; actions to protect ORV's in NWSR's, relevant and important values in ACEC's, and significant resources in other SMA's; actions to protect special status plant and animal species; and actions to protect cultural resources. Other actions may minimally reduce AUM's and management flexibility. Prescribed fire and other vegetation management which favors herbaceous perennials, rangeland project development, and other actions, may minimally increase forage production.

Changes in permitted use within an individual allotment would depend on the array of resources affected by livestock use, management objectives, intensity of livestock management actions implemented by livestock operators, and opportunities to develop and implement livestock grazing use while sustaining resource values.

Regional standards of rangeland health would be met in upland and riparian vegetation communities.

Alternative D2

Assumptions specific to Alternative D2: About 25 percent of additional herbaceous production would be allocated to commodities, including livestock, while 75 percent would be allocated to other values.

New rangeland projects, including springs, reservoirs, wells, guzzlers, cattleguards, and pasture division fences, would be constructed at approximately 5 percent of the rate at which project construction occurred from 1987 to 1996.

About 50 miles of new fence would be constructed to restrict or exclude livestock from sensitive resources, including riparian areas.

Impacts: Impacts from mineral exploration and development would be similar to those identified in Alternative A.

Impacts from wildfire and suppression actions would be similar to those identified in Alternative A. AMR would provide for use of wildfire to manage vegetation communities toward DRFC's, thus increasing livestock management flexibility.

Short- and long-term and cumulative impacts from prescribed fire would be similar to those identified in Alternative A, except the maximum acreage burned would be approximately 50 percent of that identified in that analysis.

Restoration and maintenance of vegetation communities to DRFC's, with exclusive use of native seed mixes, would increase herbaceous production and thus livestock management flexibility. Maintenance of sagebrush for sagebrush-dependent wildlife may limit additional forage production on many sites, to a greater extent than identified in the analysis of Alternative C. Following completion of the analysis of Alternative C in the draft document, a canopy cover of sagebrush greater than 15 percent has been recommended to support sage grouse needs on winter range.

Benefits from weed management actions would be similar to those identified in Alternative A.

Impacts from management of western juniper and quaking aspen stands, and implementation of forest health actions would be similar to those identified in Alternative A, except fewer acres would be treated. Sites selected for treatment would include significant consideration for improving resource values and limited consideration for providing additional livestock forage.

Management of special status plant and animal species may constrain livestock grazing as identified in Alternative A. In addition, removal of livestock grazing from four pastures (approximately 7,400 acres) identified as selected habitats of Mulford's milkvetch, from 14 pastures (approximately 183,500 acres) containing streams supporting Lahotan cutthroat or bull trout, and from 13 pastures (approximately 262,800 acres) containing streams and/or springs identified as redband trout and/or Columbia spotted frog strongholds would reduce available forage and livestock management flexibility in many allotments.

Impacts associated with management of riparian communities and meeting water quality standards would be similar to those identified in Alternative A. Temporary removal of livestock from pastures or areas containing riparian vegetation communities which, due to livestock management actions, are in functioning-at-risk with a downward trend or are not properly functioning would result in short-term loss of a portion of grazing authorization for many livestock operators. Management of livestock on more acres would be constrained by riparian objectives due to limited fencing.

Elimination of domestic sheep grazing from bighorn sheep range would result in significant impacts to one or more existing livestock operations. Opportunities to increase domestic sheep production within bighorn sheep range would be foregone. Though the livestock industry dependent on public land forage would be minimally affected, one or more sheep operators may be forced to relocate or go out of business.

Removal of livestock grazing from 23 pastures (approximately 278,500 acres) containing selected habitats of sagebrush dependent species would reduce available forage and livestock management flexibility in many allotments.

Management of wild horses and HMA's would have impacts similar to those identified in Alternative A, though additional available forage would be allocated to livestock infrequently.

Livestock management actions, including limited construction of rangeland projects, would benefit livestock grazing similar to Alternative A. Additional forage production resulting from improving vegetation health would infrequently benefit livestock production.

Impacts from eliminating livestock grazing from 1.45 million acres of public land within the planning area (approximately 32 percent) to protect identified resource values would result in an estimated loss of 132,500 AUM's of grazing use annually authorized. A number of allotments with a significant number of pastures or significant acreage lost from grazing schedules would be greatly affected, in some cases resulting in the loss of a viable livestock operation. Other allotments would be little affected by the loss of allocation of grazing use to protect identified resource values. Exclusion of grazing of acquired Historic Birch Creek Ranch would not affect historic grazing levels on public land as identified in the analysis of Alternative C. Recognition of grazing use which has occurred in Lava Butte Lower Lava Field would not affect authorized use levels in West Cow Creek Allotment (20902).

Preservation of current resource values present in areas in late to PNC ecological status and currently not use or only slightly utilized by livestock, through disallowing livestock management actions which would increase use unless implementation of that action would

result in a net benefit toward attaining management objectives within the area of limited livestock use and adjoining areas, would preclude opportunities for increases in livestock AUM's to take advantage of these areas of underutilized forage. Additionally, it could preclude livestock management opportunities to alleviate impacts to resources in adjoining areas, resulting in some site-specific livestock grazing reductions.

No authorization of TNR grazing use would result in no benefit to livestock production in years of above average production from vegetation communities.

Impacts from development of recreation sites and increased focus on extensive recreation opportunities would be similar to those identified in Alternative A, though to a lesser degree with less emphasis on providing recreation opportunities at developed sites.

Impacts from OHV designations would be similar to those identified in analysis of Alternative A. The extent of impacts resulting from open designation would be limited as a result of significantly fewer acres open and additional acreage limited or closed.

Removal of livestock grazing from currently designated and four administratively suitable NWSR's would result in the loss of forage from 56 pastures or areas which include approximately 909,000 acres of public land. Of that total acreage, a significant majority is not within the identified corridor of the three designated NWSR's (188 river miles encompassing approximately 49,000 acres) nor an average 0.5-mile corridor adjacent to the four administratively suitable rivers (42.5 river miles encompassing an estimated 13,600 acres) (Table 3-13). Additionally, a number of sections of the designated Owyhee NWSR corridor would receive no additional protection from livestock impacts even though those areas are currently allocated to livestock grazing, since they are not accessible to livestock due to physical barriers to livestock movements such as canyon rims or distance from accessible water sources. Limited NWSR acreage which currently is accessible to livestock grazing due to the juxtaposition of legally described NWSR boundaries and barriers to livestock movement would receive marginal additional protection of ORV's since these areas currently receive limited livestock use due to topography and distance from water. Though identified ORV's of the seven rivers would be protected from livestock impacts, especially those which occur in areas of livestock concentration associated with watering from the river, an additional estimated 846,000 acres of public land outside NWSR corridors which could be retained in grazing allotments and where management objectives could continue to be met through the adaptive management process, would not be available for livestock production.

Impacts from designation of ACEC's would occur in more areas than identified in Alternative A due to the additional ACEC's designated in this alternative(see Table 3-12). Additionally, livestock grazing would be removed from 19 pastures or portions of pastures which include ACEC's.

Impacts from management of identified acquired land adjacent to WSA's would be the same as identified in Alternative A.

Conclusion: Approximately 132,500 AUM's of grazing use annually authorized within the planning area would be canceled initially with implementation of Alternative D2, proportionate with the removal of approximately 1.45 million acres of public land allocated to livestock grazing (such as 0.091 AUM's per acre). Generally, the stated objective for rangeland/grazing use would be met, though a significant number of livestock operations within current allotment would likely not remain viable enterprises with livestock grazing removed from 32 percent of the planning area as well as the loss of many pastures from current grazing schedules within allotments. These allotments would likely need to be eliminated or combined with other allotments to create new functional livestock management units.

Other actions of Alternative D2 proposed would maintain rangeland grazing opportunities and management flexibility in most allotments which retain an adequate number of pastures

to implement appropriate grazing schedules and allow management objectives to be met. Infrequent project construction, designed to protect resource values and mitigate livestock impacts, would maintain grazing use of some rangelands. In addition to initial reductions in authorized grazing use through removing significant areas from allocation for livestock grazing, an estimated 0 to 10 percent reduction in livestock grazing use would result over the life of the plan as a result of adaptive management. Actions which may cumulatively contribute to AUM reductions and decreased management flexibility over the life of the plan include: implementation of livestock management to meet objectives within pastures not currently managed for riparian values; revisions to grazing schedules to meet objectives in pastures currently managed for riparian values; actions to protect relevant and important values in ACEC's, and significant resources in other SMA's; additional actions to protect special status plant and animal species; and actions to protect cultural resources. Other actions may minimally reduce AUM's and management flexibility. Prescribed fire and other vegetation management which favors herbaceous perennials, limited rangeland project development, and other actions, may minimally increase forage production.

Changes in permitted use within an individual allotment, beyond that implemented immediately with the removal of 32 percent of the planning area from allocation for livestock grazing, would depend on the array of resources affected by livestock use, management objectives, intensity of livestock management actions implemented by livestock operators, and opportunities to develop and implement livestock grazing use while sustaining resource values.

Regional standards of rangeland health would be met in upland and riparian vegetation communities.

Alternative E

Impacts: Livestock grazing permits authorizing 420,584 AUM's of livestock use annually within 168 allotments would be canceled. Rangeland projects not beneficial to authorized uses would be abandoned and sites rehabilitated. New rangeland projects would be limited to those beneficial to uses authorized.

Conclusion: This objective would not be met, since no livestock grazing would be authorized within the planning area. Livestock grazing would not impede progress toward meeting regional standards of rangeland health.

Proposed RMP

Assumptions specific to the Proposed RMP: About 50 percent of additional herbaceous production would be allocated to commodities (such as livestock production) so long as objectives can be met, while 50 percent would be allocated to other values.

New rangeland projects, including springs, reservoirs, wells, guzzlers, cattleguards, and pasture division fences, would be constructed at approximately 20 percent of the rate at which project construction occurred from 1987 to 1996.

About 300 miles of new fence would be constructed over the life of the plan to restrict or exclude livestock from sensitive resources, including riparian areas.

Impacts: Opportunities for mineral exploration and development retained with implementation of actions of this alternative may reduce forage production in localized areas, but impacts to rangeland grazing across the landscape would be insignificant. Livestock operations within a limited number of allotments with high mineral potential could be significantly impacted in the event that extensive exploration or development occurs.

Aggressive initial attack and full suppression of most wildfire, a probable action of AMR in most instances during the portions of the fire season when moderate to extreme fire behavior would occur, would limit the acreage of unplanned fire to current levels or less. Where wildfire reduces woody species competition, forage production would increase. Rest or deferment of grazing following fire and emergency rehabilitation would temporarily reduce AUM's in localized areas. Implementation of AMR would provide for use of wildfire as consistent with objectives to manage vegetation communities toward DRFC's, thus benefitting livestock by increasing perennial herbaceous production.

Use of prescribed fire would increase forage production over the long-term within a maximum of 373,500 acres of western juniper, shrub, and annual grass dominated communities. Cumulative effects of extensive use of prescribed fire to emphasize improvement of resource values, in addition to consideration of forage production, may result in significantly greater forage from targeted communities. A short-term loss of forage in localized areas would result from preburn fuels management as well as postburn rest and rehabilitation. Browse production, generally a minor portion of livestock diets, may decline where sagebrush and palatable shrub species are reduced by fire.

Restoration and maintenance of vegetation communities to DRFC's would increase forage production. Emphasis on use of native species and consideration for use of adapted nonnative species where better suited to climatic conditions and competition with annual species would further increase forage production. Maintenance of sagebrush for sagebrush-dependent wildlife and special status wildlife species may limit additional forage production on some sites, especially where maintenance or restoration of sage grouse nesting habitat or winter range is required. Mechanical vegetation treatments may result in localized, short-term forage loss.

Integrated weed management actions would minimize weedy competition with desirable forage producing species to the extent weed control efforts are effective. Soil disturbance and seed dispersal caused by all resource uses and other actions authorized, may increase the dominance of noxious weeds on a localized basis and decrease forage production over the long-term on some sites.

Reduction in the dominance and distribution of western juniper to improve vegetation community diversity would increase forage production within select portions of the planning area. Short-term reduction in forage availability may result when implementing identified western juniper management practices. Improved soil stability resulting from the maintenance of diverse vegetation communities not dominated by western juniper would sustain forage production over the long-term. Livestock use within a small portion of the planning area may periodically be limited to implement actions necessary to maintain or improve quaking aspen stands where potential is present.

Implementation of forest health actions and management to maintain/restore old growth characteristics within forest stands would result in increased forage production and management flexibility within the small forested portion of MRA. Forested areas do not occur in JRA. Short-term reductions in authorized livestock use may occur in order to implement prescribed burning and other forest management actions.

Management of special status plant and animal species, including the implementation of conservation agreements, may constrain opportunities for enhancement of livestock grazing and construction of rangeland projects where mitigation of site-specific impacts is not possible. Actions to protect species listed under the ESA consistent with biological assessments and BO's may further constrain livestock management options or result in reductions in livestock use.

Forage availability would decline in some allotments with implementation of grazing schedules which are consistent with achieving PFC and meeting RMO's in RCA's. Addi-

tional livestock management actions may also be required to meet additional management objectives associated with riparian communities and water quality requirements including those at springs, reservoirs, and meadows. Fencing of lentic riparian resources, as well as limited fencing of stream-side riparian corridors could somewhat minimize the upland rangeland acreage where livestock management is constrained by riparian objectives, though it may limit late season water availability in some instances. Livestock management options, flexibility, and forage availability in some pastures may be further limited to meet water quality standards.

Within expanded bighorn sheep range, there would be no increase in domestic sheep AUM's, thus limiting opportunities. Domestic sheep grazing currently authorized would remain unaffected by management of bighorn sheep populations. In the event that application is made and authorization is granted for conversion of sheep AUM's to cattle AUM's within bighorn sheep range, opportunities for conversion back to sheep AUM's at some later date would be forgone. Impacts to cattle grazing would be minimal due to limited spatial overlap in areas of use by bighorn sheep and cattle.

Periodic evaluation and adjustment of wild horse AML's with scheduled gathering to maintain populations within individual HMA's in balance with a thriving natural ecological balance would minimize impacts to forage availability and livestock production. Water development to benefit wild horses may enhance livestock management flexibility.

Current livestock grazing practices and levels of use would be maintained unless site-specific evaluations identify needed revisions. Short-term reductions in available forage could result to implement appropriate grazing schedules. Implementation of appropriate grazing schedules identified through the adaptive management process would improve health, vigor, and productivity of desirable perennial vegetation, resulting in opportunities for additional forage and livestock management flexibility. Construction of rangeland projects, to provide additional sources of livestock water, manage livestock distribution, implement improved grazing schedules, or mitigate livestock management impacts to other resource values, may increase management flexibility and forage availability.

Implementation of the decision to not allocate livestock grazing use of portions of the Owyhee River Canyon, Jordan Craters, Luscher Pasture, Leslie Gulch, Dunlevy-Sayer Botanical Exclosure, and public lands adjacent to Owyhee State Park from livestock grazing allotments would remove approximately 58,925 acres of public land from allocation for livestock grazing. This figure includes 27,529 acres currently not allocated for livestock grazing and 106 acres at the Historic Birch Creek Ranch which remains available for temporary grazing only for administrative and/or interpretive purposes. Because these areas have been excluded from livestock grazing, not been accessible to livestock, or have not been grazed in the past due to other reasons, they have not contributed to the forage base which supports current authorized AUM's within each allotment. As a result, forage availability for livestock production would not be affected. Conversely, since livestock have continued to graze within Lava Butte Lower Lava Field of West Cow Creek Allotment, authorizing use in this pasture would not affect authorized grazing use levels. Prohibition of the authorization of application for any long-term permit to graze acquired lands of the Historic Birch Creek Ranch would not affect historic grazing levels on public land, since these properties have not been grazed since acquisition by BLM. Short-term authorization of grazing in these areas to meet management objectives and interpretive needs for the property would periodically provide a small amount of additional forage.

Preservation of current resource values present in areas in late to PNC ecological status and currently not used or only slightly utilized by livestock, through disallowing livestock management actions which would increase use unless implementation of that action would result in a net benefit toward attaining management objectives within the area of limited livestock use and adjoining areas, would preclude opportunities for increases in livestock AUM's to take advantage of these areas of underutilized forage. Additionally, it could

preclude livestock management opportunities to alleviate impacts to resources in adjoining areas when the total net benefit is less than positive. This could result in some site-specific livestock grazing reductions.

Authorization of TNR grazing use, consistent with established criteria and actions to meet management objectives, would provide additional forage during years of above average production and allow for more timely processing of TNR applications.

Development of recreation sites and increased focus on extensive recreation opportunities may restrict livestock grazing on some sites. Minimal acreage would be excluded from livestock grazing and may require reductions in authorized use levels through the adaptive management process to avoid recreation-livestock conflicts at existing and proposed developed sites.

Implementation of OHV designations would increase the area accessible to OHV use. The potential for reduced forage production through impacts to vegetation resources and disturbance of livestock would increase. Impacts to grazing could result from soil disturbance, disruption of livestock, and increased fire occurrence. Since livestock are normally off public land during winter, snowmachine use conflicts with livestock grazing would be minimal and limited to winter range.

Actions to bring livestock management within the Owyhee NWSR into compliance with the injunction order filed in Oregon District Court on November 18, 1999 would result in the removal of cattle grazing from an undetermined (as of April 4, 2000) acreage of public land adjacent to identified areas of concern, since the order and opinion remains under litigation. Livestock management activities within four designated and four administratively suitable NWSR's (Table 3-13) may be adjusted or eliminated to protect and enhance ORV's (Appendix V) through the adaptive management process. Similarly, protection of relevant and important values within ACEC's may limit certain livestock management activities including construction of rangeland projects (see Table 3-12). Limited use of protective fencing of SMA's may be appropriate to retain forage availability on adjacent rangeland. Continued management of WSA's and identified acquired land adjacent to WSA's could also restrict livestock management activities, including the development of rangeland projects.

Conclusion: Implementation of actions identified within this alternative would allow objectives for rangeland/grazing use to be met long term. Actions proposed would generally maintain rangeland grazing opportunities and management flexibility. Moderate levels of project construction, designed to protect other resource values and mitigate livestock impacts, would maintain acceptable levels of livestock grazing use of adjacent rangelands. Permitted AUM's would remain constant or may decrease as much as 10 percent from current levels over the long term within the planning area with full implementation of actions within this alternative. Actions which may cumulatively contribute to AUM reductions and decreased management flexibility include: implementation of livestock management to meet riparian management objectives within pastures not currently managed for riparian values; revisions to grazing schedules to meet objectives in pastures currently managed for riparian values; actions to protect ORV's in NWSR's, relevant and important values in ACEC's, and significant resources in other SMA's; actions to protect special status plant and animal species; and actions to protect cultural resources. Actions necessary to meet additional management objectives, in addition to precluding additional livestock use in some areas, may minimally reduce AUM's and management flexibility on a site-specific basis. Prescribed fire and other vegetation management which favor herbaceous perennials, rangeland project development, and limited authorization of TNR, would increase livestock forage availability and management flexibility. Other actions may minimally increase forage production.

Changes in permitted use within an individual allotment would depend on the array of resources affected by livestock use, management objectives, intensity of livestock manage-

ment actions implemented by livestock operators, and opportunities to develop and implement livestock grazing use while sustaining resource values.

Regional standards of rangeland health would be met in upland and riparian vegetation communities.

Summary of Impacts

Factors which may cause long term change in levels of authorized active use include: allocation of forage following vegetative change resulting from wildland fire; rangeland project development; changes to average utilization levels; actions to improve or maintain riparian values including aquatic habitats and progress toward meeting water quality objectives; preservation of special status plant and animal species; maintenance of relevant and important values in ACEC; preservation of values contributing to wilderness values in WSA; protection of ORV's identified in NWSR corridors; and protection of cultural resources.

Implementation of the Proposed RMP, with moderate levels of livestock grazing and project development to mitigate impacts to other resource values, would best meet objectives to provide a long-term sustained level of livestock grazing while maintaining livestock management flexibility.

Alternative A provides for the highest level of project development and authorized livestock use. Intensive livestock management would be required to optimize forage use while protecting other resource values, when forage levels fluctuate due to climatic factors.

Implementation of Alternative D would moderately reduce current levels of livestock grazing, impacting a number of livestock operators and potentially the livestock industry in Malheur County. Impacts caused by livestock to other resources would be less than those which would occur with implementation of Alternatives A, B, C, or Proposed RMP.

Implementation of Alternative D2, which eliminates livestock grazing use from 32 percent of the planning area, would significantly impact a large number of livestock operators and the industry in Malheur County. Impacts caused by livestock to other resources would be less than those which would occur with implementation of Alternatives A, B, C, or Proposed RMP.

Elimination of all livestock grazing, as proposed in Alternative E, would not allow the rangeland/grazing use objective to be met.

Recreation

Objective: *Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.*

Assumptions common to all alternatives: Based on the 1994 "Oregon Statewide Comprehensive Outdoor Recreation Plan" (SCORP), recreation use in southeastern Oregon is increasing at an average annual rate of approximately 3.8 percent. Thus, in 5 years, visitor use is projected to increase approximately 21 percent from current levels, and in 20 years use would increase by about 110 percent. Recreational activities projected to increase include hiking, nonmotorized water sports and boating, bicycling, photography, driving for pleasure, recreational off-highway driving, hunting, and camping. Within SMA's, an increase in recreational use would vary due to the opportunities, availability, and popularity of certain activities within these specific areas. Examples of these areas include the Owyhee River Complex and Owyhee River Below the Dam.

Recreation opportunity spectrum (ROS) classifications stay constant throughout the plan. Appendix H includes a description of the ROS, and Maps REC-1M and -1J in the Draft SEORMP/EIS show the ROS classes.

Recreation BMP's would be applied to help mitigate recreational impacts. A list of these BMP's are shown in Appendix O.

Emergency OHV use closures can occur when necessary to protect resource values, resolve user conflicts, or to address safety concerns. Recreation use may be restricted during portions of the year to meet specific wildlife needs.

Alternative A

Impacts: Locations of future recreation sites within areas of high locatable and leasable minerals potential may be adversely impacted by mineral exploration or development activities. Such sites include McDermitt Caldera Campground in JRA and Lower Owyhee Canyon and Horseshoe Bend Campgrounds in MRA. Mineral withdrawals on significant recreation sites would eliminate mining related impacts, and protect recreational values over the long term.

Recreation, both developed and dispersed, may be adversely impacted in the short term by riparian/wetland area and water resource management requirements. Although the implications are not fully known, existing sites may need to be relocated and potential sites may not be allowed within RCA's. Some dispersed nondeveloped sites receiving heavy recreation use may be closed at least temporarily or more intense management applied until conformance with these requirements is attained. Since this alternative requires the most fencing to exclude livestock in order to meet riparian/wetland area objectives, impacts to recreation would include reduced scenic quality and barriers to primitive and unconfined recreation opportunities. In the long term, improved riparian/wetland areas and water quality would enhance dispersed recreation.

The emphasis on providing habitat security for game species would foster enhanced recreation hunting opportunities which would increase visitor use during specific times of the year. Increased hunting may result in additional conflicts with other nonconsumptive recreational uses especially in areas where different uses are concentrated in the same geographic area. This alternative would promote a greater abundance of those animal species associated with grasslands and low vegetation structure. Potentially, species diversity and abundance would be diminished, thus reducing opportunities for recreational viewing in natural settings. Vegetation treatments resulting in open areas could provide more opportunities for viewing large game species. During portions of the year, some dispersed recreation use may be restricted to meet specific wildlife needs.

Bighorn sheep expansion in numbers and range would improve opportunities for viewing and potential hunter harvest. Certain areas may be seasonally restricted to visitor use in order to protect bighorn sheep.

Meeting wildlife objectives in riparian areas would improve or increase the chances of viewing a variety of species. Visitor use restrictions in these areas may be necessary, especially where wildlife and people tend to concentrate causing significant management conflicts.

Actions that would perpetuate and/or improve healthy quaking aspen stands would enhance recreation activities such as dispersed camping and sightseeing. However, management actions required to achieve quaking aspen health could result in some short-term, site-specific temporary closure or restrictions to those recreational uses contributing to quaking aspen stand damage.

Wild horses are an attraction to the public. Continued management of wild horses would provide viewing opportunities.

Livestock management would impact recreation through human/livestock encounters. While developed recreation sites are sometimes fenced to prevent people/livestock encounters, most recreation activities occur on land grazed by livestock. Depending on the view of the recreationist, and depending on the setting, livestock impacts could be positive or negative. Livestock exclusion areas would generally benefit recreation opportunities.

Some rangeland projects, such as fencing, would present barriers to access and intrude on a natural setting. Although this can hinder a primitive and semiprimitive nonmotorized recreational experience, these developments are generally placed to better control livestock in order to help improve rangeland and riparian conditions. Improved vegetation conditions would enhance a recreational experience.

With emphasis on commodities there could be more livestock (up to 10 percent increase), more rangeland developments, and thus a higher potential for conflicts and impacts on recreation experiences.

Commodity uses and supporting operations would be enhanced by promoting and expanding recreation and tourism. SRMA's, and accompanying facilities, would best accommodate the expected increase in visitation over the long term, and provide for a wide spectrum of types of recreational opportunities (see Table 4-2). Certain destination areas, such as Owyhee River Complex and Owyhee River Below the Dam would likely receive the highest amount of use. This increase in recreation would impact various recreation opportunities, such as increase in conflicts between the different types of recreation values.

Table 4-2.—*Recreation management areas*

Recreation management area	Amount	Acres	Existing and potential recreation sites [1, 2]
Alternative A			
SRMA	6	864,952	23
ERMA	2	3,770,310	16
Alternative B			
SRMA	2	352,331	11
ERMA	2	4,282,931	19
Alternative C			
SRMA	4	661,739	21
ERMA	2	3,973,523	18
Alternative D			
SRMA	5	673,094	20
ERMA	2	3,962,168	15
Alternative D2			
SRMA	5	673,094	20
ERMA	2	3,962,168	15
Alternative E			
SRMA	0	0	0
ERMA	2	4,635,262	11
Proposed RMP			
SRMA	5	673,069	21
ERMA	2	3,962,193	19

[1] May include existing sites that would be expanded; in Alternative E some sites may be rehabilitated or closed.
[2] See Appendix U and Chapter 3, Recreation.

Emphasis on commodities could result in the characteristics of the landscape being altered. The opportunity to experience a primitive or semiprimitive nonmotorized recreational setting and solitude could diminish over the long term. Some of the natural values associated with recreation activities may be compromised.

The emphasis on increased OHV opportunities, including organized events, would enhance motorized recreation activity. Dispersed forms of recreation such as hiking, fishing, back-packing, cross-country skiing, and nature study, could be adversely impacted due to conflicts with motorized activities. Impacts of cross-country vehicle use on primitive types of recreation activities include increased dust, noise, reduced wildlife viewing opportunities, and loss of solitude. Opportunities for dispersed nonmotorized recreation would still exist in SMA's where OHV use is restricted.

Management of ACEC's, NWSR's, and WSA's may curtail certain recreation opportunities or uses to manage the resource values for which they were designated. Existing developed recreation sites are not expected to be impacted. Primitive and semiprimitive nonmotorized recreation uses in these areas may be enhanced because management prescriptions for SMA's provide protection measures that help preserve the values that entice recreation users seeking this type of experience. Many SMA's are valuable for nature study and observation of interesting and unique natural values. Where recreation is an ORV for an existing or administratively suitable river, recreation opportunities would be protected and enhanced.

Conclusion: This alternative allows for the most new development of recreation sites. Existing developed sites would be maintained and in some cases expanded. With emphasis on increased recreation use and tourism, more people would be attracted to the area. As a result, recreation growth could increase beyond anticipated growth levels. The greatest potential for cumulative impacts, both positive and negative, to recreation activities would be from management actions to achieve water and riparian objectives. These actions could result in site-specific, short-term and some long-term closures, barriers, and restrictions to recreation use. Over the long term, visitors who would be temporarily displaced by these actions could discover and disperse to other areas. Application of BMP's could be expected to mitigate most of the negative impacts. Cumulatively, there would be a long-term enhancement of the quality of most recreation experiences through better ecological conditions.

The recreation management objective would be met. Overall, outside of SMA's, motorized recreational uses would be enhanced, while nonmotorized activities would be maintained or enhanced within SMA's. Cumulatively, this alternative provides for more tourism along with motorized recreation opportunities.

Alternative B

Impacts: While the potential for mineral development is generally low, most existing developed recreation sites could be subject to impacts associated with mining. Should such activities occur, there could be significant impacts to recreational activities within the areas affected.

Recreation uses in riparian/wetland areas would be allowed only if they permit the maintenance, protection, or attainment of PFC and do not contribute to a decline in water quality. It is possible that this action could eliminate or modify some recreation sites/activities. In the long term, improved condition of riparian/wetland areas and water quality would enhance dispersed recreation.

Providing security, structure, and other important habitat elements for game and nongame wildlife would provide variable opportunities for wildlife-related recreation.

Impacts of quaking aspen management would be the same as described under Alternative A, except visitor restrictions would likely be less.

Management of wild horses would have the same impacts as described in Alternative A.

Impacts from livestock management would be the same as described in Alternative A, except that livestock use would be static.

Existing SRMA's and extensive recreation management areas (ERMA's) (see Table 4-2), including popular recreation destination areas such as the Owyhee River Complex and Owyhee River Below the Dam would continue to be affected by increasing high use levels over the long term. Increased recreational use demands, public safety, and resource protection issues would be less likely to be met due to no new development of recreation sites.

About 35,193 acres would be closed to recreational cross-country motorized travel. Impacts to nonmotorized recreational activities would be similar to those described in Alternative A, but to a lesser extent due to reduced area available to OHV use.

Impacts on recreation activities within existing ACEC's, NWSR's, and WSA's would be as described in Alternative A, except there would be less acreage affected.

Conclusion: The recreation management objective would be met for the short term. Over the long term, recreation use demands would not be met, and public safety and resource protection would not be adequate. Mining activities could have an adverse cumulative impact on some existing recreation sites. Sites located within high mineral potential areas would more likely be threatened by mining activities. Cumulatively, this alternative provides for greater motorized recreational opportunities than nonmotorized opportunities, and nominal opportunity to accommodate future developed recreation needs and demands.

Alternative C

Impacts: Impacts of minerals exploration or development activities on potential future recreation sites would be as described under Alternative A.

Riparian management would have much the same type of impacts as Alternative A, but would include those recreation sites located outside riparian/wetland areas that have the potential to adversely affect RCA's.

Emphasis to provide security, structure, and other important habitat for both game and nongame wildlife would enhance wildlife-related recreation opportunities and benefit Watchable Wildlife viewing.

Impacts of quaking aspen management would be the same as described under Alternative A, except there would be a greater chance of short-term visitor restrictions in areas where quaking aspen damage occurs.
Wild horses would have the same impacts as described under Alternative A.

Although livestock management would have much the same type of impacts as described in Alternative A, they would be less due to potentially decreased livestock use of up to 10 percent from the existing situation. Also, fewer new range projects, and some developments relocated and/or reclaimed would resolve site-specific conflicts with some recreation activities and desired recreation experiences.

Over the long term, management of important recreation resources and use opportunities would be adequately provided for in SRMA's, at additional recreation sites, and at other locations within ERMA's (see Table 4-2). This would meet projected increased visitation, and address many use conflicts and safety concerns. A wide spectrum of recreation opportu-

nities would be available within diverse recreational settings. Tourism, and commercial and competitive recreational uses, could be accommodated and a variety of interpretation/ education measures would be implemented.

The removal of existing recreation site designations, such as Owyhee Springs and Jeff's Reservoir, while allowing for continued use at these sites would still require a certain level of management and maintenance. Site removal would likely result in impacts of trash accumulation, increased surface disturbance, and user conflicts. Site designation removal would also eliminate site improvements and opportunities of site expansion.

Opportunities for recreational cross-country vehicular travel would be slightly greater than the current situation, but less than described in Alternative A. Substantial opportunities for motorized recreational uses would be available while high value opportunities for nonmotorized recreational activities would be retained. OHV designations would influence the use of roads as some ultimately would be closed or restrictions placed that would confine vehicle use. Where this occurs an opportunity to experience nonmotorized recreation would be enhanced.

The types of impacts on recreation opportunities and uses within ACEC's, WSA's, and NWSR's would be as described in Alternative A, except the level would be greater because increased locations and acreages of SMA's would affect more recreation opportunities. Impacts would not be significantly greater than Alternative A. Benefits would be the same as described in Alternative A.

Conclusion: This alternative allows for new recreation sites to be constructed, while nearly all existing developed sites would be maintained and in some cases expanded. These actions would be necessary to protect resource values and to provide a variety of recreation opportunities to fit long-term use trends and increased visitation. Due to some additional emphasis being placed on protecting natural values, some recreational activities may be locally curtailed, but this is not expected to be a significant negative cumulative impact. The greatest potential for cumulative positive or negative impacts to recreation activities would be from management actions to achieve water and riparian objectives. These actions could result in site-specific, short-term and some long-term closures, barriers, and restrictions to recreation use. Over the long term, visitors who would be temporarily displaced by these actions could discover and disperse to other areas. Application of BMP's and standard design elements of rangeland projects would assist mitigation of negative impacts. Cumulatively, there would be a long-term enhancement of the quality of most recreation experiences through better ecological conditions.

The recreation management objective would be met. Cumulatively, outside of SMA's, motorized recreational use opportunities would be slightly enhanced, while nonmotorized activities would be maintained or enhanced within a greater number of SMA's.

Alternative D

Impacts: Impacts of minerals exploration or development activities on potential future recreation sites would be as described under Alternative A.

Riparian management would have much the same type of impacts as Alternative A, but there would be higher levels of impacts because it would include those recreation sites located outside riparian/wetland areas that have the potential to adversely affect RCA's.

Wildlife related recreation activities and Watchable Wildlife viewing would be the greatest under this alternative due to optimizing security, structure, and other important habitat for both game and nongame wildlife.

Impacts of quaking aspen management would be the same as described under Alternative C.

Wild horses would have the same impacts as described in Alternative A.

The types of impacts caused by livestock use would be the same as described in Alternative A, except that a decrease of up to 20 percent in livestock grazing uses, a significant reduction in the number of new rangeland projects, and many developments relocated and/or reclaimed, would assist in significantly reducing site-specific conflicts with some recreation activities and desired recreation experiences. However, types of impact still possible in some areas would be the same as described in Alternative A.

There is one more SRMA and increased total acreage of SRMA's under this alternative (see Table 4-2). Impacts to recreation values within SRMA's and ERMA's would be as described under Alternative C, except that certain recreation activities may be more restricted to provide protection of natural values. Two fewer new recreation sites than under Alternative C precludes the recreation opportunities these sites would otherwise provide.

Closing existing recreation sites, such as Owyhee Springs and Jeff's Reservoir, would cause displacement of visitors to other locations and the loss of experiencing the recreational benefits otherwise gained at these sites.

Greater emphasis on limited OHV designations would favor primitive and semiprimitive nonmotorized and semiprimitive motorized recreation opportunities. While opportunities for recreational cross-country motorized vehicle travel would be available, the amount of area to conduct these types of activities would be substantially less. OHV use restrictions would not be expected to be a significant impact based on existing and projected future OHV vehicle use patterns (see Appendix I). OHV designations would influence the use of roads as described in Alternative C. Restricting OHV organized events to using existing and designated routes may hamper challenges for some participants.

The types of impacts and benefits on recreation opportunities and uses within ACEC's, WSA's, and NWSR's would be the same as described in Alternatives A and C. However, the level of impact to recreation opportunities would be the most because the greatest number of SMA's and the largest acreage occurs under this alternative.

Conclusion: This alternative allows for fewer new recreation sites than Alternative C, while providing for heightened resource protection of natural values. Sites may also be constructed that would serve to educate the public in a manner to protect natural values or provide general information. Existing developed sites would be maintained and in some cases expanded. Recreation opportunities and uses would likely be restricted in some areas to protect natural values. The greatest potential for cumulative impacts to recreation activities would be from management actions to achieve forest, riparian, and upland health and to meet wildlife objectives. These actions could result in site-specific, short-term and some long-term closures, barriers, and restrictions to recreation use. Over the long term, visitors who would be temporarily displaced by these actions could discover and disperse to other areas.. Application of BMP's and standard design elements for rangeland projects would assist mitigation of adverse impacts. Cumulatively, there would be a long-term enhancement of the quality of most recreation experiences through better ecological conditions.

The recreation objective would be met. Cumulatively, the increased numbers and size of various SMA's and increased limitations on motorized vehicle use results in greater enhancement of nonmotorized recreation opportunities than Alternatives A, B, or C.

Alternative D2

Impacts: Impacts of minerals exploration or development activities on potential recreation sites would be as described under Alternative A.

Riparian management would have the same type of impacts as described in Alternative D. Additionally, the desired dispersed recreation experiences for some visitors, such as for hiking, camping and floatboating would be enhanced within those stream and river corridors not subject to livestock use.

Wildlife related recreation activities and Watchable Wildlife viewing would be similar to Alternative D.

Wild horses would have the same impact as described under Alternative A.

Impacts of quaking aspen management would be the same as described under Alternative C.

The types of impacts caused by livestock use would be the same as described under Alternative D, except that there would be an additional 32 percent (about 1.45 million acres) of the planning area not allocated to grazing, and a significant reduction in the number of new rangeland projects with many developments relocated and/or reclaimed. These actions would assist in significantly reducing site-specific conflicts with some recreation activities and desired recreation experiences. In order to meet the riparian objective, fences may be required, which would reduce scenic quality and provide barriers to primitive and unconfined recreation. In the long term, improved riparian/wetland areas and water quality would enhance dispersed recreation.

Impacts to recreation values within SRMA's and ERMA's would be as described under Alternative D.

Greater emphasis on limited OHV designations would favor primitive and semiprimitive nonmotorized and semiprimitive motorized recreation opportunities. The restriction of landing of private aircraft in WSA's and designated NWSR's would preclude motorized access by those users who could not otherwise physically reach such locations by other means of transportation, or by users desiring to have motorized aerial access for private or commercial ventures. Opportunities for solitude and dispersed nonmotorized recreation activities and experiences would be availed and preserved while noise, visual disturbances, and other recreation users' conflicts would be avoided, thus enhancing a nonmotorized recreation experience, consistent with management objectives for WSA's and NWSR's. Aircraft landing for recreational pursuits and access to public lands would be substantially available, particularly for helicopters, elsewhere in the planning area. The 150 foot allowance for motorized camping in some OHV Limited areas would enhance the experience of visitors desiring to camp outside of developed campgrounds. OHV designations would influence the use of roads as some ultimately would be closed or restrictions placed that would confine vehicle use.

The types of impacts and benefits on recreation opportunities and uses within ACEC's, WSA's, and NWSR's would be the same as described in Alternatives A and C.

Conclusion: This alternative allows for the same amount of recreation sites as described in Alternative D, while providing for heightened resource protection of natural values. Sites may also be constructed that would serve to educate the public in a manner to protect natural values or provide general information. Existing developed sites would be maintained and in some cases expanded. *Some* recreation uses and opportunities would likely be restricted in some areas to protect natural values. The greatest potential for cumulative impacts to recreation uses would be from management actions to achieve forest, riparian, and upland health and to meet wildlife objectives and from greater emphasis on limited OHV designations. These actions could result in site-specific, short-term and some long-term closures, barriers, and restrictions to recreation use. Over the long term, visitors who would be temporarily displaced by these actions could discover and disperse to other areas. Cumulatively, there would be a long-term enhancement of the quality of most recreation experiences through better ecological conditions.

The recreation objective would be met. The increased limitations on motorized vehicle use and the increased number of SMA's would result in greater enhancement of nonmotorized recreation opportunities than in Alternatives A, B, C, or D.

Alternative E

Impacts: Nonmotorized types of recreation would be enhanced as recreation values naturally improve.

Providing security, structure, and other important habitat for game and nongame wildlife would improve wildlife-related recreational enjoyment.

Over the long term, quaking aspen groves subject to western juniper proliferation would likely cause a loss of certain desirable recreation opportunities (such as sightseeing and camping). Quaking aspen groves not affected by western juniper and livestock grazing would enhance low levels of dispersed recreation uses (such as sightseeing, hiking, and camping).

Wild horses would have the same impact as described in Alternative A.

Conflicts associated with livestock use would be eliminated. For visitors who enjoy viewing livestock on public land this opportunity would be lost. Unreclaimed fences would impede access for nonmotorized dispersed recreation activities.

No management of recreation use would have adverse impacts on developed sites and some dispersed areas. Developed recreation sites would soon become inhospitable due to the lack of maintenance, and sanitation and other safety concerns would cause permanent closure. Developed and dispersed recreation sites where roads are maintained for management of weeds, wild horses, congressionally designated areas, and fire suppression, would experience greater visitor concentrations; sites where roads are not maintained would receive less use. The limited road maintenance as described under this alternative would displace those visitors who are unable or unwilling to navigate nonmaintained roads. Dispersed and back country recreation use in the short term would not be impacted. However, with the projected increase in recreation use, popular areas would be substantially degraded from overuse. Sites and areas would then have to be closed to preserve natural values.

There would be no opportunity for recreational cross-country motorized vehicle travel. Limited road maintenance as described under this alternative would keep some roads open, but others receiving no maintenance would eventually need to be closed. Nonmotorized recreation use opportunities would be greatest under this alternative.

Over the long term, the high quality recreation experience available in areas that were previously SMA's would be severely degraded by impacts associated with increased visitation. The Owyhee NWSR would continue to protect and enhance the recreation ORV within the river corridors. The National Historic Oregon Trail would maintain high quality recreation experiences as long as cultural values are protected. Mickey Hot Springs ACEC would maintain high quality primitive recreation opportunities as long as natural values are protected.

Without special recreation permits, visitors would be denied amenities commonly provided by commercial outfitters and guide services. Opportunities to conduct and enjoy organized competitive events on public land would be precluded.

Conclusion: The potential for long-term negative cumulative impacts is high under this alternative. The lack of recreation management would be immediately apparent at developed sites and some dispersed use areas. It can be expected that most developed sites would be closed in the short term, due to the lack of maintenance, risk management (safety issues, and

resource degradation from overuse), and sanitation problems. No new developed recreation sites would be constructed. However, recreation management would still be applied in congressionally designated areas. Primitive and semiprimitive nonmotorized recreation opportunities would be enhanced overall due to the maintenance of natural values. People would still recreate, but due to the area being inevitably converted to primitive and semiprimitive settings, it would considerably restrict and limit the types and level of recreation use. Cumulatively, the opportunity to experience more diversified recreation settings would be substantially reduced. The presence of some SMA's would ensure a few minimally-managed developed recreation sites, which would have a higher probability of staying open over the long term.

In the short term the recreation objective could be met. The lack and loss of more diversified recreation opportunities could not fulfill the recreation objective over the long term. Cumulatively, motorized recreation activities would be restricted or precluded. Nonmotorized recreation opportunities would be enhanced the greatest. Developed recreation opportunities would be significantly reduced.

Proposed RMP

Impacts: Locations of future recreation sites within areas of high locatable and leasable minerals potential may be adversely affected by mineral exploration or development activities, should they not be withdrawn and closed to mineral activities. Such sites include Lower Owyhee Canyon and Horseshoe Bend recreation sites in MRA. Mineral withdrawals and closures on significant recreation sites would eliminate mining related impacts and protect recreational values over the long term.

Recreation, both developed and dispersed, may be adversely impacted in the short term by riparian/wetland area and water resource management requirements. Sites located outside riparian/wetland areas that have the potential to adversely affect RCA's would also be impacted. Although the impacts are not fully known, existing sites may need to be relocated and potential sites may not be allowed within RCA's. Some dispersed nondeveloped sites receiving heavy recreation use may be closed at least temporarily or more intense management applied until conformance with these requirements is attained. Since fencing would be required to exclude livestock to meet riparian/wetland objectives, impacts to recreation would include reduced scenic quality and barriers to primitive and unconfined recreation opportunities. In the long term, improved riparian/wetland areas and water quality would enhance dispersed recreation.

Emphasis to provide security, structure, and other important habitat for both game and nongame wildlife would enhance wildlife related recreation opportunities and benefit Watchable Wildlife viewing.

Management activities that would perpetuate and/or improve healthy quaking aspen stands would enhance recreation activities such as dispersed camping and sightseeing. However, management actions required to achieve quaking aspen health could result in some short-term, site-specific temporary closure or restrictions to those recreational uses contributing to quaking aspen stand damage.

Wild horses are an attraction to the public. Continued management of wild horses would provide viewing opportunities.

Livestock management would impact recreation human/livestock encounters. Depending on the view of the recreationist, and depending on the setting, livestock impacts could be positive or negative. Livestock exclusion areas would generally benefit recreation activities. There would be less impacts due to potentially decreased livestock use from the current situation. Fewer new range projects, and some developments relocated and/or reclaimed

would resolve site-specific conflicts with some recreation activities and desired recreation experiences.

Some rangeland projects, such as fencing, would present barriers to access and intrude on a natural setting. Although this can hinder a primitive and semiprimitive nonmotorized recreational experience, these developments are generally placed to better control livestock in order to help improve rangeland conditions. Improved vegetation conditions would enhance a recreational experience.

Over the long term, management of important recreation resources and use opportunities would be adequately provided for in SRMA's, at additional recreation sites, and at other locations within ERMA's (see Table 4-2). A wide spectrum of recreation opportunities would be available within diverse recreational settings. Tourism and commercial and competitive recreational uses could be accommodated and a variety of interpretation/ education measures would be implemented.

Substantial opportunities for motorized recreational uses would remain available while high value opportunities for nonmotorized recreational activities would be retained. The restriction of landing of private aircraft in WSA's and designated NWSR's would preclude motorized access by those users who could not otherwise physically reach such locations by other means of transportation, or by users desiring to have motorized aerial access for private or commercial ventures. Opportunities for solitude and dispersed non-motorized recreation activities and experiences would be availed and preserved while noise, visual disturbances, and other recreation users' conflicts would be avoided, thus enhancing a nonmotorized recreation experience, consistent with management objectives for WSA's and NWSR's. Aircraft landing for recreational pursuits and access to public lands would be substantially available, particularly for helicopters, elsewhere in the planning area. The 150-foot allowance for motorized camping in some OHV limited areas would enhance the experience of visitors desiring to camp outside of developed campgrounds. OHV designations would influence the use of roads as some ultimately would be closed or restrictions placed that would confine vehicle use. Where this occurs an opportunity to experience nonmotorized recreation would be enhanced.

Management of ACEC's, NWSR's, and WSA's may curtail or restrict certain recreation opportunities or uses to manage the resource values for which they were designated. Primitive and semiprimitive nonmotorized recreation uses in these areas may be enhanced because management prescriptions for SMA's provide protection measures that help preserve the values that entice those recreation users seeking this type of experience. Opportunities for high value nature study and observation of interesting and unique natural values in SMA's would be protected. Existing developed sites would not be expected to be adversely impacted.

Conclusion: The proposed RMP allows for the construction of new recreation sites while maintaining nearly all existing developed sites and, if needed, the expansion of existing sites. These actions would protect resource values, and provide for public health and safety and a variety of recreation opportunities to accommodate long-term use trends and increased visitation. Opportunities for commercial and competitive recreational uses would be available. Due to some additional emphasis being placed on protecting natural values, some recreational activities may be locally restricted or curtailed, but, overall, cumulative impacts would not be significant. The greatest potential for cumulative positive or negative impacts to recreation activities would be from management actions to achieve water and riparian objectives. These actions could result in site-specific, short-term and some long-term closures, barriers, and restrictions to recreation use. Over the long term, visitors who would be temporarily displaced by these actions could discover and disperse to other areas. Application of BMP's and standard design elements of rangeland projects would assist mitigation of negative impacts. Cumulatively, there would be a long-term enhancement of the quality of most recreation experiences through better ecological conditions.

The recreation management objective would be met. Cumulatively, outside of SMA's, motorized recreational use opportunities would be slightly enhanced, while nonmotorized activities would be maintained or enhanced, particularly within SMA's.

Summary of Impacts

Long-term cumulative effects could be beneficial or negative, depending on the perspective of the user. New recreation sites and expansion of existing sites would occur in all alternatives, except in Alternative E where development would be precluded. Depending on the level of development, certain types of recreation opportunities could be enhanced over others. Alternatives D and D2 provide for the most long-term benefits to primitive types of recreation, while more opportunities for developed recreation exist under Alternative A, followed by the Proposed RMP, C, and B.

Alternative A would encourage and promote recreation use to a greater extent than any of the other alternatives and would favor those activities that are commodity driven. Recreation growth in terms of visitation may be accelerated beyond expected projected increases. This alternative would provide a mixture of recreational opportunities, but would tend to favor a semiprimitive motorized and roaded natural recreation environment.

Alternative B, current situation, would suffice for the short term, but would not meet long-term recreation use demands.

Alternative C would provide for diverse recreational opportunities and would meet increased visitor use and changing recreation use trends. This alternative does not aggressively promote recreation use, but would accommodate expected increased visitation.

Alternative D is similar to Alternative C; however, this alternative provides for more primitive and semiprimitive recreation opportunities which helps enhance protection of natural values. Restrictions and limitations in some areas would be applied, which would eliminate some recreation opportunities. This alternative would accommodate diversified recreation opportunities over the long term, but not as pronounced as in Alternative C. Alternative D2 is similar to Alternative D, but would slightly increase restrictions on off-road (cross country) motorized vehicle opportunities. Primitive and semiprimitive nonmotorized recreation opportunities in Alternatives D and D2 would be favored to a greater extent than in Alternatives A, B, C, and the Proposed RMP.

Alternative E, over the long term, strongly favors primitive and semiprimitive nonmotorized recreational opportunities more so than any of the other alternatives. Over the long term, most developed recreation sites would inevitably be closed due to safety and sanitation concerns. Unlike the other alternatives, no new recreation sites would be provided. Primitive and semiprimitive nonmotorized recreational opportunities would be substantial, but available to only those visitors able to participate in such activities. The nonmotorized recreational settings may also become heavily impacted and diminish a recreation experience. Access would become limited due to the need for road closures for safety concerns over the long term.

The Proposed RMP would provide for diverse recreational opportunities. Limitations on certain activities would restrict or curtail some recreational activities, but enhance protection of natural values. Increased recreation use opportunities would be provided.

In Alternatives A, C, D2, and Proposed RMP, the greatest potential for short- and long-term cumulative impacts to recreation activities are from riparian/wetland management actions.

Alternative B would not be subject to the same standards, but measures applied through "Rangeland Reform" (USDI BLM 1994) and State water quality requirements could also affect recreation activities. The higher level of range improvements under Alternative A would cause greater impacts to desired recreation experiences than under Alternatives C, D, D2, and Proposed RMP. Application of BMP's and standard design elements for rangeland improvements would assist mitigation of negative impacts. Cumulatively, management actions under all alternatives except Alternative E to improve riparian, upland, and forest health and wildlife objectives would result in a long-term enhancement of the quality of most recreation experiences through better ecological conditions.

Off-Highway Vehicles

Objective: *Manage off-highway vehicle (OHV) use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.*

Assumptions common to all Alternatives: Emergency OHV closures could be applied, if needed, to protect important resource values or resolve user conflicts. To meet management objectives, BLM-authorized permits or similar authorizations may be used to stipulate parameters of OHV use.

Alternative A

Impacts: Under this alternative the greatest amount of public land would be designated open to OHV use (3,267,125 acres), providing the highest opportunity for driving across public land either on or off established roads and trails. There would be a limited OHV use designation on 1,337,554 acres, and 30,585 acres would be designated closed to motorized vehicle use. Authorized OHV events could be conducted in a variety of locations. Closures or restrictions, including emergency closures, would limit some OHV opportunities.

OHV use limitations would be greatest in areas affected by additional fencing required for resource protection and use conflicts resolution. However, placement of fences may result in creation of new motorized vehicle trails.

Of the 91,370 acres within ACEC's, 73,947 acres would be designated limited to designated routes, 17,275 acres would be closed, and 148 acres would be designated open to OHV use. Some level of motorized vehicle access would remain available within those ACEC's which presently have established vehicular routes. Collectively, these use designations would not have a substantial impact to motorized vehicle use.

In addition to the existing NWSR corridors (49,007 acres), the only administratively suitable river (Owyhee River Below the Dam) would retain a limited OHV use designation on 3,973 acres. This would provide protection of important river-related values while providing adequate motorized vehicle access in the area. Rugged terrain associated with most of the administratively suitable river corridors physically prevents vehicular access, thus the impact of the limited designation would not be significant to OHV use.

Opportunities for cross-country (off-road) travel would not be available in visual resource management (VRM) Class I areas. Most of the available VRM Class I areas are too rugged for off-road travel; therefore, there would be little adverse impact to OHV use opportunities.

In addition to the existing WSA's, an additional 3,280 acres of public land identified in the 1991 "Wilderness Study Report" (WSRO) as being adjacent to WSA's, would be designated limited to designated routes. Most of the additional acreage is too rugged for OHV use. Thus, overall, impacts to OHV uses would be insignificant.

Generally, land tenure adjustments enhance OHV use opportunities by consolidating public land and improving access. Disposal of public land through land sales or land exchanges could preclude OHV use on lands leaving public ownership.

Conclusion: The OHV management objective would be met under this alternative. There would be adequate opportunity to conduct a wide variety of OHV use activities. Cumulatively, the greatest opportunity to travel cross-country (off-road) is available under this alternative; although the highest degree of fence development which occurs under this alternative would more so limit motor vehicle use in riparian and wetland areas.

Overall, the allowance to restrict any future OHV activities to correct or prevent damage to resource values, to resolve user conflicts, or to manage for public safety would likely not have a substantial adverse impact on OHV use opportunities.

Alternative B

Assumption: Existing OHV use designations apply to snowmachine use.

Impacts: Although 2,660,155 acres of public land would be designated open to OHV use, this alternative calls for the most land designated closed to OHV use (35,193 acres) and 1,939,915 acres with a limited OHV use designation. Any emergency closures would have the same impacts as Alternative A.

Although the impacts from OHV use limits or closures within ACEC's are of the same type as Alternative A, the acres are somewhat different. Of the 104,475 acres within ACEC's, motorized vehicle use would be designated limited to designated routes on approximately 91,353 acres, 12,469 acres designated closed and approximately 653 acres designated open for OHV use. The level of motorized access within these areas would be the same as Alternative A, with the same impacts.

The present OHV closed designation affecting the administratively suitable 1,152-acre North Fork Malheur **c**ongressional study river corridor would have no affect on OHV use opportunities within the planning area because rugged terrain precludes reasonable vehicular access.

Land tenure adjustments would have the same impacts as Alternative A.

Conclusion: The OHV management objective would be met under this alternative. There would be adequate opportunity to conduct a wide variety of OHV use activities. Overall, the allowance to restrict any future OHV activities to correct or prevent damage to resource values, to resolve user conflicts, or to manage for public safety would likely not have a substantial adverse impact on OHV use opportunities.

Alternative C

Impacts: This alternative would designate 3,036,508 acres of public land open for OHV use, 1,581,521 acres with a limited OHV use designation, and 17,233 acres designated closed to motorized vehicle use. Emergency closures would have the same impacts as Alternative A.

Rangeland fencing would be less than Alternatives A and B, and may result in site-specific interruption of OHV use, but would be considered insignificant. The placement of such fences would have the same impacts as Alternative A.

Opportunities for cross-country (off-road) travel would be precluded within VRM Class I and some Class II areas designated as limited to existing or designated routes. Many of these locations are so rugged as to preclude off-road travel, thus, little adverse impact to OHV use opportunities.

Of the approximately 234,627 acres within ACEC's, 217,665 acres would be affected by a limited OHV use designation. A total of 16,962 acres would be designated closed, and no ACEC's would be designated open for OHV use. The level of motorized access within these areas would be as described under Alterative A, with the same type of impacts. Overall, the limited and closed OHV use designations, collectively, would not have a substantial impact to motorized vehicle use in ACEC's.

The impacts of the NWSR designations would be the same as Alternative A, except with 11,761 acres determined administratively suitable. The additional 3,280 acres adjacent to WSA's would have the same impacts as described under Alternative A.

Impacts from land tenure adjustments would be the same as Alternative A.

Conclusion: The OHV management objective would be met under this alternative. Cumulatively, there would be about 376,353 acres with fewer OHV use restrictions than under the existing situation (Alternative B). There would be adequate opportunity to conduct a wide variety of OHV use activities.
Overall, the allowance to restrict any future OHV activities to correct or prevent damage to resource values, to resolve user conflicts, or to manage for public safety would likely not have a substantial adverse impact on OHV use opportunities.

Alternative D

Impacts: This alternative would designate 1,336,644 acres of public land as open to OHV use. OHV use would be designated limited on 3,230,180 acres of public land, while the OHV closed designation would be 18,439 acres. Vehicular access on public land would more so be limited to travel on road networks, while cross-country (off-road) travel opportunities would be reduced. Thus, the extent of OHV use restrictions under this alternative adversely impacts those travelers who desire to drive off road for recreational or other purposes. There would be less opportunities for OHV cross-country competitive events.

Due to reduced fencing, construction impacts would be insignificant.

The additional 3,280 acres adjacent to WSA's would have the same impacts as described under Alternative A.

Opportunities for cross-country (off-road) travel would be limited to existing or designated routes in VRM Class I and II areas. Many of these areas are so rugged as to preclude off-road travel; thus, overall, there would be few substantial adverse impacts to OHV use opportunities.

Of the 264,357 acres within ACEC's, 246,171 acres would be affected by a limited OHV use designation. A total of 18,186 acres would be designated closed, and no ACEC's would be designated open for motorized vehicle use. The level of motorized access within these areas would be the same as previous alternatives, with the same type of impacts. The OHV use designations would not have a substantial impact to motorized vehicle use as a whole within ACEC's.

The impacts of the NWSR designations would be the same as Alternative A, except with a total of 105,162 acres affected, including 56,155 acres of administratively suitable NWSR's.

Land tenure adjustments would have the same impacts as Alternative A.

Conclusion: The OHV management objective would be met under this alternative. However, the opportunity for cross-country (off-road) motorized vehicular travel would be reduced in a large portion of the planning area. Travel limited to existing and designated routes across public land would be available throughout most of the planning area. The

quality of an OHV use experience within some areas would be diminished for off-road travel enthusiasts, as would the opportunity for OHV organized events. Cumulatively, this alternative restricts OHV use opportunities more so than previous alternatives.
Overall, the allowance to restrict any future OHV activities so to correct or prevent damage to resource values, to resolve public safety would not likely not have a substantial adverse impact to OHV use opportunities.

Alternative D2

Impacts: This alternative would designate 1,236,324 acres of public land open to OHV use, 3,380,500 acres with a limited designation, and 18,439 acres designated closed to motorized vehicle use. Vehicular access on public land would more so be limited to travel on road networks, while cross-country (off-road) travel opportunities would be minimally reduced from Alternative D and with the same impacts described under that Alternative. Opportunities for OHV cross-country competitive events would be about the same as under Alternative D.

Since the landing of aircraft within WSA's and designated NWSR's is presently either not occurring or not authorized, there would be no change from present impacts. However, the restrictions on aircraft landing within these areas would preclude any potential future opportunity for private or commercial operators from conducting such landing activities and would preclude users who otherwise count not physically reach such more remote locations by other means of transportation. Opportunities for solitude and dispersed non-motorized recreation activities and experiences such as wildlife viewing, hiking, camping, and floatboating would be availed and enhanced, while audible and visual disturbances and other possible recreational users' conflicts would be avoided. Substantial opportunities for landing of aircraft, particularly helicopters, would be available else where in the planning area as a means of access or transport to public lands.

The 150-foot allowance for motorized camping in OHV limited areas would accommodate those visitors desiring to experience motorized vehicle-supported camping activities outside of developed campgrounds. OHV designations would influence the use of roads as some ultimately would be closed or restrictions placed that would confine vehicle use.

Fence construction impacts would be the same as described under Alternative D.

The additional 3,280 acres adjacent to WSA's would have the same impacts as described under Alternative A.

Opportunities for cross-country (off-road) travel would be limited to existing or designated routes in VRM Class I and II areas. Many of these areas are so rugged as to preclude off-road travel; thus, overall, there would be few substantial adverse impacts to OHV use opportunities.

Of the 264,357 acres within ACEC's, 246,171 acres would be affected by a limited OHV use designation. A total of 18,186 acres would be designated closed, and no ACEC's would be designated open for motorized vehicle use. The level of motorized access within these areas would be as described under Alternative A, with the same type of impacts. These OHV designations would not have a substantial impact to motorized vehicle use as a whole in ACEC's.

The impacts of the NWSR designations would be the same as Alternative A, except with 13,728 acres determined administratively suitable.

Land tenure adjustments would have the same impacts as Alternative A.

Conclusion: The OHV management objective would be met under this alternative. However, the opportunity for cross-country (off-road) motorized vehicular travel would be

reduced in a large portion of the planning area. Travel limited to existing and designated routes across public land would be available throughout most of the planning area. The quality of an OHV use experience within some areas would be diminished for off-road travel enthusiasts, as would the opportunity for OHV organized events.

Alternative E

Impacts: This alternative would provide no public land with an open OHV use designation, with over 99 percent designated limited, and 278 acres closed to OHV use. Impacts to OHV use due to the inclusion of adjacent land into WSA's would be the same as described under Alternative A. There would be no opportunities for organized OHV events.

With limited maintenance, most roads would deteriorate creating hazardous driving conditions. This would eventually cause some public land to become inaccessible to motorized vehicles, and subject to possible emergency OHV closure. This would be an adverse impact to motorized use over the long term.

Conclusion: The OHV management objective would be met during the short term, without the opportunity for cross-country (off-road) travel. There would be no opportunity for organized OHV events. In the long term, public access on and across public land would be jeopardized due to deteriorated road conditions and hazardous driving conditions. With road deterioration, motorized vehicle use could decrease over the long term as these users are displaced and seek opportunities elsewhere. Cumulatively, adverse impacts to motorized vehicle use opportunities would be the greatest under this alternative.

Proposed RMP

Impacts: A total of 2,615,116 acres of public land would be designated open for OHV use, 2,004,369 acres would be designated limited, and 15,826 acres would be designated closed to motorized vehicle use. Closures or restrictions, including emergency closures, would limit some OHV use opportunities.

Due to reduced fencing, construction impacts would be insignificant.

In addition to the existing WSA's, an additional 3,280 acres of public land identified in the WSRO as being adjacent to WSA's, would be designated OHV limited to designated routes. Most of the additional acreage is too rugged for OHV use, and have no vehicular routes within them. Thus, overall, impacts to OHV uses would be insignificant.

Opportunities for cross-country (off-road) travel would be precluded in VRM Class I and some Class II areas designated limited to existing or designated routes. Many of these locations are so rugged as to preclude off-road travel, thus, there would be little adverse impact to OHV use opportunities.

Since the landing of aircraft within WSA's and designated NWSR's is presently either not occurring or not authorized, there would be no change from present impacts. However, the restrictions on aircraft landing within these areas would preclude any potential future opportunity for private or commercial operators from conducting such landing activities and would preclude users who otherwise count not physically reach such more remote locations by other means of transportation. Opportunities for solitude and dispersed non-motorized recreation activities and experiences such as wildlife viewing, hiking, camping, and floatboating would be availed and enhanced, while audible and visual disturbances and other possible recreational users' conflicts would be avoided. Substantial opportunities for landing of aircraft, particularly helicopters, would be available else where in the planning area as a means of access or transport to public lands.

Of the 206,256 acres within ACEC's, 190,701 acres would be affected by a limited OHV designation. A total of 15,555 acres would be designated closed, and no ACEC's would be designated open for OHV use. Some level of motorized vehicle access would remain available within those ACEC's which presently have established vehicular routes.

In addition to the existing congressionally designated NWSR corridors (49,007 acres), 11,761 acres determined administratively suitable would be designated limited to motorized vehicle use. This would provide protection of important river-related values while maintaining motorized vehicle access in the river corridors. Rugged terrain associated with most of the administratively suitable river corridors physically prevents vehicular access, thus the impact of the limited designation would not be significant to OHV use.

Generally, land tenure adjustments enhance OHV use opportunities by consolidating public land and improving access. Disposal of public land through land sales or land exchanges could preclude OHV use on land leaving public ownership.

Conclusion: The OHV management objective would be met under this alternative. However, the opportunity for cross-country (off-road) motorized vehicular travel would be reduced in 45,039 acres of the planning area than presently available. Travel limited to existing and designated routes across public land would be available throughout most of the planning area. The quality of an OHV use experience within some areas would be diminished for off-road travel enthusiasts, as would the opportunity for OHV organized events. Outside of SMA's, opportunities to drive off-road in motorized vehicles would be slightly increased overall. Over the long term, off-road vehicle uses could result in some site-specific concentrations of OHV use. Overall, the allowance to restrict any future OHV activities so to correct or prevent damage to resource values, to resolve user conflicts or to manage for public safety would likely not have a substantial adverse impact on OHV uses opportunities.

Summary of Impacts

All alternatives meet the OHV objectives with the exception of Alternative E, which would not meet the objective in the long term.

Alternative A would provide for the least restrictions associated with OHV use, followed by Alternatives C, B, Proposed RMP, D, D2, and E. Alternatives B and C are similar, but with Alternative C providing slightly more public land with an open OHV use designation and slightly less public land with a limited OHV use designation. The difference between Alternatives B and C is that the location of the limited OHV use designations are substantially associated with SMA's. Alternatives D and D2 significantly increases acreage of limited OHV use designations and decreases acreage of the open OHV use designations predominately due to increased SMA acreage, protection of areas with high scenic values and important wildlife habitat. The increase of combined acreages of limited and closed use designations under the Proposed RMP from those described under Alternative C would assist protection of soil, plant, animal, and cultural resource values located outside of identified SMA's.

Under Alternative C, there would be about 376,354 fewer acres designated limited and closed to OHV use than described under Alternative B. Under the Proposed RMP, there would be 45,087 more acres designated limited and closed than described under Alternative B. Under both Alternative C and the Proposed RMP, while cross country (off-road) travel associated with authorized organized OHV events and general public travel is somewhat restricted because of limited and closed OHV use designations, overall, ample public land would remain available for such OHV use. Under Alternative D2 about 27 percent of the public land acreage would be available for general public cross country motorized vehicle travel, and no opportunity for off-road cross-country motorized vehicle use under Alternative E.

Visual Resources

Objective: *Manage public land actions and activities in a manner to be consistent with visual resource management (VRM) class objectives.*

Alternative A

Impacts: Mining developments would have some of the greatest potential to change the natural character of the landscape. However, the potential for this type of development would be low and not considered to be a significant impact, except in the Dry Creek corridor outside of the Dry Creek WSA within MRA. Any extensive mining surface-disturbing activities in this corridor would substantially impact high quality visual resource values.

With an emphasis on aggressive full suppression of wildfires, there could be adverse impacts to visual qualities caused by suppression activities. Long-term adverse impacts may result from surface disturbance caused by earth-moving equipment and vehicles driving cross-country. Prescribed fire may have a temporarily negative short-term impact on visual values, and either a positive or negative long-term impact depending on the spatial arrangement, vegetation mosaics created, and proximity to popular recreation use locations. Visual impacts from dead, standing woody material resulting from wildland or prescribed burns would be short- to mid-term in duration, depending on factors such as the intensity and extent of a given burn, the rate of decay of the dead material, and the size and density of vegetation burned. Replacement of native grasses by cheatgrass may be up to a long-term visual impact, and would be adverse to persons who do not want to see this species in a landscape setting.

The impact on visual resources from vegetation treatments would be the highest under this alternative. Vegetation manipulation could create an unnatural appearance within a characteristic landscape.

The impact on visual qualities caused by forest health management practices, which are done on small localized areas, would not be significant in most locations, although some visually sensitive locations would be subject to intrusions of the existing landscape.

Wild horse use and management would cause nominal increased impact on visual values. Any new wild horse water developments within HMA's would cause site-specific, and, overall, nominal visual impacts within the planning area, including increased trampling of vegetation, compaction of soils and a surrounding zone of a more grazed appearance.

Development of rangeland projects and livestock grazing practices would cause localized direct and indirect visual impacts. New fencing of approximately 750 miles (70 percent) of riparian areas, and increased levels of livestock grazing would cause the greatest impacts of some existing landscapes. VRM Class I and II areas would be more sensitive to the new projects and increased grazing. However, incorporating rangeland BMP's and visual mitigation measures would help reduce the extent of visual impacts on individual and cumulative rangeland projects.

Emphasis on tourism would result in the highest level of site-specific recreational development and impacts. Development of recreation facilities would assist in reducing recreation-related impacts to expanded areas and resource values. Recreation BMP's and mitigation measures would reduce the extent of visual impacts of individual and cumulative recreation facilities and uses.

The highest level of visual impacts caused by off-highway vehicular use would occur under this alternative, with increased loss of vegetation, soil exposure and soil erosion. BMP's and mitigative measures would be employed to reduce adverse visual impacts.

Most public land within existing and proposed SMA's would have adequate management to reduce or preclude adverse impacts to visual resources. Some SMA guidelines would specifically protect and enhance visual resources (such as NWSR's where scenic is an ORV).

Some realty actions associated with rights-of-way, communication site development, unauthorized use, etc., may impact visual resources. However, using BMP's and mitigation measures would reduce the extent of visual impacts of individual and cumulative land and realty actions. Initial and future developments in designated utility corridors, while localizing visual impacts on the large scale over the long term, would likely be substantially noticeable in largely undeveloped viewsheds.

Conclusion: The VRM objective would generally be met but with site-specific exceptions from effects of energy and mineral and utility corridor development; new rangeland projects and increased livestock grazing; land and realty actions; and cross-country vehicular activities. Cumulative adverse impacts have the greatest potential to cause intrusions to visual resources under this alternative. Due to the higher acreage involved, cumulative short-term adverse effects of prescribed fire activities on visual values would be the greatest under this alternative. This impact would be mitigated in part with widely spread mosaic patterns of fire application over a long time frame within landscape settings.

Alternative B

Impacts: Energy and mineral resource associated impacts on visual resources are the same as described under Alternative A, except that under this alternative the greatest amount of public land would be available for energy and minerals exploration and development. This is due to the smaller acreage designated as SMA's with specific restrictions on energy/ minerals actions. The remainder of the planning area, however VRM classified, would also remain open to impacts of possible energy and minerals activities. The ability to meet VRM class objectives would be dependent on the nature and extent of mining activities and reclamation success relative to the visual values of affected landscapes.

Where wildfire suppression operations would occur, impacts on visual resources would be as described under Alternative A, except there is less prescribed fire resulting in fewer impacts.

Impacts of vegetation treatments would be similar but not to the extent of those described under Alternative A.

The impact on visual qualities caused by western juniper and forest health management practices would be moderate under this alternative. Overall impacts would be in small localized areas and would not be significant.

Management of wild horse use and management within limits of established AML's could result in locally periodic cyclic, temporary changes in the vegetative component of characteristic landscapes within HMA's until herd numbers are reduced. Any new wild horse water developments within HMA's would cause site-specific, and, overall, nominal visual impacts within the planning area, including increased trampling of vegetation, compaction of soils, and a surrounding zone of a more grazed appearance.

Impacts from the development of rangeland projects are the same as described in Alternative A; however, there would be less projects.

Maintaining and providing improvements of existing developed recreation facilities and development of approved, new recreation sites would result in fewer specific locations with visual impacts from such development. Development of recreation facilities would assist in reducing recreation-related visual impacts to expanded areas and resource values. Recreation BMP's and mitigation measures would reduce the extent of visual impacts on individual and cumulative recreation facilities and uses.

OHV use designations provide protection of most landscapes possessing higher quality visual resource values. The relatively small, but increasing, amount of cross-country motorized vehicle use would continue to cause adverse impacts to visually sensitive resource values in localized areas. BMP's and mitigative measures would be employed to reduce adverse visual impacts and losses to vegetation, soil exposure, and soil erosion.

Most public land within existing SMA's has adequate management to reduce or preclude adverse impacts to visual resources. However, this alternative has the least amount of acres in SMA's, thus a potential for more adverse visual impacts, overall, within the planning area.

The type and nature of impacts to visual resources from land and realty actions would be similar to those described under Alternative A, except to a lesser extent with regard to the total number of land actions that would occur.

Conclusion: The visual resources management objective would be met but with site-specific exceptions from effects of energy and mineral actions; utility corridor developments; off-highway vehicular uses; and land and realty actions. Cumulative impacts under this alternative would be within localized areas and overall minimal in the planning area. Cumulative effects of prescribed fire applications would be similar to those described under Alternative A, except with fewer acres involved.

Alternative C

Impacts: Energy and mineral resource associated impacts to visual resources would be the same as described under Alternative A, except the opportunity for significant adverse impacts within the Dry Creek corridor would not occur.

Impacts of wildfire suppression tactics would be the same as described under Alternative A, except the less aggressive approach would likely result in fewer visual impacts due to more limited use of heavy, motorized equipment for blading of firebreaks and roads. Impacts caused by increased prescribed fire would be the same as described under Alternative A.

With vegetation treatments, the increased emphasis on maintaining natural values and meeting other resource management objectives would enhance visual values and landscape settings by establishing and configuring revegetation with desirable native species which visually blend with adjacent natural landscape settings.

Impacts from forest health management would be the same as described under Alternative A.

Wild horse use and management would cause nominal increased impact on visual values over the long term. Any new wild horse water developments within HMA's would cause site-specific, and, overall, nominal visual impacts within the planning area, including increased trampling of vegetation, compaction of soils, and a surrounding zone of a more grazed appearance.

The impacts from development of rangeland projects and livestock grazing practices would be the same as Alternative A; however, the extent and degree of such actions would be less.

Controlling recreation associated impacts and use conflicts, and providing protection of natural resources by and during development of recreation facilities would lessen short- and long-term visual impacts to landscape settings. Utilizing recreation BMP's and mitigation measures would reduce the extent of visual impacts of individual and cumulative recreation facilities and uses.

The impacts from OHV use would be the same as described under Alternative B. However, there are more acres designated as open for OHV's with a slight increase of potential risk to

visual resource values. BMP's and mitigative measures would be employed to reduce adverse visual impacts.

For SMA's, impacts would be the same as described in Alternative A, except that more acreage would be affected.

Impacts of land and realty actions would be as described under Alternative B, except that there would be slightly fewer designated utility corridors and their associated affects on visual resources. High-value visual resources in certain utility corridors would remain subject to adverse impacts to the characteristic landscape.

Conclusion: The visual resource management objective would be met. The integrity of visual resources, areas of high scenic quality and sensitivity, and important landscape settings would be significantly retained and protected with minimal cumulative impacts. Cumulative effects of prescribed fire applications would be similar to those described under Alternative A, except with fewer acres involved.

Alternative D

Impacts: Visual impacts associated with energy and mineral operations would be minimal within SMA's. The remainder of the planning area, whatever the designated VRM classes, would be subject to possible impacts of energy and mineral activities as described under Alternative A.

Impacts from wildfire suppression tactics would be the same as under Alternative A, except the less aggressive approach would likely result in fewer visual impacts. Prescribed fire actions would cause insignificant impacts to visual resources.

Vegetation treatment impacts would be the same as described under Alternative C, except seedings limited to native perennial species would visually blend more with natural landscape.

Impacts from forest health management would preclude or minimize visual evidence of this activity in higher visually sensitive locations.

Wild horse use and management would cause no significant increased impact on visual values over the long term. Any new wild horse water developments within HMA's would cause site-specific, and, overall, nominal visual impacts within the planning area, including increased trampling of vegetation, compaction of soils, and a surrounding zone of a more grazed appearance.

Due to fewer rangeland projects, impacts would be less than under other alternatives, and the extent and degree of such actions would be less frequent and evident in most landscape settings.

Recreation related impacts to visual values caused by existing and proposed developed recreation facility sites would be the same as described under Alternative C, except fewer proposed developed recreation facility sites would be established. Therefore, cumulative impacts of sites with concentrated recreational activities would be less.

Visual impacts on landscape settings from OHV uses would be minimal. All areas of high quality and sensitive visual resource values would be protected from potential adverse impacts of cross country motorized vehicle uses. BMP's and mitigative measures would be employed to reduce adverse visual impacts.

For SMA's, impacts would be the same as described in Alternative A, but the greatest amount of acres would be affected under this alternative. VRM Class I of WSA's would assist in providing the highest level of protection of wilderness naturalness values.

Impacts of land and realty actions would be as described under Alternative B, except routing new utility rights-of-way around rather than through the width of areas with high scenic values would protect important visual qualities.

Conclusion: The VRM objective would be fully met throughout the planning area. Cumulative impacts would be minimal with the integrity of visual resources, areas of high scenic quality and sensitivity, and important landscape settings significantly retained and protected. Cumulative effects of prescribed fire applications would be similar to those described under Alternative A, only with notably fewer acres involved.

Alternative D2

Impacts: Visual impacts from any minerals activities would not occur within ACEC's and certain special status plant species sites. Overall, this alternative provides a higher level of protection for visual resource values from potential energy/minerals actions than Alternative D.

Impacts from wildfire suppression tactics and use of prescribed fire would be the same as under Alternative D.

Vegetation treatment impacts would be the same as described under Alternative D, but with increased protection of sagebrush communities utilized by key sagebrush-dependent wildlife, such as sage grouse.

Impacts from forest health management would be the same as described under Alternative D.

Impacts by wild horses would be as described under Alternative D.

Impacts from rangeland projects would be less in extent, locally, and of area size, than under Alternative D, due to project opportunities being foregone within identified slightly or not grazed areas and within all pastures adjacent to the existing Main, West Little, and North Fork Owyhee NWSR's. Without livestock grazing allocated in pastures adjacent to the existing designated NWSR's, impacts on visual values of those river corridors would, overall, be less evident.

Recreation related impacts to visual values caused by existing and proposed developed recreation facility sites would be the same as described under Alternative D.

Visual impacts on landscape settings from OHV uses would be the same as described under Alternative D, with a slight increase of area designated limited to existing routes.

For SMA's, impacts would be the same as described under Alternative D, but slightly more acreage would be affected.

Impacts of land and realty actions would be as described under Alternative D.

Conclusion: The VRM objective would be fully met throughout the planning area. Cumulative impacts would be minimal with the integrity of visual resources, areas of high scenic quality and sensitivity, and important landscape settings substantially retained and protected**.** Cumulative effects of prescribed fire applications would be similar to those described under Alternative A, only with notably fewer acres involved.

Alternative E

Impacts: With the planning area not available for energy and minerals exploration and development, there would be no new impacts to landscapes and visual values by these types of activities.

Short-term and possibly long-term effects of wildfire burning extensive landscapes would cause adverse impact on existing landscape settings until revegetation and composition with preferred species is accomplished.

With the elimination of vegetative treatments, visual values would not be impacted; except, by controlling noxious weeds, native vegetated areas would better retain their inherent botanic visual qualities in characteristic landscapes.

There would be no impacts to visual values with the elimination of forest management practices. Over the long term, there could be a gradual visual improvement in the appearance of recovering quaking aspen stands barring no significant increase of adverse wildlife impacts within these stands.

Wild horses would impact visual resources the least under this alternative, while evidence of their use would remain visible within characteristic landscapes of HMA's. Any new wild horse water developments within HMA's would likely be fewer than under other alternatives, and cause site-specific, and, overall, nominal visual impacts within the planning area, including increased trampling of vegetation, compaction of soils and a surrounding zone of a more grazed appearance.

There would be no visual evidence of livestock grazing impacts within the planning area. Over time, there would visually appear a less grazed appearance within the planning area. Those rangeland projects reclaimed or removed would minimize visual impacts within landscape and site-specific settings.

Significant long-term adverse visual impacts would occur from recreational activities, particularly at sites subjected to highly concentrated or repeated uses. Overall, this would cause undue degradation of high quality visual and other natural resource values within certain landscape settings.

With no public land designated open to cross-country motorized vehicle uses and no new road construction, this alternative would provide the greatest level of protection from OHV-related impacts.

Existing designated NWSR's would provide protection and enhancement of scenic values within the rivers' corridors.

Impacts of land and realty actions would be as described under Alternative D.

Conclusion: The visual resources management objective would generally be met due to the elimination or limiting of activities that would disturb visual resources. Certain recreational activities could cause adverse impacts to visual resource values. All other activities and management actions would have minimal to no adverse impact on visual resource values. Site-specific minimal adverse cumulative impacts caused by individual or combinations of various types of certain surface disturbing activities, such as rights-of-way development and some recreation activities, both during the short and long term may occur.

Proposed RMP

Impacts: Mining developments would have some of the greatest potential to change the natural character of the landscape. However, the potential for this type of development

would be low within most locations possessing high visual values and not considered to be a significant impact.

There could be localized adverse impacts to visual qualities caused by wildfire suppression activities. Adverse impacts may result from temporary surface disturbance caused by earth-moving equipment and vehicles driving cross-country. Prescribed fire may have a temporarily negative short-term impact on visual values, and either a positive or negative long-term impact depending on the spatial arrangement, vegetation mosaics created, and proximity to popular recreation use locations.

With vegetation treatments, the increased emphasis on maintaining natural values and meeting other resource management objectives would enhance visual values and landscape settings by establishing and configuring revegetation with desirable native species which visually blend with adjacent natural landscape settings. Visual impacts from dead, standing woody material resulting from wildland or prescribed burns would be short- to mid-term in duration, depending on factors such as the intensity and extent of a given burn, the rate of decay of the dead material, and the size and density of vegetation burned. Replacement of native grasses by cheatgrass may be up to a long-term visual impact, and would be adverse to persons who do not want to see this species in a landscape setting.

The impact on visual qualities caused by forest health management practices, which are done on small, localized areas, would not be significant.

Wild horse use and management would cause no increased impact on visual values over the long term. Any new wild horse water developments within HMA's would cause site-specific, but, overall, nominal visual impacts within the planning area, including increased trampling of vegetation, compaction of soils and a surrounding zone of a more grazed appearance.

Development of rangeland projects and livestock grazing practices would cause localized direct and indirect visual impacts. However, the extent and degree of such actions would be less frequent and evident in most landscape settings due to the emphasis on using a combination of administrative solutions to meet resource objectives.

Controlling recreation associated impacts and use conflicts, and providing protection of natural resources by and during development of recreation facilities would lessen short- and long-term visual impacts to landscape settings. Utilizing recreation BMP's and mitigation measures would reduce the extent of visual impacts of individual and cumulative recreation facilities and uses.

OHV use designations provide protection of landscapes possessing higher quality visual resource values. All areas of high quality and sensitive visual resource values would be protected from potential adverse impacts of cross country motorized vehicle uses. The relatively small, but increasing amount of cross-country motorized vehicle use would continue to cause adverse impacts to visually sensitive resource values in localized areas. BMP's and mitigative measures would be employed to reduce adverse visual impacts and losses to vegetation, soil exposure, and soil erosion.

Most public land within existing and proposed SMA's would have adequate management to reduce or preclude adverse impacts to visual resources. Some SMA guidelines would specifically protect and enhance visual resources (such as NWSR's where scenic is an ORV, and WSA's naturalness values).

Some realty actions associated with rights-of-way, communication site development, unauthorized use, etc., may impact visual resources. However, using BMP's and mitigation measures would reduce the extent of visual impacts of individual and cumulative land and realty actions. Initial and future developments in designated utility corridors, while localiz-

ing visual impacts on the large scale over the long term, would likely be substantially noticeable in largely undeveloped viewsheds.

Conclusion: The visual resource management objective would be met. The integrity of visual resources, areas of high scenic quality and sensitivity, and important landscape settings would be significantly retained and protected with minimal cumulative impacts. Widely spread mosaic prescribed fire application accomplished over a long duration within a landscape setting would lessen short and long-term adverse cumulative visual impacts. Some minerals exploration/development activities and lands actions could cause short- and long-term cumulative impacts to certain higher scenic settings, but largely would be avoided under this alternative. Cumulatively, cross-country driving of motorized vehicles in designated open areas would likely cause the most significant short- and long-term adverse visual impacts within certain landscape settings possessing less scenic qualities within the planning area. However, the more scenic and visually sensitive landscape settings would be substantially protected from the effects of OHV activities during the life of the plan.

Summary of Impacts

Under Alternative A, the greatest area of public land would be affected adversely by the highest level of various activities and surface-disturbing uses. Maintaining VRM class objectives, particularly in certain locations with higher visual qualities, would be at high risk. Landscapes would be the least affected by various activities under Alternative E, with the exception of locations of extended concentrated recreation activities. Adverse impacts on important visual values would be less under Alternatives C, D, and the Proposed RMP than under Alternative B. Under Alternatives D and D2 there would be less of a chance for adverse impacts on visual values than under Alternative C and the Proposed RMP due to more and increased sizes of SMA's which would substantially limit or preclude surface-disturbing activities. The extent of cumulative adverse visual impacts on landscape settings and resource values would occur more so with increased opportunity for such surface-disturbing activities as minerals exploration and development, OHV activities, and livestock uses and projects. This possibility is most prevalent under Alternative A, while not available under Alternative E. Alternatives C and the Proposed RMP would result in more limited cumulative effects to visual resource values than Alternatives A and B, but not as much as Alternatives D and D2, primarily due to fewer anticipated impacts from livestock and OHV-related activities.

Areas of Critical Environmental Concern

Objective: *Retain existing and designate new areas of critical environmental concern (ACEC's)/research natural areas (RNA's) where relevance and importance criteria are met and special management is required to protect the values identified.*

Assumptions common to all alternatives: Relevant and important values would be protected to a greater or lesser degree across the range of alternatives, but in no alternative, with the possible exception of Alternative E, would relevant and important values be lost.

Alternative A

Impacts: While leasable mineral development is unlikely in most of the ACEC's, constraints through NSO would be a proactive measure that would preclude the potential for exploration disturbance, a more likely scenario, in six ACEC's (see Table 3-12). Leaving the remainder of areas in an "open - subject to standard terms and conditions" or an "open - subject to special stipulations" category would have the potential of significant local short- and long-term adverse impacts on these areas should leasable mineral exploration or development occur. Closing areas to mineral materials activities in all or portions of 8 ACEC's (see Table 3-12) would have short- and long-term beneficial impacts. ACEC's remaining

open to mineral materials activities may experience localized disturbances to relevant and important values if pits are developed within the ACEC boundaries. Although only small areas may be disturbed, overall visual impacts, loss of naturalness and impacts to special status plant and wildlife species may occur which have long-term cumulative impacts to specific resources and the landscape as a whole. Mineral withdrawal in Honeycombs ACEC/RNA, Leslie Gulch ACEC, Oregon Trail ACEC, Castle Rock ACEC, Little Whitehorse Creek Exclosure ACEC/RNA, and the visual portion of Owyhee River Below the Dam ACEC would fully protect these areas from disturbances due to mineral exploration and development. Other areas remaining open, whether designated as ACEC's or not, would be adversely impacted by locatable mineral activities. Exploration and development would have short-term and long-term adverse impacts on plant communities, scenic values, wildlife, special status plant and animal species, and watershed, depending on the intensity of the activity due to significant site disturbance. Development would have a generally greater impact on these resources than exploration.

Because fire management actions would be restricted and in some cases prohibited within ACEC's, generally beneficial short-term and long-term impacts would be anticipated. With fire suppression constraints in the ACEC/RNA's, natural plant responses and recovery would be allowed to occur. These responses are consistent with the RNA management concept where relatively unaltered areas are treated as "control" or reference sites for evaluating resource management practices, for conducting research, and for educational purposes. Scenic values would be maintained by limiting use of heavy equipment which often leaves major scars over the long term. Fire rehabilitation constraints would have a beneficial impact on the areas by allowing natural processes to shape vegetation community composition. Except under threat of severe erosion, where sites were already dominated by exotics and where the principal resource (such as special status plants) can be avoided, no seeding would be allowed because high ecological condition sites would revegetate naturally. If severe erosion or invasion by annuals of special status plant sites or critical plant community types is projected, seed or seedlings of native species would be used for rehabilitation and would enhance the values of the ACEC's.

Forest practices in the two potential ACEC's containing commercial forest products (Castle Rock ACEC and Ott Mountain ACEC/RNA) would result in neutral to positive short-term cumulative benefits because the only practices that would be authorized and employed would be those which maintain or enhance the relevant and important values for which the ACEC's were designated. In ACEC's where western juniper community types are present, which include Castle Rock ACEC, Stockade Mountain ACEC/RNA, North Fork Malheur River ACEC, Ott Mountain ACEC/RNA, and Black Canyon ACEC/RNA, management proposed for western juniper would promote natural values and preservation of diverse community types. Proposed forest health treatments to reduce fuel loading would protect relevant and important values from potential stand replacement fires.

Potential for increased numbers and range of bighorn sheep may result in short-term adverse impacts in the Honeycombs ACEC/RNA to certain special status plant species (a relevant and important value), particularly Owyhee clover and sterile milkvetch, in the areas of their overlapping ranges. As sheep use would be removed from vulnerable plant populations, no long-term cumulative impacts would occur.

One existing and one potential ACEC/RNA (Honeycombs ACEC/RNA and Palomino Playa ACEC/RNA) are also part of wild horse HMA's. Wild horse activity would be closely monitored to prevent impairment to relevant and important values. To prevent long-term impacts, fencing that would not impair natural movement or herd gathering would occur if the values were being threatened. Some short-term impacts, including trampling and/or grazing of the vegetation components, may occur during the data gathering period, thereby influencing vegetation types and special status plant species.

Relevant and important values of all potential ACEC's for which vegetation management is critical could be adversely impacted by livestock grazing, particularly if future proposals for grazing management include developing projects, changing grazing seasons, and/or increasing livestock numbers. These impacts would occur as vegetation, both individual plants and species, as well as community structure, may be changed due to concentrated and prolonged use along with introduction of noxious weeds and introduced annuals. However, because these impacts would be evaluated and controlled, generally through fencing, long-term cumulative livestock grazing impacts are anticipated to be minimal. If fencing would impact scenic quality, scenic quality may decline but would remain within the classification requirements for each ACEC. With the increased livestock use proposed in this alternative, the time between determining detrimental effects and resolving the problems may result in both short-term and long-term impacts to some ACEC's. Grazing has not been identified as a major impact currently on any of the relevant and important values of potential ACEC's and would continue as presently authorized unless studies showed detrimental effects to those values.

Project developments within designated ACEC's would be evaluated for their effects on relevant and important values and would not be authorized if values would not be maintained or enhanced. There may be a need to mitigate effects of livestock grazing through proposals for new fences on the boundaries of ACEC's which may also be in WSA's. An extensive review process would be necessary in order to construct fences within WSA's so as not to impair wilderness suitability. During the review process and as new locations for fences or livestock management practices are negotiated, some short and long-term impacts could occur to relevant and important values.

Due to the emphasis of recreation use and the subsequent advent of more people in the planning area, human presence could adversely impact some ACEC's. Where recreation use is being promoted in specific places, such as SRMA's, within or near ACEC's, there may be impacts to relevant and important values. While developed recreation sites are designed to manage human impacts and would have resolved resource conflicts, additional dispersed recreation use may cause adverse impacts to some ACEC's. In those dispersed recreation areas where humans tend to congregate over prolonged periods, vegetation trampling, soil compaction, and weed introduction could occur. While management efforts would address these impacts, dispersed recreation use is difficult to control, and due to the lack of specific ACEC recreation prescriptions, there may be damage to relevant and important values before a solution is reached. Overall, however, impacts due to recreational activities would be anticipated to be insignificant to most ACEC's.

Four potential ACEC's (see Table 3-12) are currently roadless and would not be available to OHV activities. Such closure would serve to help protect the relevant and important values from possible degradation caused by motorized vehicle use in these areas. In the remaining potential ACEC's which currently have recognized roads, motorized OHV activities would be limited to designated roads and trails, resulting in no OHV activities off these routes. This designation would help protect the relevant and important values from degradation caused by cross-country OHV use. The potential Mendi Gore Playa ACEC/RNA would remain open, which may result in some impairment of the relevant and important values due to vehicle actions associated with the playa. The reduced acreages proposed for designation of many ACEC's would leave substantial areas containing relevant and important values open to surface disturbances, including compaction, erosion, and vegetation destruction, which may result from unregulated OHV use. However, a core representation of relevant and important values would be protected in the short and long term.

Class I and II VRM in ACEC's containing high scenic values would provide guidance for project developments, which would result in relatively stringent to complete protection of the scenic relevant and important values. In other areas, Class III VRM would provide adequate guidance and protection.

Continued management of the Owyhee NWSR through the existing 1993 management plan would have an overall long-term beneficial impact to the Owhyee River ACEC, which would be dropped from ACEC designation under this alternative. Retention of the designation of 186 miles of the Owyhee River as an NWSR maintains withdrawal of these reaches from mineral entry and provides other regulations of mineral activity, which precludes most adverse impacts associated with mineral exploration and development. The designation has also resulted in vehicle access limitations, thereby limiting impacts associated with this activity. Because visitor use is projected to increase in all river corridors regardless of designation, some adverse impacts on the relevant and important values could occur with camping and incidental hiking activities. However, these impacts are not anticipated to be significant due to the large area available for hiking and camping and because they are addressed in the river plan. Management of the administratively suitable Owyhee River Below the Dam as a wild and scenic recreational river would provide priority management for the influx of recreational activities anticipated in this area and would help protect relevant and important values.

Areas remaining available to rights-of-way could experience short-term and potentially long-term adverse impacts on relevant and important values of a botanical, scenic, and wildlife nature. Ground disturbance, depending on topography and soils, could cause erosion, and disturbed sites could be invaded by exotic plant species. In areas occupied by special status plants, exotic plant invasion could be detrimental to the native populations. Exotic plants would also potentially alter the composition of botanical reference areas. Additionally, overhead rights-of-way would adversely affect scenic values and, potentially, raptor populations. Most ACEC's would be avoidance areas. Two areas, Leslie Gulch and Little Whitehorse Creek Exclosure, would exclude all rights-of-way.

In most areas, casual plant collection for scientific or educational purposes would have no short-term or long-term impact on biological, scenic, cultural, or watershed resources. Except for special status species, collection of plants is projected to be infrequent enough that plant populations would not be impacted. Expected increases would occur in commercial gathering of certain species, such as western juniper, and where unregulated, could impact natural values of an area as a reference site for research and education. In the areas where special status plant species occur, a potentially adverse impact would be expected if the areas were open to unrestricted plant collecting. Ultimately, some populations could be extirpated. In areas where plant collections would be limited, removal of plants would be regulated and minimized in an effort to maintain populations.

Conclusion: The overall cumulative long-term impact on the areas proposed to be ACEC's is projected to be generally beneficial, although only small acreages, minimally representing relevant and important values for some areas, would receive special management attention. Seven areas with identified relevant and important values including Dry Creek Gorge ACEC, Owyhee Views ACEC, South Alkali Sand Hills ACEC, Owyhee River ACEC, Saddle Butte ACEC, Whitehorse Basin ACEC, and Three Forks ACEC/RNA, would not be designated as ACEC's and would therefore not receive priority for special management attention. The exceptions are Owyhee River ACEC area and Three Forks ACEC/RNA area which would be managed under the 1986 "Owyhee River NWSR Management Plan," Saddle Butte ACEC area which would be managed under the appropriate cave laws, and Whitehorse Basin ACEC area which would be managed as part of the recovery plan for the Lahontan cutthroat trout. The overall cumulative impact may be adverse in the short and long term in the undesignated areas not receiving priority management attention, and emphasis on commodity uses would increase the risk of adverse impacts. Specific management, such as OHV and VRM, addressed in other sections of this document would provide some protection for relevant and important values in certain, undesignated areas, but may not provide adequate protection from certain potential disturbances such as minerals activities. In the areas designated as ACEC's, special management actions that control adverse changes would be implemented for some activities, and priority for management would be extended to these areas.

The ACEC objective would be met generally in small areas which represent relevant and important values.

Alternative B

Impacts: Leasable mineral activity would remain open in all existing ACEC's, except those in WSA status and the designated NWSR, in which case no leasing is permitted. Also, Leslie Gulch ACEC is managed as an NSO area. All areas would be open to mineral materials activities except those affected by WSA status, the NWSR's, and Leslie Gulch, all of which are closed to mineral material extraction. Those ACEC's remaining open to leasable and mineral materials activities would receive the same impacts as described in Alternative A. All ACEC's would remain open to locatable mineral activities with the exception of Owyhee River ACEC, which is withdrawn through NWSR designation, and Leslie Gulch ACEC. Areas remaining open to locatable mineral activities would receive the same impacts as Alternative A. However, ACEC designation would necessitate filing of a plan of operation for significant exploration activity which would permit some mitigation to help protect relevant and important values.

Unless unplanned incidents occur such as inadvertent blading, any impacts to existing ACEC's from fire management practices would be neutral to beneficial to the relevant and important values. If necessary, fire would be used to maintain the relevant and important values in those ACEC's where fire played a role in maintaining the desired plant communities. All other areas would remain open to unrestricted fire management actions, including suppression, vehicle access, and rehabilitation.

Relevant and important values of two undesignated areas, Castle Rock and Ott Mountain, which support timber of potential commercial value, may be adversely impacted if timber harvests are authorized within the critical forested areas. The old growth ponderosa stands may be lost and critical wildlife habitat severely altered with commercial harvests. Western juniper control measures, as currently practiced, would have no effect on existing ACEC's or undesignated areas.

One ACEC/RNA (Honeycombs) is within a wild horse HMA. Wild horse impacts would be the same as in Alternative A.

Current grazing practices would continue to have little to no impact on relevant and important values of existing ACEC's. Where grazing changes such as numbers or season of use would be proposed, authorization of the change would depend on an assessment and would be granted only if values were maintained or enhanced.

Project development within existing ACEC's would be evaluated or authorized the same as Alternative A. All other areas outside the existing ACEC's, WSA's, and NWSR's would be available for project development, which may result in the relevant and important values of some areas receiving diverse impacts from direct disturbance and indirect consequences such as noxious weed infestations. The review and mitigation of livestock grazing proposals would be handled the same and have the same impacts as Alternative A. However, there would be some loss to relevant and important values and the likelihood that the fence may not be constructed.

Recreational impacts to the Owyhee River, a congressionally designated NWSR, are currently regulated under guidance of the existing river management plan. Existing management plans for Leslie Gulch, Honeycombs, and Jordan Craters ACEC's also address and provide for levels of recreational activities which do not impair relevant and important values. In other areas where recreational activities may have an impact on relevant and important values, some values may be modified due to unrestricted recreational activities.

The existing roadless Honeycombs ACEC would remain closed to OHV use, which would provide protection to the relevant and important values from degradation caused by cross-country use. Stockade Mountain and portions of Whitehorse Basin and Mahogany Ridge ACEC's would remain open to unrestricted OHV use, which may result in degradation of relevant and important values due to disturbance from cross-country vehicular use. Use in Leslie Gulch ACEC is restricted to designated roads and trails, which adequately protects the values. In all other existing ACEC's and a portion of Whitehorse Basin ACEC, OHV use is limited to existing roads and trails, which provides some protection to the areas from potential impacts of unlimited OHV use.

Impacts from granting rights-of-way would be the same as described in Alternative A. All of Stockade Mountain and Jordan Craters and portions of Saddle Butte, Whitehorse Basin and Mahogany Ridge ACEC's are open to rights-of-way activities. All other existing ACEC's are either avoidance or exclusion areas, which would continue to provide some or total protection to the relevant and important values of these areas with regard to rights-of-way actions.

Conclusion: The overall cumulative long-term impact on currently designated ACEC's is projected to be generally beneficial, although lack of restrictions on certain activities in some ACEC's leaves them vulnerable to adverse change. Twenty-two areas with identified relevant and important values would not be designated as ACEC's and would therefore not receive priority for special management attention. They would remain open to all public land uses unless otherwise restricted by specific management guidance; the overall impact may be adverse in the short and long term in those areas. Special management actions that mitigate effects of adverse impacts would be implemented for activities within existing ACEC's, and priority for management would be extended to these areas.

The ACEC objective would be met in part for those areas currently designated as ACEC's. It may not be met for 22 other undesignated areas. These areas have been determined to meet the relevance and importance criteria for establishment as ACEC's but would receive no special or priority management to protect their identified resources unless managed under other designations, such as NWSR.

Alternative C

Impacts: While leasable mineral development is unlikely in most of the areas given their geology, constraints through an NSO stipulation would be a proactive measure that would preclude the potential for exploration disturbance, a more likely scenario, in all or portions of 15 ACEC's (see Table 3-12). Values of three ACEC's remaining open would receive protection for values through special stipulations (see Table 3-12). Closing areas to mineral materials activities in all ACEC's would result in no impacts to ACEC's from extraction of mineral materials. Mineral withdrawal in all or a portion of 15 ACEC's (see Table 3-12) would fully protect these areas from disturbances due to locatable mineral exploration and development. Other areas remaining open would be subject to the same type of potential adverse impacts from locatable mineral activities as Alternative A. ACEC designation would necessitate a filing of a plan of operation for significant exploration activity, which would permit some mitigation to help protect relevant and important values.

Fire management would have the same type of impacts as Alternative A.

Forestry practices in two potential ACEC's containing commercial forest products would have the same impacts as Alternative A.

The impacts and monitoring of wild horses would be the same as Alternative A.

Although the impacts from livestock grazing would be the same as Alternative A, these impacts would be evaluated and controlled through the adaptive management process which would identify the practices that would provide the best mitigation.

Project development within designated ACEC's would be managed and have the same types of impacts as in Alternative A.

Impacts caused from recreation use would vary. In developed recreation sites, use of BMP's would minimize impacts to ACEC's. However, dispersed recreation use, especially in areas where humans are likely to congregate, may result in damage to plants and soils due to trampling of vegetation, introduction of weeds, and compaction of soil. Where plant components represent relevant and important values, these actions may be adverse in specific ACEC's. While efforts would be applied to deal with these impacts, dispersed recreation use is often difficult to control, and some damage may occur to relevant and important values.

Three predominantly roadless potential ACEC's (see Table 3-12) and a portion of one potential ACEC (Owyhee Views) would not be available to OHV activities. Any existing roads and trails within those ACEC's would be rehabilitated and closed, which would fully protect the relevant and important values from possible degradation resulting from OHV activities. In the remaining potential ACEC's, which currently have recognized roads, OHV activities would be limited to specifically designated roads and trails and would have the same impacts as Alternative A.

Class I and II VRM in ACEC's of moderate to high scenic values would have the same impacts as Alternative A.

NWSR management would be the same as Alternative A, except the management of administratively suitable rivers, where they coincide with ACEC's, would provide enhanced, priority management for the relevant and important values.

All ACEC's would be avoidance areas and impacts from granting rights-of-way would be minimal unless unavoidable conflicts with other resources would result in a right-of-way being granted through an ACEC. Areas through which rights-of-ways may be granted could experience short-term adverse impacts on relevant and important values of a botanical, scenic, and wildlife nature. The impacts would be the same as Alternative A.

Plant collection would have the same impacts as Alternative A.

In all designated ACEC's in this alternative, except for one segment of the Oregon Trail ACEC where plant values are not recognized as an integral part of the ACEC, plant collections would be limited, with removal of plants regulated and minimized in an effort to maintain populations. A long-term beneficial impact would be anticipated to both individual species and plant community values.

Conclusion: The overall cumulative long-term impact on the areas proposed to be ACEC's is projected to be beneficial. Three areas with identified relevant and important values would not be designated as ACEC's and would therefore not receive priority for special management attention as a result of ACEC designation. However, in the Owyhee River NWSR and potential Three Forks ACEC/RNA area, management for river values fully complements management for the ACEC values. The Whitehorse Basin ACEC area would be managed as part of the conservation plan for the Whitehorse Lahontan cutthroat trout, which generally complements management for the ACEC values. Special management actions that mitigate effects of adverse impacts would be implemented for activities within ACEC's, and priority for management would be extended to the areas designated as ACEC's.

The ACEC objective would be met for an adequate representation of the relevant and important values in most areas.

Alternative D

Impacts: Impacts of leasable mineral development would be the same as in Alternative A, except in Dry Creek Gorge ACEC and Three Forks ACEC/RNA, which would be subject to no lease. No impacts from leasable mineral activities would result to surface areas of 27 ACEC's where an NSO stipulation is in effect. All ACEC's would be closed to saleable mineral activities, resulting in no impacts. Impacts of mineral withdraw would be the same as Alternative A on 25 ACEC's (see Table 3-12). The ACEC's remaining open would be subject to the same impacts as Alternative A. ACEC designation would necessitate a filing of a plan of operation for significant exploration activity, which would permit some mitigation to help protect relevant and important values.

Fire management would have the same impacts as Alternative A.

Forestry practices in the two potential ACEC's containing commercial forest products would have the same impacts as Alternative A.

Wild horse management would have the same impacts overall as Alternative A.

The potential for reductions in livestock use across the landscape in this alternative would lessen direct short- and long-term cumulative impacts to special status plant species and specific plant community types where vegetation cells and/or special status plants have been identified as relevant and important values. Livestock as a vector in the spread of noxious weed seed would also be reduced, lessening the threat of noxious weed invasion. Those potential ACEC's for which vegetation management is critical would be impacted the same as Alternative A. However, because these impacts would be evaluated and controlled through the adaptive management process which would identify practices that would provide the best mitigation of grazing impacts, long-term cumulative impacts to ACEC's from livestock grazing are anticipated to be minimal. Removal of pasture units from grazing, to protect relevant and important values, would be the primary method employed to mitigate adverse grazing effects. Short-term and long-term cumulative impacts to some ACEC's may result during the time between determining detrimental effects and actually solving the problems. Resolution would be through closure of pasture units to grazing or use of other methods. As in prior alternatives, grazing has not been identified as a major impact on any of the potential ACEC's and would continue as currently authorized unless studies showed detrimental effects to relevant and important values.

Project development would be managed the same as Alternative A, and impacts would be the same as Alternative A.

Impacts caused from recreation use would vary. At developed recreation sites, use of BMP's would minimize impacts to ACEC's. However, dispersed recreation use, especially in areas where humans are likely to congregate, may result in damage to plants and soils due to trampling of vegetation, introduction of weeds, and compaction of soil. Where plant components represent relevant and important values, these actions may be adverse to specific ACEC's. Dispersed recreation in certain areas would be more intensively managed as amount and frequency of use may be limited and restricted. In areas where such recreation management would be applied, impacts to ACEC's may be less with the more balanced approached to managing the interactions of people and preserving natural values.

Three predominantly roadless potential ACEC's (see Table 3-12) and a portion of one potential ACEC would not be available to OHV activities. Any existing roads and trails within those ACEC's would be rehabilitated and closed, which would fully protect the relevant and important values in the short and long term from possible degradation from

OHV use. In the remaining potential ACEC's currently having recognized roads, OHV activities would be limited to specifically designated roads and trails, which would prohibit cross-country OHV activities and would protect the relevant and important values from any degradation caused by cross-country OHV use.

Class I and II VRM in all ACEC's except one segment of the Oregon Trail, portions of which would be managed under Class III, would provide stringent guidance for project developments, resulting in a high level of protection of the scenic quality of all areas. All ACEC's with a scenic relevant and important value would be Class I, which provides maximum protection of the scenic values in those areas.

Management of existing NWSR's would have the same impacts as Alternative A. In addition, the management of administratively suitable rivers, where they coincide with ACEC's, would provide enhanced, priority management for the relevant and important values.

Because all ACEC's would be either avoidance or exclusion areas, impacts from granting rights of ways would be minimal unless unavoidable conflicts with other resources would result in a right-of-way being granted through an ACEC designated as an avoidance area. Areas in which rights-of-ways would be granted would have the same impacts as Alternative A. All rights-of-ways would be excluded in 11 potential areas (see Table 3-12) which would fully protect the scenic relevant and important values within these ACEC's from this type of development.

In all designated ACEC's in this alternative except for one segment of the Oregon Trail ACEC where plant values are not recognized as an integral part of the ACEC, plant collections would be limited, with removal of plants regulated and minimized in an effort to maintain populations. A long-term beneficial impact would be anticipated to both individual species and plant community values.

Conclusion: The overall cumulative long-term impact on the areas proposed to be ACEC's is projected to be beneficial. One area with identified relevant and important values would not be designated as an ACEC and would, therefore, not receive priority for special management attention as an ACEC. However, in the Owyhee River NWSR, management for river values fully complements management for the ACEC values. In addition, the emphasis on management for natural values in this alternative would provide indirect benefits to the undesignated area and create a lower risk than the other alternatives that relevant and important values would receive impacts from specific activities. Special management actions that mitigate adverse effects would be implemented for activities within ACEC's, and priority for management would be extended to the areas designated as ACEC's.

Overall, the ACEC objective would be met in full for an extensive representation of relevant and important values in the areas designated as ACEC's.

Alternative D2

Impacts: Mineral withdrawal and no leasable or saleable minerals activities in all ACEC's (see Table 3-12) would provide full protection for relevant and important values from disturbances due to mineral exploration and development.

Fire management would have the same impacts as Alternative A.

Forestry practices in the two potential ACEC's containing commercial forest products would have the same impacts as Alternative A.

Wild horse management would have the same impacts overall as Alternative A.

In the ACEC's where livestock grazing would be removed under this alternative and which coincide with HMA's (Honeycombs ACEC/RNA, Palomino Playa ACEC/RNA), short and long-term impacts from wild horses would likely increase because movement of horses cannot be controlled in the same manner as livestock, resulting in negative impacts to special status plants in both areas where horses would concentrate, such as the water source at Palomino Playa. Both the proposed elimination of livestock in selected areas, including South Alkali ACEC, Castle Rock ACEC, Black Canyon ACEC/RNA, and the potential for reductions in livestock use across the landscape in this alternative would lessen direct impacts to special status plant species and specific plant community types where vegetation cells and/or special status plants have been identified as relevant and important values. Livestock as a vector in the spread of noxious weed seed would also be reduced, lessening the threat of noxious weed invasion. Those potential ACEC's for which vegetation management is critical would be impacted the same as Alternative A. However, because these impacts would be evaluated and controlled through the adaptive management process which would identify practices that would provide the best mitigation of grazing impacts, long-term cumulative impacts to ACEC's from livestock grazing are anticipated to be minimal. Removal of pasture units from grazing, to protect relevant and important values, would be the primary method employed to mitigate adverse grazing effects. Short-term and long-term impacts to some ACEC's may result during the time between determining detrimental effects and actually solving the problems. Resolution would be through closure of pasture units to grazing or use of other methods. As in prior alternatives, grazing has not been identified as a major impact on any of the potential ACEC's and would continue as currently authorized unless studies showed detrimental effects to relevant and important values.

Project developments within designated ACEC's would be evaluated for their effects on relevant and important values and would not be authorized if values would not be maintained or enhanced. There may be a need to mitigate effects of livestock grazing through proposals for new fences on the boundaries of ACEC's which may also be in WSA's. An extensive review process would be necessary in order to construct fences within WSA's so as not to impair wilderness suitability. During the review process and as new locations for fences or livestock management practices are negotiated, some short and long-term impacts could occur to relevant and important values.

Impacts caused from recreation use would vary and would be as described in Alternative D.

Three predominantly roadless potential ACEC's (see Table 3-12) and a portion of one potential ACEC would not be available to OHV activities. Any existing roads and trails within those ACEC's would be rehabilitated and closed, which would fully protect the relevant and important values from possible degradation from OHV use. In the remaining potential ACEC's currently having recognized roads, OHV activities would be limited to specifically designated roads and trails, which would prohibit cross-country OHV activities and would protect the relevant and important values from any degradation caused by cross-country OHV use.

Class I and II VRM in all ACEC's except one segment of the Oregon Trail, portions of which would be managed under Class III, would provide stringent guidance for project developments, resulting in a high level of protection of the scenic quality of all areas. All ACEC's with a scenic relevant and important value would be Class I, which provides maximum protection of the scenic values in those areas.

Management of existing NWSR's would have the same impacts as Alternative A, except that no livestock grazing within congressionally designated NWSR's would have impacts as described above for livestock use. In addition, the management of administratively suitable rivers, where they coincide with ACEC's, would provide enhanced, priority management for the relevant and important values.

Because all ACEC's would be either avoidance or exclusion areas, impacts from granting rights of ways would be minimal unless unavoidable conflicts with other resources would result in a right-of-way being granted through an ACEC designated as an avoidance area. Areas in which rights-of-ways would be granted would have the same impacts as Alternative A. All rights-of-ways would be excluded in 11 potential areas (see Table 3-12) which would fully protect the scenic relevant and important values within these ACEC's from this type of development.

In all designated ACEC's in this alternative except for one segment of the Oregon Trail where plant values are not recognized as an integral part of the ACEC, plant collections would be limited, with removal of plants regulated and minimized in an effort to maintain populations. A long-term beneficial impact would be anticipated to both individual species and plant community values.

Conclusion: The overall cumulative long-term impact on the areas proposed to be ACEC's in Alternative D2 is projected to be beneficial. One area with identified relevant and important values would not be designated as an ACEC and would, therefore, not receive priority for special management attention as an ACEC. However, in the Owyhee River NWSR, management for river values fully complements management for the ACEC values. In addition, the emphasis on management for natural values in this alternative would provide indirect long-term benefits to the undesignated areas and create a lower risk than the other alternatives that relevant and important values would receive impacts from specific activities. Special management actions that mitigate adverse effects would be implemented for activities within ACEC's, and priority for management would be extended to the areas designated as ACEC's.

Overall, the ACEC objective would be met in full for an extensive representation of relevant and important values in the areas designated as ACEC's.

Alternative E

Impacts: With all minerals activities eliminated, no area would be subject to any short and long-term impacts associated with locatable or leasable mineral exploration or development or to any impacts from mineral material sales.

No forestry practices of any kind would be authorized, which would eliminate any potential for using such practices to maintain or enhance the relevant and important values of two areas which support timber values. Those values may decline as a result of eliminating any kind of forestry practices.

No short- or long-term impacts from livestock grazing would result because all livestock would be removed. In addition, there would not likely be impacts to relevant and important values from the minimal road maintenance activities, and any impacts that may occur would be short term.

Recreation use would be expected to increase, particularly in eight areas which had been previously designated as ACEC's only. Unless regulated, recreation use would result in short- and long-term cumulative adverse impacts to cultural and natural values through trampling and weed introductions at disturbed sites. However, the most attractive areas for recreation use, including Owyhee NWSR and Leslie Gulch, are managed and regulated under current plans that recognize resource values. Overall, impacts of recreation use are anticipated to be moderate.

Limitation of all OHV activities to existing roads and trails would result in no cross-country OHV travel, which would protect the relevant and important values in all areas regardless of designation. However, OHV's could still remain a vector in the spreading of noxious weed seed on the existing roads and trails.

Conclusion: The cessation of many activities, including livestock grazing, all cross-country OHV use, all mining activities, and all project development would permit natural functions and processes to occur within the natural systems. However, no management of forested and woodland areas would result in long-term cumulative adverse impacts to resource values in the two areas which support forest values. Unregulated recreation use in some areas may result in short- and long-term cumulative adverse impacts.

Overall, the objective would be not be met in ACEC's due to the long-term cumulative adverse impacts to relevant and important values as wooded areas may become decadent and no longer representative of the natural systems they were intended to reflect and as unregulated recreation use may impact relevant and important values.

Proposed RMP

Impacts: While leasable mineral development is unlikely in most of the areas given their geology, constraints through an NSO stipulation would be a proactive measure that would preclude the potential for exploration disturbance, a more likely scenario, in all or portions of 15 ACEC's (see Table 3-12). Values of three ACEC's remaining open would receive protection for values through special stipulations (see Table 3-12). Closing areas to mineral materials activities in all ACEC's would result in no impacts to ACEC's from extraction of mineral materials. Mineral withdrawal in all or a portion of 14 ACEC's (see Table 3-12) would fully protect these areas from disturbances due to locatable mineral exploration and development. Other areas remaining open would be subject to potential short- and long-term cumulative adverse impacts from exploration and development associated with locatable mineral activities. ACEC designation would necessitate a filing of a plan of operation for significant exploration activity, which would permit some mitigation to help protect relevant and important values.

Because fire management actions would be restricted and in some cases prohibited within ACEC's, generally beneficial short-term and long-term impacts would be anticipated. With fire suppression constraints in the ACEC/RNA's, natural plant responses and recovery would be allowed to occur. These responses are consistent with the RNA management concept where relatively unaltered areas are treated as "control" or reference sites for evaluating resource management practices, for conducting research and for educational purposes. Scenic values would be maintained by limiting use of heavy equipment which often leaves major scars over the long term. Fire rehabilitation constraints would have a beneficial impact on the areas by allowing natural processes to shape vegetation community composition. Except under threat of severe erosion, where sites were already dominated by exotics and where the principal resource (such as special status plants) could be avoided, no seeding would be allowed because high ecological condition sites would revegetate naturally. If severe erosion or invasion by annuals of special status plant sites or critical plant community types is projected, seed or seedlings of native species would be used for rehabilitation and would enhance the values of the ACEC's.

Forest practices in one potential ACEC containing commercial forest products (Castle Rock ACEC) would result in neutral to positive long-term benefits because the only practices that would be authorized and employed would be those which maintain or enhance the relevant and important values for which the ACEC was designated. In ACEC's where western juniper community types are present, which include Castle Rock ACEC, Stockade Mountain ACEC/RNA, North Fork Malheur River ACEC, and Black Canyon ACEC/RNA, management proposed for western juniper would promote natural values and preservation of diverse community types. Proposed forest health treatments to reduce fuel loading would protect relevant and important values from potential stand replacement fires.

Potential for increased numbers and range of bighorn sheep may result in short-term adverse impacts in the Honeycombs ACEC/RNA to certain special status plant species (a relevant and important value), particularly Owyhee clover and sterile milkvetch, in the areas of their

overlapping ranges. As sheep use would be removed from vulnerable plant populations, no long-term cumulative impacts would occur.

Two potential ACEC/RNA's (Honeycombs ACEC/RNA and Palomino Playa ACEC/RNA) are also part of wild horse HMA's. Wild horse activity would be closely monitored to prevent impairment to relevant and important values. To prevent long-term impacts, fencing that would not impair natural movement or herd gathering would occur if the values were being threatened. Some short-term impacts, including trampling and/or grazing of the vegetation components, may occur during the data gathering period, thereby influencing vegetation types and special status plant species.

Relevant and important values of all potential ACEC's for which vegetation management is critical could be adversely impacted by livestock grazing, particularly if future proposals for grazing management include developing projects, changing grazing seasons, and/or increasing livestock numbers. These impacts would occur as vegetation, both individual plants and species, as well as community structure, may be changed due to concentrated and prolonged use along with introduction of noxious weeds and introduced annuals. However, because these impacts would be evaluated and controlled through the adaptive management process, long-term cumulative livestock grazing impacts are anticipated to be minimal as practices that would provide the best mitigation would be established. Grazing has not been identified as a major impact currently on any of the relevant and important values of existing or potential ACEC's and would continue as presently authorized unless studies showed detrimental effects to those values.

Project developments within designated ACEC's would be evaluated for their effects on relevant and important values and would not be authorized if values would not be maintained or enhanced. There may be a need to mitigate effects of livestock grazing through proposals for new fences on the boundaries of ACEC's which may also be in WSA's or NWSR's. An extensive review process would be necessary in order to construct fences within WSA's so as not to impair wilderness suitability. Interim management of WSA's and the administratively suitable study rivers may restrict or preclude construction of some projects, and some short- and long-term impacts could occur to the relevant and important values.

Impacts caused from recreation use would vary. In developed recreation sites, use of BMP's would minimize impacts to ACEC's. However, dispersed recreation use, especially in areas where humans are likely to congregate, may result in damage to plants and soils due to trampling of vegetation, introduction of weeds, and compaction of soil. Where plant components represent relevant and important values, these actions may be adverse in specific ACEC's. While efforts would be applied to deal with these impacts, dispersed recreation use is often difficult to control, and some long-term damage may occur to relevant and important values. These impacts would not likely be to the extent that long-term cumulative impacts would occur to ACEC values.

Two predominantly roadless potential ACEC's (Spring Mountain and Little Whitehorse Creek ACEC/RNA's) and a portion of one potential ACEC (Owyhee Views) would not be available to OHV activities. Any existing roads and trails within those ACEC's would be rehabilitated and closed, which would fully protect the relevant and important values from possible degradation resulting from OHV activities. In the remaining potential ACEC's, which currently have recognized roads, OHV activities would be limited to specifically designated roads and trails and would result in no OHV activities off these routes. This designation would provide long-term protection for the relevant and important values from degradation caused by cross-country OHV use.

Class I and II VRM in ACEC's containing high scenic values would provide guidance for project developments, which would result in relatively stringent to complete protection of the scenic relevant and important values. In other areas, Class III VRM would provide adequate guidance and protection.

Although there would be no ACEC designation for the Owyhee NWSR corridor, management of the NWSR would have an overall long-term cumulative beneficial impact to types of ACEC values. Retention of the designation of 186 miles of the Owyhee River as an NWSR maintains withdrawal of these reaches from mineral entry and provides other regulations of mineral activity, which precludes most adverse impacts associated with mineral exploration and development. The designation has also resulted in vehicle access limitations, thereby limiting impacts associated with this activity. Because visitor use is projected to increase in all river corridors regardless of designation, some adverse impacts on the relevant and important values could occur with camping and incidental hiking activities. However, these impacts are not anticipated to be significant due to the large area available for hiking and camping and because they are addressed in the river plan. Interim management of the administratively suitable Owyhee River Below the Dam study river would provide priority management for the influx of recreational activities anticipated in this area and would help protect relevant and important values. The management of administratively suitable rivers, where they coincide with ACEC's, would provide enhanced, priority management for the relevant and important values.

Areas remaining available to rights-of-way could experience short-term and potentially long-term adverse impacts on relevant and important values of a botanical, scenic, and wildlife nature. Ground disturbance, depending on topography and soils, could cause erosion, and disturbed sites could be invaded by exotic plant species. In areas occupied by special status plants, exotic plant invasion could be detrimental to the native populations. Exotic plants would also potentially alter the composition of botanical reference areas. Additionally, overhead rights-of-way would adversely affect scenic values and potentially raptor populations. All ACEC's would be avoidance areas except for those designated exclusion areas. Four areas, Leslie Gulch, North Fork Malheur River, Jordan Craters, and Little Whitehorse Creek Exclosure, would be closed to new rights-of-way, and portions of Owyhee Views would exclude rights-of-way. No impacts would occur to the areas where rights-of-way are excluded.

In all designated ACEC's except for one segment of the Oregon Trail where plant values are not recognized as an integral part of the ACEC, plant collections would be limited, with removal of plants regulated and minimized in an effort to maintain populations. A long-term beneficial impact would be anticipated to both individual species and plant community values.

Conclusion: The overall cumulative long-term impact on the areas proposed to be ACEC's is projected to be beneficial. Four areas with identified relevant and important values would not be designated as ACEC's and would therefore not receive priority for special management attention as a result of ACEC designation. They would remain open to many public land uses unless restricted under other management guidance as outlined in this alternative. The overall impact may be adverse in these undesignated areas, except for the Owyhee River NWSR and potential Three Forks ACEC/RNA area where management for river values fully complements management for the ACEC values and for Whitehorse Basin ACEC area which would be managed as part of the conservation plan for Lahontan cutthroat trout which generally complements management for the ACEC values. Special management actions that mitigate effects of adverse impacts would be implemented for activities within ACEC's, and priority for management would be extended to the areas designated as ACEC's.

The ACEC objective would be met for an adequate representation of the relevant and important values in most areas.

Summary of Impacts

The cumulative long-term benefits would be greatest under management proposed for Alternatives D and D2 because these alternatives generally would provide the most extensive and most restrictive management for areas identified with relevant and important values,

with full protection provided from minerals exploration and development in Alternative D2. The intent of the "Federal Land Policy and Management Act" (FLPMA) to protect and preserve ACEC's would be fully met in these alternatives. Alternative A would provide some management of the relevant and important values in minimally designated ACEC's. Alternatives C and Proposed RMP generally would provide adequate long-term cumulative protection for an adequate representation of an area's relevant and important values. In the areas where relevant and important values have been identified but where ACEC designation is not recommended for that alternative, the area would generally remain open to whatever activities are recommended. For example, a number of areas would not be recommended for ACEC status in Alternatives A and/or D and D2. These areas would remain open to all mineral exploration and development activities unless limited in those areas through other management guidance in that alternative. Likewise, undesignated areas would remain open to cross-country OHV travel and to all rights-of-way activities unless recommended limited or closed as a part of other management guidance in the specific alternative. For undesignated areas, focus on management of the relevant and important values would occur if additional management is necessary to protect those values. In the case of the existing Owyhee River ACEC, management under the current river plan for the congressionally designated NWSR fully protects all values identified for the ACEC, and ACEC designation does not appear to be necessary in order to provide priority protection for the values. Alternative E would not provide the necessary protection for two areas where relevant and important values have been identified.

Wild and Scenic Rivers

Objective: *Protect and enhance outstandingly remarkable values (ORV's) of designated national wild and scenic rivers (NWSR's), and provide interim protection of ORV's of rivers found suitable for inclusion in the national wild and scenic river system (NWSRS) until Congress acts.*

Assumptions for analysis purposes: For the purpose of this Proposed Southeastern Oregon Resource Management Plan/Final Environmental Impact Statement (PSEORMP/FEIS) not withstanding the Oregon District Court's opinion, orders, and decisions associated with livestock management within the Main, West Little, and North Fork Owyhee NWSR's, it is assumed that management descriptions (Chapter 3) and the analysis in this chapter of those descriptions for Alternatives A, B, C, and D of these NWSR's do not change from what is described in the Draft SEORMP/EIS document. Management descriptions and the analysis of Alternatives D2, E, and the Proposed RMP incorporate management prescriptions which, at a minimum, meet the District Court's opinion and order.

Alternative D recommends designation of all eligible rivers whether or not they were found suitable. Although BLM is limited by the NWSRA to recommending only eligible rivers determined to be suitable, Alternative D was formulated to display effects of wild and scenic river protection on all rivers found eligible. Suitability reports for each of the 22 eligible study rivers/streams are located at the Vale District Office.

It is assumed that any new national designation would attract additional visitors to the area.

Congressionally Designated Owyhee River System

Common to all alternatives: Overall, long-term benefits to the ORV's would continue since the management outlined in the PSEORMP/FEIS is a continuation of implementation of the river management plan which provides protection and enhancement of ORV's. For example, management of recreation uses within the Owyhee River Complex SRMA which is outlined in Chapter 3 across all alternatives is consistent with the river plan management for recreation. Therefore, since no new management is proposed within the river corridors, no further analysis of recreation impacts to Owyhee River ORV's is necessary.

New proposals within some alternatives of this plan (such as riparian/aquatic management based on the science of the Interior Columbia Basin Ecosystem Management Project (ICBEMP), ACEC designations, and wild horse management) and land use allocation issues of implementing the river plan (Deary Pasture livestock grazing exclusion, Birch Creek Historic Ranch leasing) may affect ORV's or other resource values within the river corridors and is addressed under the alternative. Also refer to the specific section in Chapter 4 for each ORV (such as wildlife, recreation).

Alternative A

Impacts: In order to meet riparian/wetland area management objectives, large amounts of fencing may be required within or along the river corridor boundaries to exclude livestock. The fencing could lead to impacts to the scenic, recreation and wildlife ORV's. It can create negative visual impacts to form, line and color of the landscape. Recreation would be negatively impacted from the reduced scenic quality and the barriers fences create to a primitive and unconfined recreation experience. Wildlife impacts would include increased likelihood of some unavoidable disruption of bighorn sheep movement, increased vulnerability to predation, and injury or death due to collision or entanglement. Variable lengths of fencing could be implemented such as short gaps which would have fewer impacts, and substantial segments of several miles or more which would adversely impact ORV's. Mitigation such as topographic and vegetative screening, fence post colors that blend with the landscape, rock walls (Basque style) for short gaps, and restrictions on modes of access for fence construction and maintenance would have to be implemented to offset impacts. Since WSA's overlap portions of the river corridor, these fencing actions would also have to meet WSA IMPLWR. Long-term benefits of improved riparian vegetation would help protect and enhance the scenic, wildlife, and recreational ORV's. Improved and increased riparian vegetation would improve scenic quality and wildlife habitat, thus enhancing wildlife dependent on this type of vegetation. Recreation would be protected and enhanced by improved scenic quality and wildlife viewing opportunities.

The area known as Deary Pasture would be permanently closed to livestock grazing; therefore, there could be no impacts as a result of this activity on ORV's.

Application for livestock grazing would be allowed on the range/pasture land and corrals of the acquired properties known as Birch Creek Historic Ranch thus creating potential impacts to the scenic and recreation ORV's. Scenic and recreation values would be affected by increases in grazing impacts such as cropped appearance of vegetation, trailing, potential terracing, and direct conflicts with recreation use.

ORV's at Birch Creek Historic Ranch would continue to be protected under concessionaire management as stipulated through a lease agreement with BLM. Concessionaire management at Birch Creek Historic Ranch would take BLM out of direct management control and may impede response to ORV impacts as they arise, thus increasing potential for short-term and long-term impacts. Potential increases in recreation use could impact ORV's and require use restrictions, thus potentially impacting the recreation ORV.

Adding 100 acres to WSA's Lower Owyhee Canyon (OR-3-110) and Owhyee Breaks (OR-3-59) which are also within the main Owyhee River corridor, but outside of the 0.25-mile mineral withdrawal, would have a positive effect on management of ORV's. Benefits would include additional protective management measures based on the IMPLWR (such as on mining activities) in support of protecting and enhancing ORV's.

Conclusion: The objective would be met under this alternative. Impacts to ORV's from meeting riparian/wetland area management objectives would have to be mitigated so the benefits would outweigh the impacts. The scenic and recreation ORV's at the Birch Creek Historic Ranch would likely receive impacts from livestock grazing though not significant. A concessionaire would manage the ranch under lease conditions. Some short-term and

long-term impacts to ORV's could occur since BLM would not have on site presence. With appropriate restrictions on recreation activities employed as needed to protect ORV's, adverse cumulative impacts to ORV's are not expected. ORV's at Birch Creek Historic Ranch have the greatest potential to receive cumulative impacts by human and livestock use, however management prescriptions would moderate these impacts.

Alternative B

Impacts: Livestock grazing in that portion of the Owyhee River known as the Deary Pasture would continue to be withheld until potential impacts to ORV's and other resource values are mitigated; therefore, ORV's would continue to be protected and enhanced.

Livestock grazing impacts at Birch Creek Historic Ranch would be the same as described in Alternative A.

BLM would continue to develop partnerships with organizations and agencies to rent the ranch facilities for science education camps, research work, etc., which would help protect and enhance ORV's through inventories, monitoring, and other research work. BLM would also pursue the feasibility of renting the buildings to the general public which would enhance the recreation ORV by providing a new opportunity for visitors.

Conclusion: The objective would be met under this alternative. If grazing term permits are issued at the Birch Creek Historic Ranch, impacts to the scenic and recreation ORV's would likely occur. It would be difficult to manage grazing within these portions of the canyon in a manner that would still protect and enhance the ORV's. Management of the facilities at the ranch would not change until BLM determines the feasibility of renting the cabins to the public. With appropriate restrictions on recreation activities employed as needed to protect ORV's, adverse cumulative impacts to ORV's are not expected are not anticipated.

Alternative C

Impacts: Since management options under the 1993 "Owyhee NWSR Managemeant Plan" would allow for a combination of fencing, herding, season of use changes, reductions, etc., impacts to ORV's from meeting watershed-level management objectives to moderate livestock use would be the same as described in Alternative A, except that negative impacts would be to a lesser extent because of the potential for less fencing, and positive impacts would also include improvement of upland range health.

Grazing impacts in the Deary Pasture area would be the same as described in Alternative A.

Grazing, as proposed for the Birch Creek area, could be used to help enhance wildlife forage. A small amount of authorized horse and/or cattle grazing could also help to maintain the historic landscape and allow for interpretive opportunities. Scenic and recreation ORV's may be temporarily and locally impacted by grazing. However, these impacts should be minimal because the grazing use would be closely controlled by temporary authorizations that could be modified or cancelled at BLM's discretion.

Public rental of certain facilities at the ranch would help to enhance the recreation ORV by allowing the public to experience the ranch facilities and some of the history firsthand. The cultural ORV's would be protected by controls on this new use. The wildlife ORV may receive impacts in the way of harassment and trampling of habitat from increased recreation use. If impacts to wildlife occur, appropriate management would be implemented to restrict recreation use.

Designating the Owyhee Views ACEC may assist in protecting ORV's by reducing or eliminating potential off-site impacts that may affect the river corridor.

Impacts from WSA additions would be the same as described in Alternative A.

Conclusion: The objective would be met under this alternative. Impacts to ORV's from meeting riparian/wetland area management objectives would have to be mitigated so the benefits would outweigh the impacts. This alternative provides protection and some enhancement of the ORV's within the Birch Creek Historic Ranch from livestock grazing impacts. BLM-managed public rental of the ranch facilities would allow visitors more opportunity to experience the historic ranch. Controls on this new use would be implemented to protect the cultural and wildlife ORV's. With appropriate restrictions on recreation activities employed as needed to protect ORV's, adverse cumulative impacts to ORV's are not anticipated.

Alternative D

Impacts: Impacts to ORV's from meeting watershed-level management objective to exclude livestock use would be essentially positive because of little or no fencing. Long-term benefits of improved riparian and upland vegetation would protect and enhance the scenic, wildlife and recreational ORV's (refer to Alternative A for a description of the benefits).

Grazing impacts in the Deary Pasture area would be the same as described in Alternative A.

Since Birch Creek Historic Ranch would be closed to grazing, the potential grazing impacts to the ORV's would be eliminated. Although the impacts are the same, scenic and recreation values would be protected.

The facilities would be available to nonprofit groups providing environmental education camps, science camps, research stations, and similar activities and uses which could protect and enhance ORV's. ORV's, such as recreation, cultural and wildlife, could benefit from the work the groups would do through inventories, monitoring, outreach, and management. Examples include excavation and recordation of archaeological sites, teaching participants about low impact camping techniques, NWSR management, WSA's, and other resources and programs. Participants could perform bird counts and inventories or other wildlife projects within the river corridor. However, this action would limit the recreation opportunities at the ranch since the general public would not be allowed to rent the facilities.

Effects from ACEC designations would be the same as described in Alternative C.

Impacts from WSA additions would be the same as described in Alternative A.

Conclusion: The objective would be met under this alternative. Impacts to ORV's from projects designed to meet riparian/wetland area management objectives would have to be mitigated so the benefits would outweigh the impacts. This alternative provides protection and enhancement of the ORV's within the Birch Creek Historic Ranch from livestock grazing impacts. The recreation opportunity of renting the cabins at the ranch would be foregone. This alternative would not create any cumulative impacts to ORV's. With appropriate restrictions on recreation activities employed as needed to protect ORV's, adverse cumulative impacts to ORV's are not anticipated.

Alternative D2

Impacts: The exclusion of livestock grazing on public lands throughout the three NWSR's management corridors, and without exclusion fencing possibly occurring within the management corridors, would provide short- and long-term benefits of improved riparian and upland vegetation which would protect and enhance the scenic, wildlife and recreational ORV's (refer to Alternative A for a description of the benefits).

Since no livestock grazing would occur on public land, small amounts of fencing may be installed by private landowners within the river corridors on private land to allow for continued grazing on that land. This small amount of fencing would have impacts to scenic, recreation and wildlife ORV's on approximately 4 percent of the NWSR system corridor. These impacts would be the same as described in Alternative A. Adverse impacts to scenic quality would occur on abutting public lands at these site-specific locations.

Scenic and certain recreational values at Birch Creek Historic Ranch would be enhanced without the presence of grazing livestock. However, the historic cultural ORV of the ranch would be impacted by the inability to provide for certain levels of livestock grazing as a reflection of the ranch's historic past as a working ranch. Other impacts and uses at the Birch Creek Ranch would be as described under Alternative D.

Effects from Owyhee Views ACEC designation would be the same as described in Alternative C.

Impacts from WSA additions would be the same as described in Alternative A.

Conclusion: The objective would be met under this alternative. This alternative provides protection and enhancement of the ORV's throughout the three NWSR's management corridors from livestock grazing impacts. The recreation opportunity of renting the cabins and displaying historic cultural livestock grazing activities at the Birch Creek Historic Ranch would be foregone. With appropriate restrictions on recreation activities employed as needed to protect ORV's, adverse cumulative impacts to ORV's are not anticipated.

Alternative E

Impacts: Impacts to scenic, recreation, and cultural ORV's from reduced wildfire management could be significant. Frequent wildfire would cause a decline in vegetation diversity and health and require increased efforts to control invasive weeds to protect scenic and wildlife ORV's. Frequent fire may also accelerate soil erosion. Wildfire frequency and extent in typical bighorn sheep habitat would result in an increase in the availability of grasses and forbs which would slightly benefit bighorn forage. In some areas, this would be expected to improve the quality as well as quantity of bighorn habitat.

Since no livestock grazing would occur on public land, small amounts of fencing may be installed by private landowners within the river corridors on private land to allow for continued grazing on that land. This small amount of fencing would have impacts to scenic, recreation and wildlife ORV's on approximately 4 percent of the NWSR system corridor. These impacts would be the same as described in Alternative A. Adverse impacts to scenic quality would occur at these site-specific locations.

With no grazing authorized under this alternative, impacts to Deary Pasture would be the same as described in Alternative A.

With no grazing authorized under this alternative, ORV's at Birch Creek Historic Ranch would not be threatened by grazing. Scenic and recreation values would be protected from increased impacts. Livestock grazing as an element of the historic cultural values at the ranch would be foregone.

Recreation use, the only public use allowed, would continue to be managed as an ORV and controlled within the NWSR corridor. Therefore, the other ORV's would continue to be adequately protected from recreation use.

Conclusion: The objective would most likely not be met in areas affected by frequent wildfire. Increased invasive weeds mitigation would need to be implemented to protect scenic and wildlife ORV's. Recreation activities would be managed so as to protect other

ORV's. An increase of short- or long-term adverse cumulative impacts to some ORV's could occur due to anticipated more frequent wildfires; otherwise, no adverse cumulative impacts of OHV's would occur.

Proposed RMP

Impacts: BLM would take actions to comply with the Oregon District Court's opinion and order regarding those livestock use "areas of concern," as described in the 1993 "Main, West Little, and North Fork Owyhee National Wild and Scenic Rivers Management Plan," and with any decisions resulting from resolution of litigation.

In order to meet riparian/wetland area management objectives outside of livestock grazing "areas of concern," fencing may be required within or along the river corridor boundaries to exclude livestock. Other actions may include herding, season of livestock use changes, use reductions, etc. The fencing could lead to impacts to the scenic, recreation and wildlife ORV's. It can create negative visual impacts to form, line, and color of the landscape. Recreation could be negatively impacted from the reduced scenic quality and the barriers fences create to a primitive and unconfined recreation experience. Wildlife impacts would include increased likelihood of some unavoidable disruption of bighorn sheep movement, increased vulnerability to predation, and injury or death due to collision or entanglement. Variable lengths of fencing could be implemented such as short gaps which would have fewer impacts, and substantial segments of several miles or more which would adversely impact ORV's. Mitigation such as topographic and vegetative screening, fence post colors that blend with the landscape, and rock walls (Basque style) for short gaps would have to be implemented to offset impacts. Since WSA's overlap portions of the river corridor, these fencing actions would also have to meet the IMPLWR. Herding, season-of-livestock-use changes, and any livestock use reductions within the rivers' corridors would lessen impacts to scenic, recreation and wildlife ORV's. Long-term benefits of improved riparian vegetation would help protect and enhance the scenic, wildlife, and recreational ORV's. Improved and increased riparian vegetation would improve scenic quality and wildlife habitat, thus enhancing wildlife dependent on this type of vegetation. Recreation would be protected and enhanced by improved scenic quality and wildlife viewing opportunities, and, if/where livestock seasons of use change in certain locations, there would be reduced user conflicts between livestock use and those recreationists who desire not to observe evidence of livestock use. This would be accomplished by the reduction of some evidence of livestock grazing during higher recreational use periods within the NWSR management corridors.

With the Deary Pasture area closed to livestock grazing, there would be no livestock grazing impacts along that portion of the NWSR.

Grazing, as proposed for the Birch Creek Historic Ranch area, could be used to help enhance wildlife forage and cover. A small amount of authorized horse and/or cattle grazing could also help to maintain the historic landscape and allow for interpretive opportunities. Scenic and recreation ORV's may be temporarily and locally impacted by grazing. These impacts should be minimal because the grazing use would be closely controlled by temporary authorizations that could be modified or cancelled at BLM's discretion. However, the historic cultural ORV of the ranch would be impacted by the inability to provide for certain levels of livestock grazing as a reflection of the ranch's historic past as a working ranch.

Public rental of certain facilities at the ranch, administered directly by BLM or indirectly by a concessionaire, would help to enhance the recreation ORV by allowing the public to experience the ranch facilities and some of the history firsthand. The cultural ORV's would be protected by controls on this new use. The wildlife ORV may receive impacts in the way of harassment and trampling of habitat from increased recreation use. If impacts to wildlife occur, appropriate management would be implemented to restrict recreation use.

Designating the Owyhee Views ACEC may assist in protecting ORV's by reducing or eliminating potential off-site impacts that may affect the lowermost portion of the Main Owyhee NWSR corridor.

Adding 100 acres to WSA's Lower Owyhee Canyon (OR-3-110) and Owhyee Breaks (OR-3-59), which are also within the main Owyhee River corridor but outside of the 0.25-mile mineral withdrawal, would have a positive effect on management of ORV's. Benefits would include additional protective management measures based on the IMPLWR (such as on mining activities) in support of protecting and enhancing ORV's.

Conclusion: The objective would be met under this alternative. Impacts to ORV's from meeting riparian/wetland area management objectives would have to be mitigated so the benefits would outweigh the impacts. This alternative provides protection and some enhancement of the ORV's within the Birch Creek Historic Ranch from livestock grazing impacts. BLM-managed public rental of the ranch facilities would allow visitors more opportunity to experience the historic ranch. Controls on this new use would be implemented to protect the cultural and wildlife ORV's. With appropriate restrictions on recreation activities employed as needed to protect OHV's, this alternative would not create any adverse cumulative impacts to ORV's.

Summary of Impacts

Impacts to ORV's from meeting riparian/wetland area management objectives would be the greatest under Alternative A, and the least under Alternatives D2 and E. There would be less impacts to ORV's in meeting riparian/wetland area management objectives under Alternatives C and the Proposed RMP than under Alternative A. Under all alternatives there would be no impacts to ORV's as a result of livestock grazing actions in the Deary Pasture area. Alternatives A and B introduce or continue management actions that impact ORV's at Birch Creek Historic Ranch. Continuing to allow livestock grazing in Alternatives A and B may not protect and enhance scenic and recreation ORV's. Alternative A removes BLM from direct management of the Birch Creek Historic Ranch, which could reduce response time on protecting ORV's. Alternative E allows for frequent wildfires and would require increased efforts to control invasive weeds. Alternatives D2 and the Proposed RMP provide for higher levels of ORV protection at the ranch. However, Alternative C would provide a more balanced approach to protecting and enhancing all ORV's at Birch Creek Historic Ranch. The recreation ORV would be enhanced at the ranch because the cabins would be available to the public for overnight rental. Alternatives D and D2 would not allow grazing for administrative or interpretive purposes, or cabin rental. Cumulative impacts to ORV's would be expected to occur under Alternative E from impacts of wildfires; otherwise, adverse cumulative impacts to ORV's are not anticipated to occur.

Study Rivers

Introduction: To be eligible for inclusion as a component of the system, a river or river segment must be free-flowing and possess at least one ORV. These two congressionally established criteria are used to judge changes in resource conditions, particularly adverse changes. If resource management activities inherent to a specific alternative would alter flow characteristics of a river segment, or degrade the segment's river-related ORV's, the change created would be adverse.

None of the alternatives include BLM resource management activities that would adversely affect the free-flowing condition of the 22 rivers. Segments found unsuitable would be managed to meet fish and riparian objectives which would maintain the free-flowing condition.

Table 4-3 shows, by alternative, probable short-term changes in the ORV conditions of each of the 22 study river segments evaluated if NWSR management is not applied. The rationale

supporting these determinations of condition change is presented in Appendix V. Administrative suitability recommendations by alternative, including the tentative classification by segment and river miles, are displayed in Chapter 3 (Table 3-13). Suitability assessments may be obtained at the Vale and Burns District Offices. The impacts to ORV's within each study river's approximately 0.5-mile-wide corridor are described below.

Table 4-3.—Probable changes in outstandingly remarkable value (ORV) conditions by alternative

River	Highest tentative classification	ORV's	Probable changes by alternative [1]						
			A	B	C	D	D2	E	PRMP
Malheur Resource Area									
Cottonwood, M1 [2]	Scenic-upper	Fish	0	0	0	0	0	+	0
Black Canyon, M6	Wild	Botanic	+	0	+	+	+	+	+
SF Indian, M8	Wild	Scenic	0	0	+	+	+	0	+
Canyon, M9	Wild	Fish	-	-	0	0	0	+	0
Malheur, M12	Recreational	Recreation	-	0	0	0	0	+	0
		Wildlife	0	0	0	0	0	+	0
F Carter, M14	Wild	Fish	0	0	0	0	0	0	0
Dry, M15	Wild	Geology	-/0[3]	-/0	+	+	+	+	+
		Fish	-/0	-/0	+	+	+	+	+
		Wildlife	-/0	-/0	+	+	+	+	+
		Hydrology	-/0	-/0	+	+	+	+	+
Owyhee, M16	Recreational	Scenic	-	-	+	+	+	+	+
		Recreation	0	0	+	+	+	0	+
		Geology	0	0	0	0	0	0	0
		Fish	-	0	0	0	0	0	0
		Wildlife	0	0	+	+	+	+	+
		Botanic	0	0	+	+	+	+	+
NF Malheur, M17	Wild-upper, recreational-lower	Scenic	+/0	0	+/0	+/0	+/0	+	+/0
		Recreation	0	0	0	0	0	0	0
		Fish	+/0	0	+/0	+/0	+/0	+	+/0
		Wildlife	+/0	0	+/0	+/0	+/0	+	+/0
Jordan Resource Area									
Whitehorse, J1	Wild	Scenic	0	0	0	+	0	+	0
		Fish	0	0	0	0	0	0	0
Doolittle, J2	Scenic-upper, wild-lower	Fish	0	0	0	0	0	0	0
		Cultural-prehistoric	0	0	0	0	0	0	0
Little Whitehorse, J4	Wild-middle, scenic-lower	Fish	0	0	0	0	0	0	0
Cottonwood, J5	Wild	Fish	0	0	0	0	0	0	0

Table 4-3.—Probable changes in outstandingly remarkable value (ORV) conditions by alternative

River	Highest tentative classification	ORV's	Probable changes by alternative [1] A	B	C	D	D2	E	PRMP
Willow, J6	Scenic-upper, recreational-lower	Recreation	+	0	+	+	+	-	+
		Fish	0	0	0	0	0	-	0
		Cultural-prehistoric	+	0	+	+	+	-	+ Cul-
tural-historic	+	0	+	+	+	-	+		
		Botanic	+	0	+	+	+	-	+
		Hydrologic	0	0	0	0	0	0	0
McDermitt, J7	Wild-upper, scenic-lower	Scenic	0	0	0	+	+	+	0
		Cultural-historic	0	0	0	0	0	0	0
NF McDermitt, J8	Wild	Scenic	0	0	0	+	+	+	0
Sage, J9	Wild	Fish	0	0	0	0	0	0	0
Antelope, J10	Wild	Fish	0	0	0	0	0	0	0
Indian, J14	Wild	Fish	0	0	0	0	0	0	0
Oregon Canyon, J15	Wild	Scenic	0	0	0	+	+	+	0
		Recreation	+	0	+	+	+	0	+
Rattlesnake, J17	Wild	Recreation	-	0	+	+	+	+	+
Antelope, J19	Wild	Scenic	0	0	0	+	+	+	0
		Recreation	+	0	+	+	+	+	+
		Cultural-prehistoric	0	0	0	0	0	0	0

[1] + = beneficial; - = adverse; 0 = none or negligible (refer to Appendix V for rationale).
[2] "M" and "J" numbers are inventory numbers.
[3] Upper river segment/lower river segment.

Alternative A

Eligible and administratively suitable impacts: The Owyhee River Below the Dam (M-16) is the only administratively suitable river. If the ACEC mineral withdrawal is adopted, ORV's would receive protection from potential mineral development and exploration activities. Until the withdrawal is implemented, short-term impacts from mining activities may occur, especially to the scenic ORV.

Since this alternative requires the most fencing to exclude livestock in order to meet riparian/wetland area objectives, impacts to scenic, recreation, and wildlife ORV's would likely occur, but would have to be mitigated. The long-term benefits of improved riparian vegetation would protect ORV's.

The OHV and VRM designations would have a positive effect on the ORV's of Owyhee River Below the Dam. Also, the proposed ACEC and its management prescriptions are a positive benefit to the ORV's and recreational classification.

The scenic ORV would likely be adversely impacted should future utility corridor developments occur.

Eligible but not administratively suitable impacts: The ORV's of the study rivers that were determined eligible but not administratively suitable would be maintained under most management objectives. The geology and hydrology ORV's of that portion of Dry Creek (M-15) outside the WSA would be subject to adverse impacts from activities associated with mining. The potential for occurrence is high for gold and/or mercury resources within Dry Creek. Depending on the type of mining, impacts could include removal of vegetation, soil, and gravel, and altering of the stream channel or rock surfaces. As stated in the mining scenarios, surface disturbance from gold mine exploration could range from 0.01 acres per project to 4.2 acres per project, while surface disturbance from development could range from 4 acres per operation to 790 acres per open pit mine.

Canyon Creek (M-9), Malheur River (M-12), Dry Creek (M-15), and Rattlesnake Creek (J-17) may have short-term impacts from livestock grazing for fish, wildlife, recreation, and scenic ORV's. These impacts could include reduced riparian and upland vegetation and conflicts between livestock and recreationists. Long-term impacts would be insignificant due to adaptive management.

Conclusion: For the Owyhee River Below the Dam, the only segment found administratively suitable, the objective would be met under this alternative. Impacts to ORV's from riparian management would have to be mitigated so benefits outweigh impacts. The ACEC, SRMA, OHV and VRM proposals are consistent with NWSR management under a recreation classification and would protect most of the ORV's. Interim management of Owyhee River Below the Dam under the recreational river classification objectives and standards would protect the river's ORV's. Other than additional rights-of-way development within the existing utility corridor, cumulative adverse impacts would not be expected to occur to ORV's. In general, ORV's of eligible but not administratively suitable streams would be protected. The high potential for gold and/or mercury occurrence within Dry Creek has the greatest potential to reduce this stream's ORV's should mineral development occur.

Alternative B

Eligible and administratively suitable impacts: There would be no change to the ORV's of the section of the North Fork Malheur River (M-17) found administratively suitable. Public lands along the study river segment would continue to be protected by BLM's NWSR interim management until Congress acts.

Eligible but not administratively suitable impacts: The ORV's of all the other study rivers that were determined eligible would be protected under BLM's NWSR interim management and other management objectives until suitability is assessed.

The geology and hydrology ORV's of that portion of Dry Creek outside the WSA would be adversely affected by mining activities as described in Alternative A.

The ORV's of Canyon Creek and Dry Creek may have adverse impacts from livestock grazing in the short term until adaptive management is implemented. The impacts would be of the same type as described in Alternative A.

The scenic ORV of Owyhee River Below the Dam may be adversely impacted by additional utility corridor development and mining activity.

Conclusion: For the North Fork Malheur River, the only segment found administratively suitable, the objective would be met under this alternative. In general, ORV's for all eligible river segments would be protected until suitability is determined, with the possible exception of geology and hydrology of Dry Creek, and scenic of the Owyhee River Below the Dam. However, under interim management there would be no long-term cumulative adverse impacts to ORV's allowed.

Alternative C

Eligible and administratively suitable impacts: The ORV's of Owyhee River Below the Dam, Dry Creek, North Fork Malheur River, and Antelope Creek that have been determined to be administratively suitable would be protected. The BLM's NWSR interim management would be in effect on these four streams until Congress acts. If Congress designates these streams as NWSR's, Dry and Antelope Creeks and the upper segment of North Fork Malheur River (totaling 7,788 acres) would be withdrawn from mineral entry thus eliminating any potential future impacts of minerals activities to the ORV's. If the ACEC mineral withdrawal is adopted, Owyhee River Below the Dam ORV's would receive protection from potential mineral development and exploration activities. Until the withdrawal is implemented, short-term impacts from mining activities may occur, especially to the scenic ORV.

Since management options would allow for a combination of livestock associated fencing, herding, season of use changes, reductions, etc., impacts to ORV's from meeting watershed-level management objectives to exclude livestock use would be the same as described in Alternative A, except that negative impacts would be to a lesser extent because of the potential for less fencing, and positive impacts would also include upland vegetation within the interim management corridor.

ACEC management prescriptions for Dry Creek Gorge and North Fork Malheur ACEC's would help protect ORV's for these rivers.

Eligible but not administratively suitable impacts: The ORV's of the 18 rivers determined eligible but not administratively suitable would be protected under other management objectives. Management prescriptions of ACEC's and/or affecting SRMA's, limitations on OHV use, and other management actions would help to protect these ORV's. Some of the ORV's would also be protected from mining activities if the mineral withdrawals proposed for ACEC's that overlap stream segments are approved and implemented.

Conclusion: For those four rivers found to be administratively suitable, the objective would be met under this alternative. Impacts to ORV's from riparian management would have to be mitigated so benefits outweigh impacts. The BLM's NWSR interim management, as well as other resource management objectives, would protect ORV's of the four administratively suitable streams, and cause no cumulative adverse impacts to their ORV's. The ORV's of the 18 streams that were determined eligible but not administratively suitable would also receive adequate protection through other resource management objectives.

Alternative D

Eligible and administratively suitable impacts: The ORV's of all 22 administratively suitable rivers would be protected through BLM's NWSR interim management and other proposed resource management objectives. If Congress designates all of these streams as components of the NWSR System, 18 streams with a wild classification (encompassing 33,667 acres) would be withdrawn from mineral entry thus eliminating any potential future threat to the ORV's and wild classification. Some of these same streams would be protected from mining impacts if proposed ACEC withdrawals are approved and implemented, but would remain vulnerable to activities associated with locatable minerals until such withdrawals occur.

Impacts to ORV's from meeting watershed-level management objective to exclude livestock use would be essentially positive because of little or no fencing. Long-term benefits of improved riparian and upland vegetation would protect and enhance the scenic, wildlife, and recreational ORV's.

Conclusion: For purposes of analysis under this alternative, all 22 eligible rivers were found to be administratively suitable. The objective would be met under this alternative. The ORV's and tentative classifications of administratively suitable streams would be protected during the interim until Congress decides on their NWSR status, except where locatable mineral actions would be able to occur in the absence of a locatable minerals withdrawal. This alternative would not create any cumulative adverse impacts to ORV's of the four administratively suitable study rivers.

Alternative D2

Eligible and administratively suitable impacts: The ORV's of Owyhee River Below the Dam, Dry Creek, North Fork Malheur River, and Antelope Creek that have been determined to be administratively suitable would be protected. The BLM's NWSR interim management would be in effect on these four streams until Congress acts. If Congress designates these streams as NWSR's, Dry and Antelope Creeks and the upper segment of North Fork Malheur River (totaling 7,788 acres) would be withdrawn from mineral entry thus eliminating any potential future impacts of minerals activities to the ORV's. If the ACEC mineral withdrawals are adopted, ORV's associated with Owyhee River Below the Dam and Dry Creek study rivers would receive protection from potential mineral development and exploration activities. Until the withdrawal is implemented, short-term impacts from mining activities may occur, especially to the scenic ORV.

With the elimination of livestock grazing within a 0.5-mile wide interim management corridor of each the four administratively suitable study rivers segments, adverse impacts possibly associated with livestock grazing to ORV's would be avoided.

ACEC management prescriptions for Dry Creek and North Fork Malheur ACEC's would help protect ORV's for these rivers. Congressional designation of NWSR would likely cause accelerated recreational use and associated impacts to certain ORV's, such as cultural, wildlife, and fish. Such concerns would be addressed in required NWSR management plans developed following any congressional designation.

Eligible but not administratively suitable impacts: The ORV's of the 18 rivers determined eligible but not administratively suitable would be protected under other management objectives. ACEC and SRMA proposals, limitations on OHV use, and other management actions would help to protect these ORV's. Some of the ORV's would also be protected from mining activities if the mineral withdrawals proposed for ACEC's that overlap stream segment are approved and implemented.

Conclusion: For those four rivers found to be administratively suitable, the objective would be met under this alternative. The BLM's NWSR interim management, as well as other resource management objectives, would protect ORV's of the four administratively suitable streams. The ORV's of the 18 streams that were determined eligible but not administratively suitable would also receive adequate protection through other resource management objectives. This alternative would not create any cumulative impacts to ORV's.

Alternative E

Eligible but not administratively suitable impacts: Though none of the eligible rivers were determined to be administratively suitable, most of the ORV's would be maintained under this alternative. There would be a threat to some ORV's due to the increased occur-

rence or accumulative impact of wildfires. Increased efforts of control of invasive weeds would need to be accomplished as a result of increased wildfire impacts.

Some ORV's would receive impacts from unmanaged recreation activities. Types of recreation-related impacts could include vandalism and theft of cultural sites, trampling of plant sites that are botanic ORV's, and loss of specific recreation ORV's due to overuse or changes in type of use/activities. These impacts would most likely occur along certain segments of rivers receiving higher concentrations of recreation use.

Conclusion: With no rivers found to be administratively suitable, the objective would most likely not be met in areas affected by frequent wildfires and in areas receiving heavy and unmanaged recreation use. Many of the ORV's would be protected by elimination of livestock grazing and mining and by other types of management prescribed in this alternative. However, some ORV's could be adversely impacted in the long term by the proposed lack of wildfire and recreation management. Adverse cumulative impacts would occur in localized areas where recreationists concentrate and where wildfire is frequent; but may expand beyond those areas as recreation use and wildfires increase. Increased efforts of control of invasive weeds would need to be accomplished as a result of increased wildfire impacts.

Proposed RMP

Eligible and administratively suitable impacts: The ORV's of Owyhee River Below the Dam, Dry Creek, North Fork Malheur River, and Antelope Creek that have been determined to be administratively suitable would be protected. The BLM's NWSR interim management would be in effect on these four streams until Congress acts. If Congress designates these streams as wild classified segments under the NWSRA, Dry and Antelope Creeks and the upper segment of North Fork Malheur River (totaling 7,788 acres) would be withdrawn from mineral entry thus eliminating any potential future impacts of minerals activities to the ORV's. If the ACEC mineral withdrawal is adopted, Owyhee River Below the Dam ORV's would receive protection from potential mineral development and exploration activities. Until the withdrawal is implemented, short-term impacts from mining activities may occur, especially to the scenic ORV.

In order to meet riparian/wetland area management objectives, livestock management actions including fencing, herding, season of livestock use changes, and use reductions may be required within or along the river corridor boundaries to manage livestock. Fencing could lead to impacts to the scenic, recreation and wildlife ORV's. It can create negative visual impacts to form, line, and color of the landscape. Recreation would be negatively impacted from the reduced scenic quality and the barriers fences create to a primitive and unconfined recreation experience opportunity along that portion of Dry Creek within Dry Creek WSA. Variable lengths of fencing could be implemented such as short gaps which would have fewer impacts, and substantial segments of several miles or more which would adversely impact ORV's. Mitigation such as topographic and vegetative screening, fence post colors that blend with the landscape, rock walls (Basque style) for short gaps, and restrictions on modes of access for fence construction and maintenance would have to be implemented to offset impacts. Since WSA's overlap portions of some of the river corridors, fencing actions would also have to meet IMPLWR. Herding, season of livestock use changes, and any livestock use reductions within the rivers' corridors would lessen impacts to scenic, recreation and wildlife ORV's. Long-term benefits of improved riparian vegetation would help protect the scenic, wildlife and recreational ORV's. Recreation would be protected by improved scenic quality and wildlife viewing opportunities, and, if/where livestock seasons of use change in certain locations, there would be reduced user conflicts between livestock use and those recreationists who desire not to be affected by evidence of livestock use. This would be accomplished by the reduction of some evidence of livestock grazing during higher recreational use periods within the study stream's interim management corridors. This alternative would not create any cumulative impacts to ORV's. However, until a

locatable minerals withdrawal is implemented, the interim management river corridors would remain vulnerable to surface disturbing minerals activities.

ACEC management prescriptions for Dry Creek and North Fork Malheur ACEC's would help protect ORV's for these rivers. Congressional designation of NWSR would likely cause accelerated recreational use and associated impacts to certain ORV's, such as cultural, wildlife, and fish. Such concerns would be addressed in required NWSR management plans developed following any congressional designation.

Eligible but not administratively suitable impacts: The ORV's of the 18 rivers determined eligible but not administratively suitable would be protected under other management objectives. Management prescriptions for ACEC's and/or affecting SRMA's, limitations on OHV use, and other management actions would help to protect these ORV's. Some ORV's would also be protected from mining activities if the mineral withdrawals proposed for ACEC's that overlap stream segments are approved and implemented.

Conclusion: For those four rivers found to be administratively suitable, the objective would be met under this alternative. Impacts to ORV's from riparian management would have to mitigated so benefits outweigh impacts. The BLM's NWSR interim management, as well as other resource management objectives, would protect ORV's of the four administratively suitable streams. The ORV's of the 18 streams that were determined eligible but not administratively suitable would receive adequate protection through other resource management objectives. This alternative would not create cumulative adverse impacts to ORV's, except they would remain subject to possible surface disturbances associated with locatable minerals activities until locatable minerals withdrawals are accomplished.

Summary of Impacts

Alternatives A, B, C, D, D2, and Proposed RMP would protect ORV's of the proposed administratively suitable streams described under each of those alternatives. In most cases, except in Alternatives A and E, the ORV's of eligible streams not administratively suitable would continue to be protected over the long term under the proposed management of each alternative. In Alternative A, ORV's of that portion of Dry Creek outside the WSA may be impacted in the long term by mining activities. In Alternative E, some ORV's would receive adverse cumulative impacts from unmanaged recreation use and wildfires in localized areas. Alternatives C, D2, and the Proposed RMP recommends four streams as administratively suitable and would protect their ORV's. These four streams would improve the NWSRS. Alternative D proposes the most administratively suitable stream miles (all of the eligible miles) and would protect the ORV's of these streams. Alternative D would likely inundate the NWSRS with streams that are not actually suitable for the designation. ORV's would remain vulnerable to possible surface disturbances associated with locatable minerals activities until locatable minerals withdrawals are accomplished.

Land Adjacent to Wilderness Study Areas

Objective: *BLM-administered land identified in the 1991 "Wilderness Study Report, Oregon" (WSRO) and determined to have wilderness values would be included in adjacent wilderness study areas (WSA's) and managed under the "Interim Management Policy for Land under Wilderness Review" (IMPLWR).*

Alternative A

Impacts: Public land and acquired non-Federal land adjacent to existing WSA's which are identified in the WSRO would be added to the existing WSA's. This would ensure that

wilderness values are adequately managed under the IMPLWR. These proposed additions help to consolidate land of like values for more effective management. Impacts of this action benefit WSA manageability.

Conclusion: The management objective would be met by adding adjacent land to existing WSA's, protecting wilderness values associated with these areas through application of the IMPLWR. No cumulative adverse impacts to wilderness values of acquired lands would be expected to occur.

Alternative B

Impacts: Areas recommended by BLM for wilderness but are presently outside adjacent WSA's would have limited or no measures to protect wilderness characteristics.

Conclusion: This alternative does not provide an opportunity to meet the management objective. Areas that BLM are recommending for wilderness presently adjacent to WSA's would be subject to wilderness values being impaired as limited or no management measures exist to protect wilderness characteristics in these areas. During the life of the plan, any acquired lands would remain subject to possible cumulative adverse impacts to wilderness values from actions such as locatable, leasable and/or saleable minerals activities, new livestock projects and/or altered grazing uses, and motorized vehicle activities.

Alternatives C, D, D2, and E

Impacts and conclusion: Same as Alternative A.

Proposed RMP

Impacts: Public land and acquired non-Federal land adjacent to existing WSA's which are identified in the WSRO would be added to the existing WSA's. This would ensure that wilderness values are adequately managed under the IMPLWR. These proposed additions help to consolidate land of like values for more effective management. Impacts of this action benefit WSA manageability.

Conclusion: The management objective would be met by adding adjacent land to existing WSA's, protecting wilderness values associated with these areas through application of the IMPLWR. No cumulative adverse impacts to wilderness values of acquired lands would be expected to occur.

Summary of Impacts

Adding those areas currently outside WSA's that BLM is recommending for wilderness and as identified in the WSRO into existing WSA's would ensure that wilderness values are adequately protected by management under the IMPLWR. This action applies to Alternatives A, C, D, D2, E, and Proposed RMP. These same areas in Alternative B would not be included in WSA status and threats that would impair wilderness values could occur.

Human Uses and Values

Objective: *Manage public land and pursue partnerships to provide social and economic benefits to local residents, businesses, visitors, and future generations.*

The purpose of this section is to predict the likely social and economic outcomes associated with BLM management alternatives. Outcomes are discussed generally, and the actual range of impact would vary among individuals and businesses based on individual circumstances.

The following discussion provides a useful comparison of the scope and type of effects that can be expected under each of the alternatives.

Impacts identified are based on changes in resource use or availability projected for each alternative. Many of these changes are based on assumptions about the rate of implementation, biological response, and reasonably foreseeable development scenarios. Consult the specific resource sections for assumptions and methodologies used to project changes in resource use.

Two primary methods were used to develop estimates of social and economic effects for each alternative. To address employment and income effects of changing commodity uses, an input-output model (Micro-IMPLAN) for Harney and Malheur Counties was used. Changes in livestock grazing were translated into changes in final demand within the local economy. The same method was attempted for changes in timber harvest; however, the changes were small and the model could not produce meaningful results. These changes were entered into the model and estimates of direct, indirect and induced employment and income resulted. The model calculates the personal income and employment generated by the first transaction and all subsequent transactions as the initial expenditure cycles though the local economy. As an example, miners are directly employed when bentonite/zeolite are sold by Teague Mineral Products. The auto dealer where the mining company purchased a new truck and the accounting firm that does the company's books are indirectly dependent on mining activity. Finally, induced jobs and income are created as the salaries of the truck salesman and the accountant are circulated through the local economy — at the grocery store, the dry cleaners, and the local bank or mortgage company. A single business entity, such as the grocery store, may have income and employment generated through direct, indirect, and induced spending. This is particularly true for retail stores who sell to recreation visitors, guides used by the visitors, and employees of hotels where the visitors stay. Jobs are counted by the model as full- and part-time jobs supported by the level of spending. Malheur County is generally considered a "high leakage county"—this means that many of the goods and services demanded by residents and visitors within the county are not produced in the area and must be provided from outside the county. The result is that the money leaves the county after one or two rounds and no longer generates local employment and income. An example would be gasoline, where only the retail margin stays in the local economy, the remainder leaves the county to pay a distributor located in a larger economy (such as Bend, Portland, or Boise). Direct and total income and employment impacts are discussed. A qualitative discussion of area attractiveness and quality of life was also included to identify possible economic responses of groups such as retirees, tourists, and local residents.

To estimate potential effects on social values an initial list of stakeholders was developed. A narrative identifying potential effects and satisfaction by alternative was developed through discussions by the interdisciplinary team for each group. For purposes of this document, stakeholders were defined as a group of individuals having similar interests or views. Individuals often belong to several stakeholder groups, depending on activity interests (hunting, OHV, birdwatching), employment group (miners, retail trade, high tech), or place of residence (town, rural, nonresident/visitor). These narratives are based on specialist judgment and experience with each of these groups. Additional refinement of this discussion has occurred based on public comment letters and input received at public meetings.

General assumptions: The analysis of social and economic effects examines outcome expected with full implementation of each alternative. Full implementation of all aspects of the alternatives is not anticipated sooner than 15 years and it could take 100 or more years to reach some objectives relating to certain biological conditions. Existing economic and social trends were assumed to continue into the future and influence the outcomes identified in all alternatives. Examples of economic and social trends factored into the analyses include population growth projections, aging of baby-boomers, increasing leisure time, and increas-

ing demand for recreation opportunities. All alternatives were compared to current conditions when changes were determined.

Alternative A

Impacts: The reasonably foreseeable development scenarios in Appendix P detail the expected employment effects associated with a variety of locatable and leasable mineral development types. None of these developments are currently proposed, but proposals could come forward during the life of the plan. Marginal increases in acreages available for leasing result in slightly expanded opportunities for development. Additional acreage would be subject to special stipulations, which could influence but not limit development. There would be slightly decreased opportunities for development of locatable minerals because of closure of specific areas totaling 40,064 acres. Saleable mineral (sand and gravel, aggregate, and decorative rock) extraction is expected to continue at historic levels under Alternative A. An estimated 25 new sites are expected to be developed during the life of the plan. The majority of these sites would be used to replace existing sites that become depleted. Greater than anticipated population growth and infrastructure development would place even higher demands on public land to supply mineral materials. This demand for mineral materials could be met under Alternative A.

Government revenues from mineral activities would continue at approximately current levels with the potential to increase significantly if any of the reasonably foreseeable developments, outlined in Appendix P, come to pass during the life of the plan.

Proposed commercial timber harvest of 220 thousand board-feet would directly create or maintain less than two full-time equivalent jobs. Accurate estimates of income effects and indirect and induced employment effects could not be made given the very small value of these sales relative to the total economic activity. The actual creation of jobs would be spotty and most likely outside the planning area. This is because sales are not expected every year, and most harvesting and processing capacity in the region is located in Baker and Grant Counties. Timber revenues would continue at approximately historic levels during the life of the plan. Price fluctuations in lumber and wood products would cause significant variations. The counties currently receive 5 percent of the revenue generated by public domain timber sales. This revenue counts as an offset to Payments and Lieu of Taxes (PILT). Without timber revenues the counties would likely qualify for slightly higher PILT resulting in no net effect on county revenues.

BLM forage availability is projected to increase by up to 42,058 AUM's in Malheur County over the life of the plan. In Malheur County this would result in an increase of productive capacity of 2.3 percent or an estimated increase of $802,000 in cattle and calf sales. Estimated changes in gross sales for all alternatives have been based on 1996 prices and sales. Direct impacts to personal income would be an increase of $41,400, with a total increase of $63,400 within the planning area. Employment in the livestock industry would increase by about 3.3 jobs, with an estimated increase of 4.6 jobs overall. These increases are small and would likely result in existing proprietors and workers working longer hours, instead of new hires. Historically, livestock prices have varied by as much as 20 percent annually, exerting a much greater impact on ranch income than proposed BLM management activities. As discussed in Chapter 2 the estimated economic impacts were revised downward between the draft and final RMP's based on a change in source data. This revision resulted in larger estimates of livestock inventories and decreased the importance of forage provided on BLM-administered land. Please consult Chapter 2 for a detailed explanation.

Annual collections of grazing fees would increase by up to $56,778, if the fee remains the same for the life of the plan. Congressional action to change the fee structure and/or rate is a possibility during the life of the plan. However, congressional action is beyond the scope of BLM district management and has not been analyzed in this plan. Distribution of these fees is currently as follows: 50 percent to the Range Improvement Fund, 12.5 percent to the State

for distribution to the counties, and 37.5 percent to the U.S. Treasury for general purposes. Range improvement funds are allocated to the district of origin the following year for labor, materials, and final survey and design of range improvements. The 1999 fee was $1.35, the minimum allowed under the legislative formula used to calculate the fee.

An approximate 3.8 percent annual growth in recreation use is projected. Given anticipated use levels, in 20 years the total visitation would exceed 650,000. Employment and income generated by these visitors would be largely dependent on the initiative of local communities and businesses to attract and service these visitors. BLM-managed land and facilities would provide opportunities to meet expected growth in visitation. Demand for OHV use areas and dispersed recreation activities like photography, sightseeing, hunting, and horseback riding would be accommodated on BLM-managed land. Opportunities to increase local economic diversity and resiliency through development of recreation based industries would be supported and enhanced under this alternative.

Proposed land exchanges, sales, and trespass resolutions would change the acres of BLM-managed land in each county. Each acre of net increase or decrease would slightly alter the entitlement acres in each county, thus altering PILT. These changes are expected to be very small given the large acreages currently managed by Federal agencies.

Executive Order 12898, "Federal Actions to Address Environmental Justice in minority and Low-Income Populations," requires that each federal agency "shall make achieving environmental justice part of its mission by identifying and addressing . . . disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low income populations."

No specific cultural practices or resource values were identified as unique to Hispanic, black, or Asian or Pacific Islander populations. Impacts to these ethnic groups are expected to be the same as impacts to the general population.

Native Americans were identified as an ethnic group that may have existing subsistence or cultural practices potentially impacted by BLM management actions. Designations of special management areas that recognize and protect important cultural values include Jordan Craters ACEC/RNA, Castle Rock ACEC, Main Owyhee NWSR, and West Little Owyhee NWSR. Ongoing use of clearances for cultural values prior to projects also recognizes and cultural values of Native Americans. These actions would mitigate any potential impacts.

No disproportionate adverse impacts to low-income populations were identified as a result of actions proposed in this plan. Distribution of impacts to low-income populations are expected to be the same as to the general population.

This alternative provides the greatest satisfaction for all the consumptive user groups. Grazing permittees, rockhounds, hunters, fishermen, timber companies and workers, and mining companies and workers would have the same or greater access to natural resource commodities. Recreationists preferring developed recreation approved of the enhanced opportunities and facilities for OHV's, developed camping, driving for pleasure, historical tourism, and boating. Recreationists seeking primitive and natural settings expressed concern about commodity activities intruding on their recreation experience.

Programmatic interests such as NWSR's, native plants, fisheries, and watershed management wrote letters expressing concern that without special protective designations, Alternative A put valuable resources at risk. Livestock, mining, and timber interests expressed support for Alternative A. Local governments supported continued commodity uses and economic diversification opportunities in the recreation industry. Alternative A addresses this preference.

Conclusion: This alternative emphasizes commodity production or extraction. The cumulative impact of the alternative would cause marginal increases in local economic activity, employment, and income generated by BLM managed resources. The rate of population growth would increase primarily due to greater recreation opportunities and continued commodity uses on BLM-managed land. This alternative supports community economic development and diversification by providing additional recreational opportunities and facilities. This alternative has the least amount of natural settings maintained for future generations.

Alternative B

Impacts: Locatable, leasable, and saleable mineral development opportunities would be unchanged from the current situation. Very limited acreage is designated as closed to development or subject to special stipulations.

As in Alternative A, government revenues from mineral activities would continue at current levels with potential increases if any of the reasonably foreseeable development scenarios come to pass during the life of the plan.

Planned timber harvest would continue at the historic average of approximately 100 thousand board-feet per year. The impacts of irregular harvests and processing outside the planning area would be the same as Alternative A.

Under Alternative B, forage availability on BLM-administered land would vary by an estimated 5 percent above or below current active use. This represents a variation of +/-21,029 AUM's in Malheur County over the life of the plan. In Malheur County this would result in variations of productive capacity of +/-1.2 percent or an estimated $418,000 in cattle and calf sales. Direct impacts to personal income would vary by $21,000, with a total variation of $31,700 within the planning area. Employment in the livestock industry would vary by 1.7 jobs, and by about 2.3 jobs within the overall local economy. These small variations would not cause a discernible change in employment within the county.

Grazing fee collections would vary minimally if the fee remains the same for the life of the plan.

Projected recreation growth is the same as Alternative A. Under Alternative B, the BLM would be unable to meet increased demand for recreation associated with developed facilities, camping, boating, and visiting interpretive exhibits in the long term. This may create additional business opportunities for private landowners to provide recreation sites on a fee basis. Demand for OHV use areas and dispersed recreation activities like photography, driving for pleasure, hunting, and horseback riding would be accommodated on BLM-managed land. Future economic activity generated by recreation depends on the ability of local businesses to attract and service these visitors.

Land tenure adjustments would have the same impacts as Alternative A.

Impacts to Environmental Justice, as defined by Executive Order 12898, would be similar to those in Alternative A. Under Alternative B, the Castle Rock ACEC would not be designated and important Native American cultural values in this area would not be specifically recognized and protected.

Alternative B continues current management, including the recent incorporation of S&G's for Oregon into the existing MFP's. With the exception of grazing permittees and those individuals and groups interested in watershed management, stakeholder opinions and concerns are likely to remain unchanged from the current situation.

Grazing permittees view the S&G's as restrictive with potentially large impacts to authorized use levels. Supporters of watershed management generally favor the new S&G's.

Conclusion: This alternative continues existing management direction. The cumulative impact of this alternative results in small variations in economic local economic activity, employment, and income generated by BLM-managed resources. The primary causes of economic and social change in the area would be underlying national and regional economic trends. BLM management actions would minimally influence population growth.

Alternative C

Impacts: Marginal increases in acreage available for leasing result in slightly expanded opportunities for development. Moderate acreage would be subject to special stipulations, which could influence, but not limit development. There would be decreased opportunities for development of locatable minerals because of closure of specific areas totaling 161,565 acres. Impacts to saleable minerals would result from a modest decrease in acres available for future development. This decrease is not anticipated to reduce the ability of the BLM to meet future demand for mineral materials.

As in Alternative A, government revenues from mineral activities would continue at current levels with potential increases if any of the reasonably foreseeable development scenarios come to pass during the life of the plan.

Planned timber harvest would average 88 thousand board-feet per year. The impacts of irregular harvests and processing outside the planning area would be the same as Alternative A.

Alternative C projects decreased forage availability on BLM-administered land of up to 42,058 AUM's in Malheur County over the life of the plan. In Malheur County, Alternative C would result in a decrease of productive capacity of 2.3 percent or an estimated decrease of $802,000 in cattle and calf sales. Direct impacts to personal income would be a decrease of $41,400, with a total decrease of $63,400 in the planning area. Employment in the livestock industry would decrease by an estimated 3.3 jobs, with and overall decrease of 4.6 jobs. Ongoing growth in the local economy over the life of the plan would negate any measurable indirect and induced effects in the local economy.

Annual collections of grazing fees would decrease by $56,778 if the fee remains the same for the life of the plan.

Recreation growth rates and economic opportunities are anticipated to be the same as Alternative A. As in Alternative A, demand for OHV use would be met.

Land tenure adjustments would have the same impacts as Alternative A.

Impacts to Environmental Justice, as defined by Executive Order 12898, would be the same as Alternative A.

Most commodity users expressed concerns that special designations under this alternative limit development and resource extraction in specific areas, thus impacting their livelihoods and the local economy.

Recreationists were generally satisfied with the availability of opportunities and developed sites. Recreationists seeking primitive and natural settings liked the use of special designations to limit the intrusion of commodity extraction activities in specific areas but expressed a desire for even more special designations.

Almost all stakeholder groups expressed concern about the adaptive management process and expressed a desire for identification of specific management activities.

Conclusion: This alternative emphasizes natural resource protection and improvement in ecological conditions while accommodating commodity production. The cumulative impacts of this alternative results in small decreases in local economic activity, employment, and income generated by BLM-managed resources. Greater emphasis is placed on maintaining natural resource values and management options for future generations under this alternative than under Alternatives A or B. BLM management actions would minimally influence population growth.

Alternative D

Impacts: Leasable mineral development would have virtually the same impacts as Alternative A. Very slight increases in acreage available for leasing result in slightly increased opportunities for development. Moderate acreage would be subject to special stipulations, which could influence, but not limit development. There would be moderately decreased opportunities for development of locatable minerals because of closure of specific areas totaling 269,747 acres. Impacts to saleable minerals would result from a decrease in acres available for future development. This decrease is not anticipated to reduce the ability of the BLM to meet future demand for mineral materials.

Government revenues from mineral activities would be the same as Alternative A with potential increases if any of the reasonably foreseeable development scenarios come to pass during the life of the plan. These scenarios are somewhat less likely under this alternative due to withdrawn areas and areas with restrictive stipulations.

There would be no planned timber harvest. The historically irregular opportunities for companies outside the planning area to harvest timber in northern Malheur County would be eliminated. Salvage sales and other unplanned harvest might occur during the life of the plan but would not result in a predictable supply. The counties currently receive 5 percent of the revenue generated by public domain timber sales. This revenue would be lost; however, without timber revenues the counties would likely qualify for slightly higher PILT resulting in no net effect on county revenues.

This alternative projects decreased forage availability on BLM-administered land of up to 84,117 AUM's in Malheur County over the life of the plan. In Malheur County, Alternative D would result in a decrease of productive capacity of 4.6 percent or an estimated decrease of $1,604,000 in cattle and calf sales. Direct impacts to personal income would be a decrease of $82,800, with a total decrease of $126,700 within the planning area. Employment in the livestock industry would decrease by an estimated 6.6 jobs. The model estimated total employment decreases of 9.2 jobs.

Moderate changes in ranch operations, with potentially large transition costs, would result for specific operators whose permits are reduced. These transition costs would likely result in a restructuring of the livestock industry in Harney and Malheur Counties. Restructuring of this kind favors large diversified agricultural operations with significant capital reserves. Smaller, less diversified operations, and operations with relatively small privately owned land bases, would be at risk of foreclosure or bankruptcy. A foreseen outcome of this alternative would be an increase in private land within the planning area that are owned by banks, insurance companies, and other businesses located outside the planning area. This would have significant political and social impacts because self-sufficiency and family owned businesses are highly valued within the planning area.

Annual collections of grazing fees would decrease by $113,558 if the fee remains the same for the life of the plan.

The Draft SEORMP/EIS anticipates an approximate annual growth of 3.8 percent in recreation use. Given projected use levels, in 20 years total visitation would exceed 650,000. Employment and income generated by these visitors would be largely dependent upon the initiative of local communities and businesses to attract and service these visitors. The demand for recreation associated with developed facilities, camping, boating, and visiting interpretive exhibits, would not be met in the long term. Growth in dispersed recreation activities such as photography, driving for pleasure, hunting, and horseback riding would be accommodated on BLM-managed land. Opportunities for OHV use would be restricted at levels less than currently available. Response of current users to this restriction is uncertain; possible outcomes include (1) current and new users concentrate in available locations with no impact on current or future visitor spending, or (2) current and new users would choose locations outside the planning area impacting current and future visitor expenditures. In general, economic opportunities to increase economic diversity and resiliency through tourism would not be fully supported by this alternative.

Land tenure adjustments would have the same impacts as Alternative A.

Impacts to Environmental Justice, as defined by Executive Order 12898, would be the same as Alternative A.

Commodity stakeholder groups and individuals expressed concerns that special designations and commodity use restrictions limit access to natural resources unnecessarily, thus impacting their livelihoods and the local economy. Recreationists seeking primitive and natural settings preferred Alternative D, or sought consideration of additional special designations and protective measures. OHV limited and closed designations would reduce the opportunities for and satisfaction of OHV users.

National and regional conservation, preservation, restoration, and ecology groups generally felt positively about many of the actions proposed under Alternative D. Their letters sought consideration of additional protective actions that focused of elimination of livestock grazing use in specific areas. Commodity interests expressed strong opposition to this alternative. Groups with programmatic interests in native plants, rivers, watershed management, wilderness, and fisheries generally preferred this alternative.

There could be impacts to local governments because of its impacts to commodity uses, developed, recreation, free use of mineral material sites, and potential impacts to county revenue sharing.

Conclusion: This alternative emphasizes natural values and the functioning of natural systems. The cumulative impacts of this alternative result in significant reductions in local economic activity, employment, and income. Alternative D may decrease the rate of population growth or cause population decreases as some individuals and businesses to leave the area seeking employment or business opportunities elsewhere. This alternative maintains the highest level of natural resource values and management options for future generations.

Alternative D2

Impacts: Locatable, leasable, and saleable mineral development would have the same impacts as Alternative A. Moderate increases in acreage closed to leasing would result in moderately reduced opportunities for development. Moderate acreage would be subject to special stipulations, which could influence, but not limit development. There would be moderately decreased opportunities for development of locatable minerals because of closure of specific areas totaling 282,8054 acres. Impacts to saleable mineral would result from a decrease in acres available for future development. This decrease is not anticipated to reduce the ability of the BLM to meet future demand for mineral materials.

Government revenues from mineral activities would be the same as Alternative A with potential increases if any of the reasonably foreseeable development scenarios come to pass during the life of the plan. These scenarios are somewhat less likely under this alternative due to closed and withdrawn areas and areas with restrictive stipulations.

There would be no planned timber harvest. The historically irregular opportunities for companies outside the planning area to harvest timber in northern Malheur County would be eliminated. Salvage sales and other unplanned harvest might occur during the life of the plan but would not result in a predictable supply. The counties currently receive 5 percent of the revenue generated by public domain timber sales. This revenue would be lost; however, without timber revenues the counties would likely qualify for slightly higher PILT resulting in no net effect on county revenues.

This alternative projects decreased forage availability on BLM-administered land of up to 100,940 AUM's in Malheur County due to administrative closure of lands to grazing. Adjustments to permits over the life of the plan to meet objectives would further reduce grazing use by as much as 10 percent (31,964 AUM's). In Malheur County, Alternative D2 would result in a decrease of productive capacity of 7.29 percent or an estimated decrease of $2,543,000 in cattle and calf sales. Direct impacts to personal income would be a decrease of $130,960, with a total decrease of $199,100 within the planning area. Employment in the livestock industry would decrease by an estimated 10.5 jobs. The model estimated total employment decreases of 14.6 jobs.

Moderate changes in ranch operations with potentially large transition costs, would result for specific operators whose permits are reduced. These transition costs would likely have the same results as Alternative D.

Annual collections of grazing fees would decrease by $136,269 if the fee remains the same for the life of the plan.

An approximate 3.8 percent annual growth of recreation use is projected in the planning area. Given projected use levels, in 20 years total visitation would exceed 650,000. Employment and income generated by these visitors would be largely dependent upon the initiative of local communities and businesses to attract and service these visitors. The demand for recreation associated with developed facilities, camping, boating, and visiting interpretive exhibits, would not be met in the long term. Growth in dispersed recreation activities such as photography, driving for pleasure, hunting, and horseback riding would be accommodated on BLM-managed land. Opportunities for OHV use would be restricted at levels less than currently available. Response of current users to this restriction is uncertain, possible outcomes include (1) current and new users concentrate in available locations with no impact on current or future visitor spending, or (2) current and new users would choose locations outside the planning area impacting current and future visitor expenditures. In general, economic opportunities to increase economic diversity and resiliency through tourism would not be fully supported by this alternative.

Land tenure adjustments would have the same impacts as Alternative A.

Impacts to Environmental Justice, as defined by Executive Order 12898, would be the same as Alternative A.

There could be impacts to local governments because of its impacts to commodity uses, developed, recreation, free use of mineral material sites, and potential impacts to county revenue sharing.

Conclusion: This alternative emphasizes natural values and the functioning of natural systems. The cumulative impacts of this alternative result in significant reductions in local economic activity, employment, and income. Alternative D2 may decrease the rate of

population growth or cause population decreases as some individuals and businesses to leave the area seeking employment or business opportunities elsewhere. This alternative maintains the highest level of natural resource values and management options for future generations.

Alternative E

Impacts: Under Alternative E, the entire planning area would be closed to all locatable, leasable, and saleable mineral activities. No new mineral developments would be allowed on BLM-managed land. Proposals for locatable and leasable mineral development would be denied. Current saleable materials operations would continue until reserves at currently developed sites are depleted. Under this alternative, long-term impacts to infrastructure and housing development are significant. As existing pits for sand, gravel, aggregate, and decorative rock are depleted, no new sites would be opened on public land. Private land also has these resources and could provide replacement materials; however, the cost would likely be significantly higher. This is particularly true for State and local governments who receive free use permits to aid in the building and maintaining of public roads and other facilities. This alternative would result in decreased government revenues from mineral activities, eventually reaching zero, over the life of the plan, as existing sites are depleted and no new sites are permitted on public land.

This alternative has no planned timber harvest. The historically irregular opportunities for companies outside the planning area to harvest timber in northern Malheur County would be eliminated. The counties currently receive 5 percent of the revenue generated by public domain timber sales. This revenue would be lost; however, without timber revenues the counties would likely qualify for slightly higher PILT resulting in no net effect on county revenues.

Livestock use would be eliminated on public land within the planning area. This would reduce the productive capacity of the livestock industry in Malheur County by 23.1 percent. In Malheur County decreased productivity would result in a reduction of $8,020,000 in cattle and calf sales. Direct impacts to personal income would be a decrease of $414,000, with a total decrease of $634,000 within the planning area. Employment in the livestock industry would decrease by 33.2 jobs, and by 46.1 jobs within the overall local economy.

Significant changes in ranch operations with potentially large transition costs would result for all operators whose permits are canceled. These transition costs would likely have results similar to Alternatives D and D2 but to a much greater extent.

All grazing fee collections would be eliminated under this alternative. The 1999 grazing fee was $1.35, the minimum allowed under the legislative formula used to calculate the fee. Assuming this fee level into the future, $567,788 of collections would be forgone annually in Malheur County.

The Draft SEORMP/EIS anticipates an approximate annual growth of 3.8 percent in recreation use. Given projected use levels, total visitation would exceed 650,000 in 20 years. Employment and income generated by these visitors would be largely dependent upon the initiative of local communities and businesses to attract and service these visitors.

This alternative provides for minimal management of BLM-administered land and ERMA's. Nationally designated sites and locations would receive slightly higher levels of recreation management. Recreation access may be curtailed if use interferes with natural system functions. Existing recreation demands on public land would not be accommodated. Visitation growth would likely continue at some level; however, the quality of experience and availability of services on public land would decline. Local communities and businesses would have little incentive to provide or expand services to public land visitors. Economic opportunities to increase economic diversity and resiliency through tourism would not be supported by this alternative.

Land tenure adjustments proposed would change the acres of BLM-managed land in each county. Each acre of net increase or decrease would slightly alter the entitlement acres in each county. These changes are expected to be very small given the large acreages currently managed by Federal agencies within the planning area.

Impacts to Environmental Justice, as defined by Executive Order 12898, would be similar to those under Alternative A, except that special designations would not be used to recognize and protect Native American cultural values. Instead, prohibitions on commodity uses would be used to protect these values.

Recreationists using developed sites would be dissatisfied with the eventual closure of all sites except those in nationally designated areas due maintenance, safety, and sanitation concerns. Recreation opportunities in primitive and natural settings would be satisfy these types of recreational pursuits. Motorized recreation users would be dissatisfied by increased administrative closures and increased disrepair of road surfaces due to lack of maintenance.

Programmatic interest groups would likely have mixed feelings about this alternative. Native plant interests would generally like the no grazing aspects of the alternative but would have concerns because important plant sites do not receive special designations and risks from wild horses are higher. River interest groups would feel that this alternative fails to provide adequate protection because no rivers are recommended for designations under the NWSRA. The interests of wilderness groups would be enhanced under this alternative by the elimination of commodity uses, but the groups would have concerns because risks from wild horses are higher. Additional land, without current wilderness designations or interim protection, would become primitive or semiprimitive settings without motorized access.

Concern may also be generated among landowners adjacent to BLM-managed land due to the increased risk of large-scale wildfires.

There would be severe effects on local governments because of impacts to commodity uses, recreation, free use of mineral material sites, and potential impacts to county revenue sharing and Federal employment.

Conclusion: This alternative minimizes human intervention in the ecosystem. The cumulative impacts of prohibiting on commodity production would severely impact local economic activity and income generated by BLM resources. It may decrease the rate of population growth or cause population decreases due to elimination of livestock grazing, mining, and recreation access or facilities. These proposals would result in reductions in income and employment causing some individuals and businesses to leave the area seeking employment or business opportunities elsewhere. Significant social disruption would result as traditional industries decline in economic importance. A high level of natural resource values and management options are maintained for future generations, although, not quite to the extent of Alternatives C and D which uses special designations to specifically protect resource values of concern.

Proposed RMP

Impacts: The reasonably foreseeable development scenarios in Appendix P detail the expected employment effects associated with a variety of locatable and leasable mineral development types. None of these developments are currently proposed, but proposals could come forward during the life of the plan. Marginal increases in acreage available for leasing result in slightly expanded opportunities for development. Moderate acreage would be subject to special stipulations, which could influence but not limit development. There would be decreased opportunities for development of locatable minerals because of closure of specific areas totaling 127,419 acres. Impacts to saleable minerals would result from a modest decrease in acres available for future development. Saleable mineral (sand and

gravel, aggregate, and decorative rock) extraction would be expected to continue at historic levels. An estimated 25 new sites are expected to be developed during the life of the plan. The majority of these sites would be used to replace existing sites that become depleted. Greater than anticipated population growth and infrastructure development would place even higher demands on public land to supply saleable materials. This demand for saleable materials could be met.

Government revenues from mineral activities would continue at current levels with potential increases if any of the reasonably foreseeable development scenarios come to pass during the life of the plan.

Proposed commercial timber harvest of 88 thousand board-feet per year would directly create or maintain less than two full-time equivalent jobs. Accurate estimates of income effects and indirect and induced employment effects could not be made given the very small value of these sales relative to the total economic activity. The actual creation of jobs would be spotty and most likely outside the planning area. This is because sales are not expected every year, and most harvesting and processing capacity in the region is located in Baker and Grant Counties. Timber revenues would continue at approximately historic levels during the life of the plan. Price fluctuations in lumber and wood products would cause significant variations. The counties currently receive 5 percent of the revenue generated by public domain timber sales. This revenue counts as an offset to PILT. Without timber revenues the counties would likely qualify for slightly higher PILT resulting in no net effect on county revenues.

The Proposed RMP projects decreased BLM forage availability of up to 42,058 AUM's in Malheur County over the life of the plan. In Malheur County, Alternative C would result in a decrease of productive capacity of 2.3 percent or an estimated decrease of $802,000 in cattle and calf sales. Direct impacts to personal income would be a decrease of $41,400, with a total decrease of $ 63,400 in the planning area. Employment in the livestock industry would decrease by an estimated 3.3 jobs, with and overall decrease of 4.6 jobs. On-going growth in the local economy over the life of the plan would negate any measurable indirect and induced effects in the local economy. These estimated impacts are identical to those estimated for Alternative C.

Collections of grazing fees would decrease by up to $56,778 if the fee remains the same for the life of the plan. Distribution of these fees is currently as follows: 50 percent to the Range Improvement Fund, 12.5 percent to the State for distribution to the counties, and 37.5 percent to the U.S. Treasury for general purposes. Range improvement funds are allocated to the district of origin the following year for labor, materials, and final survey and design of range improvements. The 1999 fee was $1.35, the minimum allowed under the legislative formula used to calculate the fee. Congressional action to change the fee structure and/or rate is a possibility during the life of the plan. However, congressional action is beyond the scope of BLM district management and has not been analyzed in this plan.

An approximate 3.8 percent annual growth in recreation use is projected. Given anticipated use levels, in 20 years the total visitation would exceed 650,000. Employment and income generated by these visitors would be largely dependent on the initiative of local communities and businesses to attract and service these visitors. BLM-managed land and facilities would provide opportunities to meet expected growth in visitation. Demand for OHV use areas and dispersed recreation activities like photography, sightseeing, hunting, and horseback riding would be accommodated on BLM-managed land. Opportunities to increase local economic diversity and resiliency through development of recreation-based industries would be supported and enhanced under this alternative.

Proposed land exchanges, sales, and trespass resolutions would change the acres of BLM-managed land in each county. Each acre of net increase or decrease would slightly alter the

entitlement acres in each county, thus altering PILT. These changes are expected to be very small given the large acreages currently managed by Federal agencies.

Executive Order 12898, "Federal Actions to Address Environmental Justice in minority and Low-Income Populations," requires that each federal agency "shall make achieving environmental justice part of its mission by identifying and addressing . . . disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low income populations."

No specific cultural practices or resource values were identified as unique to Hispanic, black, or Asian or Pacific Islander populations. Impacts to these ethnic groups are expected to be the same as impacts to the general population.

Native Americans were identified as an ethnic group that may have existing subsistence or cultural practices potentially impacted by BLM management actions. Designations of special management areas that recognize and protect important cultural values include Jordan Craters ACEC/RNA, Castle Rock ACEC, Main Owyhee NWSR, and West Little Owyhee NWSR. Ongoing use of clearances for cultural values prior to projects also recognizes and cultural values of Native Americans. These actions would mitigate any potential impacts.

No disproportionate adverse impacts to low-income populations were identified as a result of actions proposed in this plan. Distribution of impacts to low-income populations are expected to be the same as to the general population.

Conclusion: The Proposed RMP emphasizes natural resource protection and improvement in ecological conditions while accommodating commodity production. The cumulative impacts of this alternative results in small decreases in local economic activity, employment, and income generated by BLM-managed resources. Greater emphasis is placed on maintaining natural resource values and management options for future generations under this alternative than under Alternatives A or B. BLM management actions would minimally influence population growth.

Summary of Impacts

Alternatives A, B, C, and the Proposed RMP would have marginal or small impacts to local economic activity, employment, and income generated by commodity uses of BLM managed resources. Alternatives D, D2, and E would have significant and severe impacts to local economic activity, employment, and income. Alternatives C, D, D2, and E ensure the continuation of most public land resources and values for future generations to enjoy and use.

Cultural Resources

Objectives: *Protect and conserve cultural and paleontological resources.*

Increase the public's knowledge of, appreciation for, and sensitivity to cultural and paleontological resources.

Consult and coordinate with American Indian groups to ensure their interests are considered and their traditional religious sites, landforms, and resources are taken into account.

Assumptions: Cultural resources includes historic structures and sites, archaeological sites, American Indian use areas, and American Indian religious or sacred areas. When used in the following discussion, all of these locations are implied. Otherwise, paleontological localities

or specific types of cultural resources are named when they relate specifically to the discussion of impacts.

American Indian traditional use, religious, and sacred areas are implicit to the definition of cultural resources. The BLM is mandated to consult and coordinate with American Indian tribes in order to protect their interests on public lands.

Many of the resource management objectives and associated management actions outlined in this analysis can result in negative impacts to any or all of the cultural and paleontological resources. Most of these impacts can be mitigated by first discovering the sites in question through project inventory and then by project redesign or various scientific data recovery methods such as recordation, surface collection, subsurface testing, or excavation. The basis for this inventory and mitigation process is section 106 of the "National Historic Preservation Act" (NHPA) of 1966 as amended and FLPMA. Even adherence to these acts can and does result in inadvertent loss of cultural resources.

There are other public land uses such as livestock (cattle and horses) grazing, dispersed recreation, and OHV use where impacts either go unnoticed or the activity is not considered an undertaking, per se, and not inventoried. These impacts are often mitigated as they are discovered on a case-by-case basis. The following analysis of impacts is a discussion of both these unaccounted-for negative impacts and mitigated negative impacts and their predicted severity by alternative. Also mentioned are those instances when cultural resources are benefitted by other management actions. In addition, cumulative impacts resulting from the nexus of various management objectives and actions will be discussed. Because we do not know where every cultural or paleontological site is located in the analysis area, it is only by estimation that we analyze the different management actions that can directly or indirectly impact cultural resources.

Alternative A

Impacts: In general, the fewer restrictions on the exploration and extraction of energy and mineral resources the greater the negative impacts to archaeological sites, American Indian use areas, and paleontological localities. The amount of time to complete section 106 surveys clearances and mitigate impacts to significant sites is variable, depending on the type of mineral and permitting process. Nonetheless, much of the impacts resulting from these activities would be mitigated through various means. This alternative is the least restrictive on mineral exploration and extraction and, therefore, has the most potential for negative impacts to cultural resources.

Rangeland vegetation projects, restorations, and rehabilitations can negatively impact archaeological sites and American Indian use areas. These impacts can be mitigated, primarily through avoidance in the case of American Indian use areas and where scientific data recovery is affordable and timely. In the case of riparian or spring exclosure fences, archaeological sites can be protected within the fenced areas, thus resulting in a beneficial effect. Because moderate levels of rangeland projects are proposed under this alternative, the level of negative impacts would be similar to the current management situation.

Active forest and woodland treatments can result in negative impacts to archeological sites, but the primary agent of site damage is the type of fuel treatment after falling the trees. "Drop and leave" thinning or western juniper removal results in little negative impact to sites and may provide protection from illegal collection and decrease sediment erosion. "Drop and burn" fuels disposal can result in extensive damage to archaeological sites due to high heat outputs. However, this form of slash removal can provide a modicum of protection to sites through decreased ground visibility and sediment erosion. On the balance, both forms of fuels treatment in forest or woodland management are preferred to no woodland management because they result in greater ground cover and decreased erosion. As this alternative proposes the greatest levels of forest and woodland management, both long-term positive

and short-term negative impacts to archaeological sites could be the greatest under this alternative.

Water resources, riparian/wetland areas, and cultural resources (particularly archaeological sites and historic ranches) are often found on the landscape in nearly the same location. Any management action that promotes better water quality and riparian/wetland health will probably result in preservation or at least decreased degradation to archaeological sites. Of tantamount importance is the necessity to take into account archaeological resources when designing physical barriers in order to include the sites within the fence system away from livestock congregation. One potential negative 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 sites and American Indians use areas (particularly root digging areas) in upland areas that receive little or no livestock use could be subjected to livestock trampling and trailing impacts in certain locations under a more upland focused grazing system. Alternative A would result in at least the same levels of impacts to archaeological sites near riparian or wet land areas as is seen under existing management.

Because fish/wildlife and aquatic/wildlife habitat management is focused primarily on riparian areas, they have essentially the same effects on cultural resources as management of water quality and riparian/wetland areas. Under this alternative, levels of impacts to cultural resources would be similar to the current levels (Alternative B).

Cultural resources are impacted by wild horse use as a part of the overall impact noted as livestock grazing impacts. These impacts are trampling, wallowing, and trailing, especially near fenced or unfenced watering areas and salting grounds. The impacts caused by wild horses to cultural sites is nearly indistinguishable from those caused by livestock, and any increase in numbers of wild horses could lead to increased levels of damage to archaeological sites and American Indian use areas. These impacts are mitigated on a case-by-case basis when discovered. As wild horse management under Alternative A is similar to existing herd management, no increase in negative impacts to sites is expected under this alternative.

Wildland fire and wildland fire suppression impact cultural resources and paleontological localities in various ways. Obviously fires destroy burnable cultural resources such as historic buildings and other structures. Less obvious is the destruction of or damage to prehistoric rock art, surface scatters of tools, and waste stone debris. Suppression activities such as OHV use, bulldozing control lines, and occupation of fire camps can damage cultural and paleontological resources through sediment compaction and displacement. Soil chemistry on archaeological sites can be irreversibly changed with the use of fire retardants, especially in areas of low annual rainfall where leaching is minimal. Wildfire removes ground cover and exposes sediments to erosion, subjecting 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 is preferable to allowing wildfires to burn unchecked. The resultant erosion, in particular, can result in significant damage to sites. Alternative A advocates aggressive initial attack (without the benefit of interdisciplinary fire planning) on all wildfires. Under this alternative, cultural resources objectives are not as likely to be considered during fire planning and impacts due to wildfire and suppression efforts could be increased from the current management situation (Alternative B).

Prescribed burning, can negatively impact burnable cultural sites (structures, scribed, and carved trees, prehistoric rock art). If heat is high and long duration, prescribed fire can directly impact surface prehistoric lithic scatters by causing artifact shatter and damage to hydration rinds on obsidian artifacts. Prescribed fire can indirectly have a negative impact on archaeological sites by increasing short-term ground surface visibility. This greater visibility makes artifacts more accessible and can lead to increased illegal collection. These short-term impacts are mitigated through prior archaeological inventory, systematic surface artifact collection, and/or postfire monitoring. After a few seasons growth, plant cover

decreases ground visibility. Decreased visibility is a positive indirect impact to archaeological sites that decreases potential for illegal collecting. Even with this positive impact taken into account, this alternative, with an emphasis on widespread prescribed burning, could increase negative impacts to cultural sites over Alternative B.

Rangeland/grazing use is a major contributor to archaeological site damage (10.7 to 14.9 percent of all sites damaged in the analysis area) and potential negative impact to American Indian use areas. These percentage estimates are very likely to be too low as damage is usually only reported when trampling is obvious. Low level trampling is probably the norm for most sites and livestock damage, albeit usually minor, is widespread. Grazing impacts to American Indian root gathering areas have been documented elsewhere (Stinkingwater Mountains in the Three Rivers Resource Area) but impacts tend to be more visual than actual. Grazing impacts to archaeological sites are mitigated only on a case-by-case basis. Under Alternative A, the highest levels of grazing with the least restrictions would be expected. In addition, a greater number of grazing projects would be constructed. Project impacts to significant sites would be mitigated. In some cases, grazing projects can take pressure off of archaeological sites or American Indian use areas and distribute livestock use over a wider area. In other cases, the projects can result in increased impacts to cultural sites in new congregation areas. Comparing all the alternatives, grazing would have the greatest impact to cultural resources under Alternative A.

Recreation development projects would be cleared and impacts to cultural resources mitigated through adherence to NHPA and FLPMA. Beyond that, recreation development is a double-edged sword in its relationship to cultural resources. On the one hand, a greater use of interpretive developments can increase public awareness and education which can result in decreased illegal collecting and site vandalism. On the other hand, increased development, in general, brings more people to the area and more visitors usually means greater illegal collection and site damage. Developed recreation is viewed as only slightly more detrimental to cultural resources than nondeveloped recreation because it tends to concentrate people in small, predictable areas. Nondeveloped recreation emphasis tends to attract visitors to places that have not received much use in the past but this type of use is much less predictable and measurable. The effects of developed and nondeveloped recreation are mitigated on a case-by-case basis when discovered. Alternative A is focused on maximum development of recreation sites and would result in greater impacts (illegal looting and site disturbance) to cultural resources than the other alternatives.

Unrestricted OHV use is harmful to archaeological sites, paleontological localities, and American Indian use areas. Compaction, altered surface water drainage, and erosion are all negative impacts to the landscape and, by extension, to cultural resources. Planned OHV events can be cleared and impacts mitigated through adherence to the NHPA and FLPMA, but the impacts caused by dispersed OHV activity are not mitigated unless discovered. The best OHV policy in relation to cultural resources is one where vehicles are required to use existing roads. Alternative A is the least restrictive of all the alternatives in terms of OHV policy and would result in the greatest negative impact to archaeological sites, paleontological localities, and American Indian plant use areas.

ACEC/RNA designations, with a greater emphasis on natural values, are a benefit to cultural resources and paleontological localities. More acres would be designated under Alternative A than Alternative B, but fewer than the Proposed RMP. Benefits to cultural resources and paleontological localities would be greater in Alternative A than Alternative B, but of even greater magnitude under the Proposed RMP.

NWSR designations and, especially their relationship to livestock grazing management, can indirectly cause impacts to archaeological sites and American Indian plant use areas. From no restrictions on grazing to a total exclusion of livestock from NWSR corridors, each alternative would result in varying effects on sites in the river corridors and upland areas. Few restrictions on grazing in the river corridors would result in impacts to archaeological

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 to lightly-used upland areas, resulting in increased impacts to sites and American Indian use areas in the uplands. These impacts would be mitigated when discovered on a case-by-case basis. However, as a general rule, sites with the highest significance tend to occur within the river corridors and not the uplands. As a consequence, increased restrictions or exclusion of grazing in the NWSR corridors would be a positive impact to cultural resources. Alternative A focuses on the least restrictive grazing in the NWSR corridors and would result in the greatest impacts to cultural resources of all the alternatives.

Increasing the number of acres managed as wilderness or WSA's reduces impacts to most cultural resources as it reduces the number of allowed uses on that acreage. Under Alternative A, acquired lands adjacent to existing WSA's would be added to the WSA acreage. This would likely result in decreased impacts to cultural resources in those areas when compared to existing management.

Lands and reality management can negatively impact cultural resources, most significantly in land exchanges and land sales. These impacts are mitigated through adherence to the NHPA and FLPMA. As with land tenure actions, the negative impacts created by utility line construction would be mitigated by adherence to NHPA and FLPMA. Alternative A does not promote the consideration of acquiring lands or easements to manage or protect cultural resources and is the least beneficial to cultural resources. The most useful, Alternatives C, D, D2, E, and the Proposed RMP, all would emphasize to various degrees the use of land and easement acquisitions to enhance cultural resource management. Restrictions or elimination of utility corridors is of benefit to cultural resources. The greater the restrictions and the fewer the utility corridors, the fewer impacts to cultural resources. Alternative A is the least restrictive alternative and most likely of all the alternatives to result in impacts to cultural resources.

Conclusion: Objectives would be met under this alternative. Because most cultural resources are location specific, fragile, and nonrenewable, negative impacts are, by nature, cumulative. A archaeological 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.

A recurring issue, seen repeatedly within different, though related, resources, is the issue of livestock grazing in riparian corridors. Water resources, fish and wildlife and their respective habitats, rangeland/grazing use and NWSR management all focus either partially of fully on riparian corridor management. As mentioned above, it is of benefit to cultural resources to restrict or exclude livestock grazing in these areas because a many of the most significant archaeological sites occur near riparian areas. Also mentioned was the potential to increase impacts to cultural resources in upland areas when grazing the riparian areas is restricted or discontinued. It is likely that this increase in impacts to sites would be in congregation areas and mitigated on a case-by-case basis.

Generally speaking, cultural resources fare the best when the number of uses on public land is restricted to the least ground disturbing. Alternative A is the least beneficial of the array of alternatives because it proposes the least restriction to public land use.

Alternative B

Impacts: Exploration and extraction of energy and mineral resources cause low levels of impacts to cultural resources under current management. Most impacts are mitigated.

For rangeland vegetation, there would be approximately the same negative and positive impacts as expected under Alternative A and C and the Proposed RMP.

Acres of western juniper removal by cutting are much lower under current management than Alternatives A, C, D, D2, and Proposed RMP. With many areas of sagebrush-western juniper steppe moving in the direction of a western juniper woodland ecozone, erosion and increased ground visibility are likely outcomes. These two results lead to surface damage to archeological sites and increased illegal artifact collecting. Under this alternative, negative impacts to archeological sites within the western juniper zone would be greater than Alternatives D, D2, C, and Proposed RMP.

For water resources and riparian/wetland areas, low to moderate livestock grazing impacts are noted under present management. Fewer impacts would occur under the Proposed RMP.

Fish and aquatic habitat impacts would be the same as under water and riparian/wetland areas.

Wildlife and wildlife habitat impacts would be the same as water and riparian/wetland areas.

For wild horses, construction of more water developments to insure more even use of the landscape and provide for water during drought years is probably beneficial to cultural resources because it takes pressure away from existing water sources, many of which are near archeological sites. Even greater benefits result from fencing archaeological sites inside exclosures. This alternative may result in increased indirect negative impacts to archaeological sites near water developments but with sites inside exclosures, these impacts would be mitigated. This alternative is similar in negative impacts to the Proposed RMP.

Under this alternative wildland fire suppression would produce low levels of negative impacts to cultural resources because fire planning would take cultural resources into account in short- and long-term plans and during fire emergencies. Such positive planning efforts would be enhanced under the Proposed RMP. Low levels of prescribed burning are experienced under existing management. As a result, positive long-term and negative short-term impacts to cultural resources would be low with Alternative B and increased under the Proposed RMP.

Negative grazing impacts to cultural resources are considered moderate under the existing management and are greater than under the Proposed RMP.

Low levels of illegal artifact collecting and site vandalism are the primary impacts under existing recreation management and would be slightly decreased under the Proposed RMP.

For OHV use, low to moderate levels of cultural resource site and paleontological locality damage are incurred under existing management and would be decrease under the Proposed RMP.

Alternative B shows the least number of acres in ACEC/RNA's of all the alternatives and is the least beneficial of the alternatives.

Low levels of grazing impacts to archaeological sites occur in NWSR corridors under existing management. Recent court decisions, restricting or eliminating grazing from river corridors, will lessen or eliminate impacts by grazing. The Proposed RMP would decrease impacts to cultural resources through the designation of more miles of NWSR corridor.

Under existing management, acquired lands adjacent to WSA's that meet wilderness criteria are not included in the WSA's. As they are subjected to the same uses as non-WSA lands, the impacts to cultural resources are greater than if they had special designation. The

Proposed RMP would include these lands in WSA's and reduce negative impacts to cultural resources.

Current levels of impacts to archaeological sites can be seen in Chapter 2, Cultural Resources (Table 2-43) where the various types of damage are enumerated for sites in each resource area. Most of these ongoing impacts to cultural resources and paleontological localities tend to be reduced in special designation areas because many of the previously allowed uses are curtailed or eliminated. Under Alternative B, impacts to cultural resources and paleontological sites are roughly reflected by the data in Table 2-43 and would be decreased in the Proposed RMP.

Existing land tenure management emphasis is increasingly focused on acquiring high value lands and management easements, while utility development is relatively static and impacts to cultural resources are at low levels. Acquiring high value cultural properties and meeting cultural resource objectives is a real possibility under existing management but would be improved under the Proposed RMP.

Conclusion: Objectives would be met under this alternative. Alternative B would result in moderate cumulative negative impacts to cultural resources. Somewhat lower levels of cumulative positive impacts due to fewer restrictions on grazing, mining, and OHV would be expected with this alternative.

Alternative C

Impacts: For energy and minerals, there would be fewer negative impacts than Alternative B, similar to the Proposed RMP.

For rangeland vegetation there would be similar number of projects resulting in the same levels of direct and indirect negative and positive impacts as Alternative B, similar to the Proposed RMP.

Forest and woodlands would have fewer negative impacts than Alternative B, similar to the Proposed RMP.

For water resources and riparian/wetland areas, there would be greater restrictions on livestock grazing than Alternative B, resulting in fewer impacts than Alternative B, same as the Proposed RMP.

Fish and aquatic habitat impacts would be the same as water and riparian/wetland areas.

Wildlife and wildlife habitat impacts would be the same as water and riparian/wetland areas.

For wild horses, Alternative C could result in slightly fewer negative impacts than Alternative B. Alternative C and the Proposed RMP would result in the same negative impacts.

Under this alternative wildland fire suppression would produce low levels of negative impacts to cultural resources because fire planning would take cultural resources into account in short- and long-term plans and during fire emergencies. Such positive planning efforts would be enhanced under the Proposed RMP. High levels of prescribed burning would be experienced under Alternative C. As a result, positive long-term and negative short-term impacts to cultural resources would be higher under Alternative C than under Alternative B and similar to the Proposed RMP.

For Rangeland/Grazing Use, negative impacts would be reduced under this alternative, similar to the Proposed RMP.

For recreation, low levels of negative impacts would be slightly decreased under this alternative for recreation. The Proposed RMP would result in fewer negative impacts than this alternative.

For OHV's, impacts would be fewer under this alternative than Alternative B and slightly greater than the Proposed RMP.

Alternative C would designate a greater number of acres to ACEC/RNA's than Alternative B and would be more beneficial to cultural resources. The Proposed RMP, with slightly fewer acres of ACEC/RNA designation would be slightly less beneficial than Alternative C.

NWSR's would have the same negative and positive impact levels as Alternative B. The Proposed RMP would provide greater positive and fewer negative impacts than Alternatives B and C.

Under existing management, acquired lands adjacent to WSA's that meet wilderness criteria are not included in the WSA's. As they are subjected to the same uses as non-WSA lands, the impacts to cultural resources are greater than if they had special designation. Alternative C would include these lands in WSA's and reduce negative impacts to cultural resources.

Current levels of impacts to archaeological sites can be seen in Chapter 2, Cultural Resources (Table 2-43) where the various types of damage are enumerated for sites in each resource area. Most of these ongoing impacts to cultural resources and paleontological localities tend to be reduced in special designation areas because many of the previously allowed uses are curtailed or eliminated. Under Alternative A, impacts to cultural resources and paleontological sites are roughly reflected by the data in Table 2-43 and would be decreased in Alternative C.

Existing land tenure management emphasis is increasingly focused on acquiring high value lands and management easements, while utility development is relatively static and impacts to cultural resources are at low levels. Acquiring high value cultural properties and meeting cultural resource objectives is a real possibility under existing management but would be improved under Alternative C.

Conclusions: Objectives would be met under this alternative. Because this alternative is less commodity use and more natural-value oriented than Alternative B, fewer cumulative negative impacts to cultural resources and paleontological localities would be expected.

Alternative D

Impacts: For energy and minerals, this alternative is more restrictive than Alternative B or the Proposed RMP and would produce fewer negative impacts to cultural resources and paleontological localities.

For rangeland vegetation, there would be lower number of rangeland improvement projects with decreased indirect and direct negative and positive impacts when compared to Alternative B and the Proposed RMP.

Fewer positive long-term and negative short-term impacts on cultural resources than the Proposed RMP because the number of treatment acres of forest and woodland would be decreased. Greater positive long-term and negative short-term impacts than Alternative B because acres of treatment in western juniper woodlands would be higher in Alternative D.

For water resources and riparian/wetland areas, greater restrictions of livestock grazing than Alternative B and Proposed RMP. Far fewer negative and greater positive impacts would result from Alternative D and somewhat fewer than the Proposed RMP when compared to Alternative B.

Fish and aquatic habitat impacts would be the same as water and riparian/wetland areas

Wildlife and Wildlife habitat impacts would be the same as water and riparian/wetland areas.

Under this alternative, water developments to enhance wild horse distribution and provide for water during drought, would be constructed in similar numbers as Alternative B and the Proposed RMP. Indirect impacts to cultural resources and paleontological localities would be about the same in this alternative.

Under this alternative wildland fire suppression would produce low levels of negative impacts to cultural resources because fire planning would take cultural resources into account in short- and long-term plans and during fire emergencies. Such positive planning efforts would be enhanced under the Alternative D and the Proposed RMP. High levels of prescribed burning would be experienced under Alternative D. As a result, positive long-term and negative short-term impacts to cultural resources would be higher under Alternative D than under Alternative B and similar to the Proposed RMP.

For rangeland/grazing use, negative impacts would be reduced under this alternative to levels much lower than Alternative B and somewhat lower than the Proposed RMP.

Levels of indirect impacts due to developed recreation would be similar to Alternative B and the Proposed RMP. Increased direct impacts in new areas due to increased emphasis on nondeveloped recreation would be experienced in comparison to Alternative B and the Proposed RMP.

For OHV's, fewer negative impacts would result from this alternative than Alternative B and the Proposed RMP.

Alternatives D and D2 would designate the greatest number of acres to ACEC/RNA's of all the alternatives and would be most beneficial to cultural resources. The Proposed RMP, with somewhat fewer acres of ACEC/RNA designation, would be moderately less beneficial than Alternative D.

For NWSR's, approximately the same negative and positive impact levels as expected in Alternative B would be experienced in Alternative D. The Proposed RMP would provide greater positive and fewer negative impacts than Alternatives B and D.

Under Alternative B, acquired lands adjacent to WSA's that meet wilderness criteria are not included in the WSA's. As they are subjected to the same uses as non-WSA lands, the impacts to cultural resources are greater than if they had special designation. Alternative D and the Proposed RMP would include these lands in WSAs and reduce negative impacts to cultural resources.

Current levels of impacts to archaeological sites can be seen in Chapter 2, Cultural Resources (Table 2-43) where the various types of damage are enumerated for sites in each Resource Area. Most of these ongoing impacts to cultural resources and paleontological localities tend to be reduced in special designation areas because many of the previously allowed uses are curtailed or eliminated. Under Alternative B, impacts to cultural resources and paleontological sites are roughly reflected by the data in Table 2-43.

Existing land tenure management emphasis is increasingly focused on acquiring high value lands and management easements, while utility development is relatively static and impacts to cultural resources are at low levels. Acquiring high value cultural properties and easements and meeting cultural resource objectives is a real possibility under existing management but would be improved under the Alternative D.

Conclusions: Objectives would be met under this alternative. This alternative is much more restrictive to a variety of uses and management actions and emphasizes natural values to a greater extent than Alternatives A, B, C, and the Proposed RMP. In general, it would be more beneficial (fewer cumulative negative impacts) to cultural resources and paleontological localities than Alternatives A, B, C, and the Proposed RMP.

Alternative D2

Impacts: For energy and minerals, this alternative is more restrictive than Alternative B or the Proposed RMP and would produce fewer negative impacts to cultural resources and paleontological localities.

For rangeland vegetation, there would be fewer rangeland improvement projects than Alternative B and the Proposed RMP, resulting in fewer negative and positive impacts.

Fewer positive long-term and negative short-term impacts on cultural resources than the Proposed RMP because the number of treatment acres of forest and woodland would be decreased. Greater positive long-term and negative short-term impacts than Alternative B because acres of treatment in western juniper woodlands would be higher in Alternative D2.

For water resources and riparian/wetland areas, there would be greater restrictions of livestock grazing than Alternative B and Proposed RMP. Far fewer negative impacts would result from Alternative D2 than Alternative B and somewhat fewer than the Proposed RMP.

Fish and aquatic habitat impacts would be the same as water and riparian/wetland areas.

Wildlife and wildlife habitat impacts would be the same as water and riparian/wetland areas.

Under this alternative, water developments to enhance wild horse distribution and provide for water during drought, would be constructed in similar numbers as Alternative B and the Proposed RMP. Indirect impacts to cultural resources and paleontological localities would be about the same in this alternative.

Under this alternative wildland fire suppression would produce low levels of negative impacts to cultural resources because fire planning would take cultural resources into account in short- and long-term plans and during fire emergencies. Such positive planning efforts would be enhanced under the Alternative D2 and the Proposed RMP. High levels of prescribed burning would be experienced under Alternative D2. As a result, positive long-term and negative short-term impacts to cultural resources would be higher under Alternative D2 than under Alternative B and similar to the Proposed RMP.

For rangeland/grazing use, negative impacts would be reduced under this alternative to levels much lower than Alternative B and somewhat lower than the Proposed RMP.

Levels of indirect impacts due to developed recreation would be similar to Alternative B and the Proposed RMP. Increased direct impacts in new areas due to increased emphasis on nondeveloped recreation would be experienced in comparison to Alternative B and the Proposed RMP.

For OHV's, fewer negative impacts would result from this alternative than Alternative B and the Proposed RMP.

Alternatives D and D2 would designate the greatest number of acres to ACEC/RNA's of all the alternatives and would have a more beneficial affect on cultural resources. The Proposed RMP, with somewhat fewer acres of ACEC/RNA designation, would be moderately less beneficial than Alternative D2.

For NWSR's, approximately the same negative and positive impact levels as expected in Alternative B would be experienced in Alternative D2. The Proposed RMP would provide greater positive and fewer negative impacts than Alternatives B and D2.

Under Alternative B, acquired lands adjacent to WSA's that meet wilderness criteria are not included in the WSA's. As they are subjected to the same uses as non-WSA lands, the impacts to cultural resources are greater than if they had special designation. Alternative D2 and the Proposed RMP would include these lands in WSA's and reduce negative impacts to cultural resources.

Current levels of impacts to archaeological sites can be seen in Chapter 2, Cultural Resources (Table 2-43) where the various types of damage are enumerated for sites in each resource area. Most of these ongoing impacts to cultural resources and paleontological localities tend to be reduced in special designation areas because many of the previously allowed uses are curtailed or eliminated. Under Alternative B, impacts to cultural resources and paleontological sites are roughly reflected by the data in Table 2-43.

Existing land tenure management emphasis is increasingly focused on acquiring high value lands and management easements, while utility development is relatively static and impacts to cultural resources are at low levels. Acquiring high value cultural properties and easements and meeting cultural resource objectives is a real possibility under existing management but would be improved under the Alternative D2.

Conclusions: Objectives would be met under this alternative. It is more restrictive to a variety of uses and management actions and emphasizes natural values to a greater extent than Alternatives A, B, C, D, and the Proposed RMP. In general, it would be more beneficial (fewer cumulative negative impacts) to cultural resources and paleontological localities than Alternatives A, B, C, D, and the Proposed RMP.

Alternative E

Impacts: This alternative would eliminate energy and mineral exploration and development and eliminate negative impacts to cultural resources and paleontological localities. Alternative E would be far more beneficial to these resources than Alternative B or the Proposed RMP.

No rangeland improvements would be needed under Alternative E as grazing would not continue in the analysis area. Direct and indirect positive and negative impacts due to project construction and use would be eliminated under this alternative and compared to moderate levels associated with Alternative B and the Proposed RMP.

Under Alternative E, the least positive long-term and negative short-term impacts on cultural resources would be realized because no forest and woodland treatments would occur. This alternative could produce greater long-term negative impacts to cultural resources than all other alternatives due to increased ground visibility and erosion.

Alternative E advocates no grazing in the analysis area. Therefore, the need for riparian/wetland grazing restrictions and/or projects would not exist. Negative impacts due to livestock grazing would be eliminated under this alternative compared to moderate levels in Alternative B and low levels in the Proposed RMP.

Fish and aquatic habitat impacts would be the same as water and riparian/wetland areas.

Wildlife and wildlife habitat impacts would be the same as water and riparian/wetland areas.

This alternative best compares to Alternative A where few wild horse-related projects are proposed. However, in the absence of livestock grazing wild horse herd numbers could

increase. This increase would result in greater negative impacts to cultural resources, primarily in congregation areas and riparian corridors. This alternative would produce greater negative impacts than Alternative B or the Proposed RMP.

This alternative advocates limited fire suppression and no prescribed fire. Widespread wildland fire would result in greater negative impacts to cultural resources than all other alternatives. Eliminating prescribed burning would cause an increase in ground visibility and erosion and produce greater negative impacts than all other alternatives.

Negative impacts due to grazing would be eliminated in this alternative as compared with moderate impacts under Alternative B and the Proposed RMP.

Levels of indirect impacts due to developed recreation would be similar to Alternative B and the Proposed RMP. Increased direct impacts in new areas due to increased emphasis on nondeveloped recreation would be experienced in comparison to Alternative B and the Proposed RMP.

For OHV's, the fewest negative impacts to cultural resources and paleontological localities would result from this alternative.

Alternative E advocates almost no ACEC/RNA's and, in that sense, would be the least restrictive of all alternatives. However, since grazing and mining would be eliminated and OHV greatly restricted, ACEC/RNA's would not be necessary to provide protection to special resources and values.

For NWSR's, approximately the same negative and positive impact levels as expected in Alternative B would be experienced in Alternative E. The Proposed RMP would provide greater positive and fewer negative impacts than Alternatives B and E.

Under Alternative B, acquired lands adjacent to WSA's that meet wilderness criteria are not included in the WSA's. As they are subjected to the same uses as non-WSA lands, the impacts to cultural resources are greater than if they had special designation. Alternative E and the Proposed RMP would include these lands in WSA's and reduce negative impacts to cultural resources.

Alternative E eliminates grazing and mining and greatly restricts OHV in the analysis areas.

Existing land tenure management emphasis is increasingly focused on acquiring high value lands and management easements, while utility development is relatively static and impacts to cultural resources are at low levels. Acquiring high value cultural properties and easements and meeting cultural resource objectives is a real possibility under existing management but would be improved under the Alternative E.

Conclusions: Objectives would be met under this alternative. Except for greater cumulative negative impacts from restricted wildland fire suppression, no prescribed fire, and potentially greater wild horse numbers, this alternative would result in the fewest negative cumulative impacts and the greatest benefits to cultural resources and paleontological localities.

Proposed RMP

Impacts: In general, the fewer restrictions on the exploration and extraction of energy and mineral resources, the greater the negative impacts to archaeological sites, American Indian use areas, and paleontological localities. The amount of time to complete section 106 surveys and mitigate impacts to significant sites is variable, depending on the type of mineral and permitting process. Nonetheless, much of the impacts resulting from these activities would be mitigated through various means. This alternative is moderately restrictive and has moderate potential for negative impacts to cultural resources.

Rangeland vegetation projects, restorations, and rehabilitations can negatively impact archaeological sites and American Indian use areas. These impacts can be mitigated, primarily through avoidance in the case of American Indian use areas and there are cases where scientific data recovery is affordable and timely when mitigating impacts to archaeological sites. In the case of riparian or spring exclosure fences, archaeological sites can be protected within the fenced areas, thus resulting in a beneficial effect. Because moderate levels of rangeland projects are proposed under this alternative, the level of negative impacts would be similar to the current management situation.

Active forest and woodland treatments can result in negative impacts to archeological sites but the primary agent of site damage is the type of fuel treatment after falling the trees. "Drop and leave" thinning or western juniper removal results in little negative impact to sites and may provide protection from illegal collection and decrease sediment erosion. "Drop and burn" fuels disposal can result in extensive damage to archaeological sites due to high heat outputs. Even this form of slash removal can provide a modicum of protection to sites through decreased ground visibility and sediment erosion. On the balance, both forms of fuels treatment in forest or woodland management are preferred to no woodland management because they result in greater ground cover and decreased erosion. As the preferred alternative proposes a high level of forest and woodland management, both positive and negative impacts to archaeological sites could be the great under this alternative.

Water resources, riparian/wetland areas, and cultural resources (particularly archaeological sites and historic ranches) are often found in the landscape in nearly the same location. Any management objective that promotes better water quality and riparian/wetland health will probably result in preservation or at least decreased degradation to archaeological sites. Of tantamount importance is the necessity to take into account archaeological resources when designing physical barriers in order to include the sites within the fence system. Even shorter duration (spring only) grazing systems should produce less grazing impacts to archaeological sites in riparian areas than the levels of impacts due to season-long use. One potential negative 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. Archaeological sites and American Indian use areas (particularly root digging areas) in upland areas that receive little or no livestock use could be subjected to livestock trampling and trailing impacts under a more upland focused grazing system. The Proposed RMP would result in a lower level of impacts to archaeological sites near riparian or wetland areas than is seen today. Because this alternative is concerned with entire watersheds, increased impacts to cultural resources in the uplands is not considered likely and grazing impacts there are not expected to exceed current levels.

Because fish/wildlife and aquatic/wildlife habitat management is focused primarily on riparian areas, they have essentially the same effects on cultural resources as management of water quality and riparian/wetland areas. Under this alternative, levels of impacts to cultural resources would be lower than current levels.

Cultural resources are impacted by wild horse use as a part of the overall impact noted as livestock grazing impacts. These impacts are trampling, wallowing, and trailing, especially near fenced or unfenced watering areas and salting grounds. The impacts caused by wild horses to cultural sites is indistinguishable from those caused by livestock and any increase in numbers of wild horses could lead to increased levels of damage to archaeological sites and American Indian use areas. Because these impacts tend to widespread and generally unaccounted for, they are not mitigated except on a case-by-case basis when discovered. Wild horse management, under Proposed RMP, is similar to existing herd management but more flexible in terms of adjustments based on monitoring data. It has the potential to decrease the level of negative impacts to sites.

Wildland fire and wildland fire suppression impact cultural resources and paleontological localities in various ways. Obviously, fires destroy burnable cultural resources such as

historic buildings and other structures. Less obvious is the destruction of or damage to prehistoric rock art, surface scatters of tools, and waste stone debris. Suppression activities such as OHV use, bulldozing control lines, and occupation of fire camps can damage cultural and paleontological resources through sediment compaction and displacement. Soil chemistry on archaeological sites can be changed over the long term with the use of fire retardants, especially in areas of low annual rainfall where leaching is minimal. Wildfire removes ground cover and exposes sediments to erosion, subjecting archaeological sites to damage from erosion and illegal collecting. In general, even though suppression can damage cultural resources in specific ways, well planned suppression is preferable to allowing wildfires to burn unchecked. The resultant erosion, in particular, can result in significant damage to sites. The Proposed RMP advocates a mix of suppression responses, depending on preplanned fire criteria and resource objectives. Cultural resources objectives will be considered during fire planning and impacts due to wildfire and suppression efforts should be decreased from the current management situation.

Prescribed burning can negatively impact burnable cultural sites (structures, scribed, and carved trees, prehistoric rock art). If fire is high intensity for long duration, prescribed fire can directly impact surface prehistoric lithic scatters by causing artifact shatter and damage to hydration rinds on obsidian artifacts. Prescribed fire can indirectly have a negative impact on archaeological sites by increasing short-term ground surface visibility. This greater visibility makes artifacts more accessible and can lead to increased illegal collection. These impacts are mitigated through prior archaeological inventory, systematic surface artifact collection, and/or postfire monitoring. After a few seasons growth, plant cover decreases ground visibility. Decreased visibility is a positive indirect impact to archaeological sites that decreases potential for illegal collecting. Even with this positive impact taken into account, the Proposed RMP, with an emphasis on widespread prescribed burning, would result increased negative impacts to cultural sites.

Rangeland/grazing use is a major contributor to archaeological site damage (10.7 to 14.9 percent of all sites damaged) and potential negative impact to American Indian use areas. These percentage estimates are very likely to be too low as damage is usually only reported when trampling is obvious. Low-level trampling is probably the norm for most sites and livestock damage, albeit usually minor, is widespread. Grazing impacts to American Indian root gathering areas have been documented elsewhere (Stinkingwater Mountains in the Three Rivers Resource Area) but impacts tend to be more visual than actual. Grazing impacts to archaeological sites are widespread, unaccounted for and not mitigated except on a case-by-case basis. Under the Proposed RMP, moderate levels of grazing with some restrictions would be expected. In addition, it is likely a smaller number of grazing projects would be constructed than under current management. Project impacts to significant sites would be mitigated. In some cases, grazing projects can take pressure off of archaeological sites or American Indian use areas and distribute livestock use over a wider area. In other cases, the projects result in increased impacts to cultural sites in new areas. Under this alternative, grazing would have less impact on cultural resources than current management.

Recreation development projects would be cleared through adherence to NHPA and FLPMA. Beyond that, recreation development is a double-edged sword in its relationship to cultural resources. On the one hand, a greater use of interpretive developments can increase public awareness and education which can result in decreased illegal collecting and site vandalism. On the other hand, increased development, in general, brings more people to the area and more visitors usually means greater illegal collection and site damage. Developed recreation is viewed as only slightly more detrimental to cultural resources than nondeveloped recreation because it tends to concentrate people in small, predictable areas. Nondeveloped recreation emphasis tends to attract visitors to places that have not received much use in the past and this type of use is much less predictable and measurable. Both the indirect affects of developed recreation and direct effects of nondeveloped recreation are not mitigated except when discovered. The Proposed RMP focuses on increased development of recre-

ation sites over current levels and would result in greater indirect impacts (illegal looting and site disturbance) to cultural resources.

Unrestricted OHV use is harmful to archaeological sites, paleontological localities, and American Indian use areas. Compaction, altered surface water drainage, and erosion are all negative impacts to the landscape and, by extension, to cultural resources. Planned OHV events can be cleared through adherence to the NHPA and FLPMA, but the impacts caused by dispersed OHV activity are not mitigated unless discovered. The best OHV policy in relation to cultural resources is one where vehicles are required to use existing roads. The Proposed RMP is similar to current OHV policy with exception of emphasis on natural values when applying use designations. This emphasis would increase restrictions on OHV use in the analysis area and reduce the levels of negative impacts to archaeological sites, paleontological localities, and American Indian plant use areas.

Acres of designated ACEC/RNA's would be higher in this alternative than Alternative B and reduced levels of negative impacts to cultural resources would be expected.

Visual resources do not require impact analysis, per se, but historic setting requirements need to be discussed when setting the VRM levels in the vicinity of Oregon National Historic Trail and Birch Creek Ranch National Historic Site.

NWSR designations and, especially their relationship to livestock grazing management, can indirectly cause impacts to archaeological sites and American Indian plant use areas. From no restrictions on grazing to a total exclusion of livestock from NWSR corridors, each management scenario has varying effects on sites in the river corridors and upland areas. Few restrictions on grazing in the river corridors can result in impacts to site through trampling, trailing, and wallowing. Greater restrictions placed on grazing in the river corridors can result in concentrated livestock use at crossings and water gaps. Total exclusion of grazing in the river corridor can focus livestock grazing impacts to lightly used upland areas, resulting in increased impacts to archaeological sites, and American Indian use areas in the uplands. These impacts would be widespread and not mitigated unless discovered. However, as a general rule, sites with the highest significance tend to occur within the river corridors and not the uplands. As a consequence, increased restrictions or exclusion of grazing in the NWSR corridors would benefit cultural resources. The Proposed RMP places more restrictions on grazing within the NWSR corridors than current management and would result in a decreased level of grazing impacts to the most significant cultural resources.

Increasing the number of acres managed as wilderness or wilderness study area reduces impacts to most cultural resources as it reduces the number of allowed uses on that acreage. Under the Proposed RMP, acquired lands adjacent to existing WSA's would be added to the WSA acreage. This would likely result in decreased impacts to cultural resources in those areas.

Lands and reality management can negatively impact cultural resources, most significantly in land exchanges and land sales. These impacts are mitigated through adherence to the NHPA and FLPMA. As with land tenure actions, the negative impacts created by utility line construction would be mitigated by adherence to NHPA and FLPMA. The Proposed RMP does promote the consideration of acquiring lands or easements to manage or protect cultural resources and is the more beneficial to cultural resources than current management. Restrictions or elimination of utility corridors is of benefit to cultural resources. The greater the restrictions and the fewer the utility corridors, the fewer impacts to cultural resources. The Proposed RMP is more restrictive than the present management and less likely to result in impacts to cultural resources.

Conclusion: Objectives would be met under this alternative.

Generally speaking, cultural resources fare the best when the number of uses on public land is restricted to the least ground disturbing. The Proposed RMP is more restrictive than current management and less likely to result in cumulative negative impacts to cultural resources.

Most cultural resources (with the exception of American Indian plant gathering locations) are location specific, fragile, and nonrenewable and negative impacts are, by nature, cumulative. An archaeological 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.

A recurring activity, seen repeatedly within different, though related, resources, is livestock grazing in riparian corridors. Water resources, fish and wildlife and their respective habitats, rangeland/grazing use and NWSR management all focus either partially of fully on riparian corridor management. Limiting or removing livestock grazing from these areas is a cumulative positive impact to cultural resources. Conversely, there is a potential to increase impacts to cultural resources in upland areas when grazing the riparian areas is restricted or discontinued. These negative, cumulative impacts would be either low level and widespread or more severe and confined to livestock congregation areas. In this case, the benefits to cultural resources in riparian corridors outweigh the potential negative impacts cultural resources in the uplands.

Summary of Impacts

With the exception of wildland fire suppression, wild horse, and forest/woodland management, Alternative E would result in the fewest cumulative negative impacts to archaeological sites, American Indian use areas, and paleontological localities of all the alternatives. With extremely limited suppression efforts and no 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, longer-duration fires in forested locations. This type of fire is known to damage surface archaeological sites. Increased wild horse numbers could result in greater negative impacts to cultural resources, primarily in congregation areas and riparian corridors. Increased erosion and ground visibility in unmanaged western juniper woodlands would result in increased impacts to archaeological sites in these areas under this alternative. Still, Alternative E would produce fewer cumulative negative impacts than all other alternatives.

Alternative A is the least restrictive of all the alternatives and would result in the greatest level of cumulative negative impacts to cultural resources and paleontological localities.

An analysis of the remaining alternatives shows that the highest levels of negative cumulative impacts would occur under Alternative B, followed in order by Alternatives C, Proposed RMP, D and D2. This ranking is based on the increased emphasis on natural values and decreased commodity use.

Land and Realty

Objective 1: *Retain public land with high and public resource values. Consolidate public landholdings and acquire land or interests in land with high and public resource values to ensure effective administration and improve resource management. Acquired land would be managed for the purposes for which it was acquired. Make available for disposal approximately 62,100 acres of public land within Zone 3 by State indemnity selection, private or State exchange, "Recreation and Public Purpose Act" (R&PP) lease or sale, public sale, or other authorized method (see Appendix L).*

Assumptions common to all alternatives: The Land and Realty program is a support function of other resource programs. Consequently, impacts to the program are 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.

Land identified for disposal is known as Disposal-Zone 3 land and are displayed in Appendix L, Table L-4 and on Maps LAND-3J and -3M in the Draft SEORMP/EIS. Contingent upon site-specific analysis and inventory for resource values in accordance with NEPA, 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 exchange or sale.

Any acquired land or acquired interests in land would be managed for the purposes for which they were acquired, or in the same manner as adjacent or comparable public land.

Alternative A

Impacts: Under this alternative, the major emphasis of land tenure adjustment would be for commodity production. Decisions to retain or dispose of public land or acquire private land would be based on the opportunity to enhance commodity production. Exchanges may not result in the acquisition of land possessing high and public resource values. In some cases, resource values (such as riparian and wildlife areas) could be lost from public ownership if shown to benefit commodity production.

Disposal by sale of Zone 3 land would be expected to increase over Alternative B due to the expanded Zone 3 land tenure zone and the ability to expand Zone 3 according to the criteria in Appendix L.

Most commodity producing areas with potential for timber harvest, mineral production, and livestock grazing would be retained in public ownership unless disposal of this land benefitted commodity production and were consistent with meeting other resource objectives. The presence of a large acreage in existing SMA's could limit the acreage available for commodity production.

Other interests in land, including conservation and scenic easements, may be acquired to assure efficient administration, improve resource management, and provide access to commodity producing land.

The consolidation of split-ownership surface and subsurface estates would be pursued to facilitate the efficient and effective management of public land. State, local government, and private land estates would be made whole, enabling future development.

Conclusion: Under this alternative, the objective would be met and land tenure adjustment actions would be weighted toward commodity producing land. Acquisition of land with high and public resource values would not be a priority. Cumulative impacts could include high and public resource values potentially lost from public ownership.

Alternative B

Impacts: Under this alternative, land tenure adjustment would be limited to land identified for sale or exchange in existing MFP's. Land sales would be limited by lack of land identified for sale. Land tenure adjustments by exchange would be allowed when there is no significant resource conflict. Land disposals by other means would be considered only after the possibilities for exchange have been exhausted. An emphasis on acquiring land with high and public resource values would be of primary consideration.

Interests in land would be acquired on a case-by-case basis as needed.

The consolidation of split-ownership surface and subsurface estates was not addressed in the current planning documents. Proposals involving the consolidation of split-estate would be considered on a case-by-case basis.

Conclusion: Implementation of this alternative would meet the objective; however, the lack of flexibility to dispose of public land without amending the MFP would limit land sale actions. Cumulative impacts are expected to be negligible under this alternative.

Alternative C

Impacts: Under this alternative, the major emphasis of land tenure adjustments would be retention/acquisition of land with high and public resource values.

An increased number of land exchanges and sales over Alternative B could be expected. More land is identified for disposal under Zone 3 and could be added to Zone 3 in the future under this alternative. Under this alternative, acquiring land through exchange would be the most desirable means of implementing the policy of placing emphasis on acquiring land with high and public resource values. This alternative would increase public acreage in existing and proposed SMA's.

Other interests in land, including conservation and scenic easements, may be acquired to assure efficient administration and improve resource management. This alternative would emphasize acquisition of interests in easements for communication site management and access to public land, conservation easements for wildlife habitat areas, and scenic easements on land adjacent to high use recreation areas.

The consolidation of split-ownership surface and subsurface estates would facilitate the efficient and effective management of public land. State, local government, and private land estates would be made whole, enabling future development.

Conclusion: Under this alternative, the objective would be met through consideration of land tenure adjustment actions focused on acquiring land with high and public resource values. Disposal by sale of Zone 3 land would be expected to increase over Alternative B. This alternative would increase public acreage in existing and proposed SMA's. Cumulative impacts are expected to be negligible since a balance would be attained between commodity uses and retention of resource values.

Other interests in land would be acquired to assure efficient administration and improved management.

The consolidation of split-estates would facilitate the efficient and effective management of public land.

Alternative D

Impacts: Under this alternative, the major emphasis of land tenure adjustments would be on the retention/acquisition of land with high and public resource values.

Land exchanges and sales would be expected to decrease under this alternative because of the limited availability of public land that would be suitable for disposal. An increased number of land sales over Alternative B could be expected. Acquiring land through purchase or donation would be the most desirable means of implementing the policy of placing special emphasis on acquiring land with high and public resource values. This alternative would increase public acreage in existing and proposed SMA's.

Other interests in land, including conservation and scenic easements, may be acquired to assure efficient administration and improve resource management. This alternative would

emphasize acquisition of interests in conservation easements for wildlife habitat areas, and scenic easements on land adjacent to high use recreation areas.

The consolidation of split-ownership surface and subsurface estates would facilitate the efficient and effective management of public land. State, local government, and private land estates would be made whole, enabling future development.

Conclusion: Under this alternative, the objective would be met through consideration of land tenure adjustment actions focused on acquiring land with high and public resource values. This alternative would increase public acreage in existing and proposed SMA's through purchase or donation. A cumulative impact of limiting land tenure actions could benefit commodity production by limiting acquisition of non-Federal land with high and public resource values.

Other interests in land would be acquired to assure efficient administration and improve management.

The consolidation of split-estates would facilitate the efficient and effective management of public land.

Alternative D2

Impacts: Under this alternative, the major emphasis of land tenure adjustments would be on the retention/acquisition of land with high and public resource values.

Land exchanges and sales would be expected to decrease under this alternative because of the limited availability of public land that would be suitable for disposal. An increased number of land sales over Alternative B could be expected. Acquiring land through purchase of donation would be the most desirable means of implementing the policy of placing special emphasis on acquiring land with high and public resource values. This alternative would increase public acreage in existing and proposed SMA's.

Other interests in land, including conservation and scenic easements, may be acquired to assure efficient administration and improve resource management. This alternative would emphasize acquisition of interests in conservation easements for wildlife habitat areas, and scenic easements on land adjacent to high use recreation areas.

The consolidation of split-ownership surface and subsurface estates would facilitate the efficient and effective management of public land. State, local government, and private land estates would be made whole, enabling future development.

Conclusion: Under this alternative, the objective would be met through consideration of land tenure adjustment actions focused on acquiring land with high and public resource values. This alternative would increase public acreage in existing and proposed SMA's through purchase or donation. A cumulative impact of limiting land tenure actions could benefit commodity production by limiting acquisition of non-Federal lands with high and public resource values.

Other interests in land would be acquired to assure efficient administration and improve management.

The consolidation of split-estates would facilitate the efficient and effective management of public land.

Alternative E

Impacts: Under this alternative, the major emphasis of land tenure adjustment actions would focus more than under Alternatives D and D2 on acquiring land with high and public resource values for resource protection only. Impacts would be similar to those described under Alternatives D and D2.

Conclusion: Under this alternative the objective would be met through consideration of land tenure adjustment actions focused more than under Alternative D and D2 on acquiring land with high and public resource values for resource protection only.

The cumulative impact would be the acquisition of non-Federal land which would result in reducing the counties' tax base.

Impacts are the same as under Alternative D, D2, and E.

Proposed RMP

Impacts: Under this alternative, the major emphasis of land tenure adjustments would be retention/acquisition of land with high and public resource values.

Land exchanges and sales could be expected to increase over those completed under current planning. More land is identified for disposal under Zone 3 and still could be added to Zone 3 in the future. Acquiring land through exchange would be the most desirable means of implementing the policy of placing emphasis on acquiring land with high and public resource values. This alternative would increase public acreage in existing and proposed SMA's.

Other interests in land, including conservation and scenic easements, may be acquired to assure efficient administration and improve resource management. This alternative would emphasize acquisition of interests in easements for communication site management and access to public land, conservation easements for wildlife habitat areas, and scenic easements on land adjacent to high use recreation areas.

The consolidation of split-ownership surface and subsurface estates would facilitate the efficient and effective management of public land. State, local government, and private land estates would be made whole, enabling future development.

Conclusion: The objective would be met through consideration of land tenure adjustment actions focused on acquiring land with high and public resource values. Disposals by sale of Zone 3 land would be expected to increase over those completed under current planning.. Public acreage would increase in existing and proposed SMA's. Cumulative impacts would be negligible since a balance would be attained between commodity uses and retention of resource values.

Other interests in land would be acquired to assure efficient administration and improved management.

The consolidation of split-estates would facilitate the efficient and effective management of public land.

Summary of Impacts

Under Alternative A, land tenure adjustment actions would be weighted toward retention/acquisition of commodity producing land. Land tenure adjustment actions would not be used to acquire high and public resource values as under other alternatives. Significant high and public resource values may potentially be lost from public ownership.

Implementation of Alternative B would limit the land disposal method. There would be little flexibility to sell land without a land use plan amendment. An emphasis on acquiring land with high and public resource values would be of primary consideration when making land tenure adjustments under the MFP's.

Under Alternatives C and Proposed RMP, land tenure adjustment actions would be directed toward a mixture of the management goals of increasing commodity production and preserving land with high and public resource values. Land having high and public resource values would be more likely to be retained under this alternative. Alternatives C, D, D2, E, and Proposed RMP would increase public acreage in existing and proposed SMA's.

Under Alternatives D, D2, and E, land exchanges and sales would be expected to decrease because of the limited availability of public land that would be suitable for disposal.

Other interests in land, including conservation and scenic easements, would be acquired to assure efficient administration and improve resource management in the following ways:

- Commodity production could enhanced under Alternative A;
- Interests in land could be acquired on a case-by-case basis as needed under Alternative B;
- Many resource programs would be benefitted by emphasizing acquisition of interests in areas with high and public resource values under Alternatives C and Proposed RMP; and
- Many resource programs would be benefitted by emphasizing protection of high and public resource values under Alternatives D, D2, E, and Proposed RMP.

Under Alternatives A, C, D, D2, E, and Proposed RMP disposal by sale of Zone 3 land would be expected to increase because of the expanded acreage that meets the Zone 3 disposal criteria over that contained in Alternative B.

Under Alternatives A, C, D, D2, E, and Proposed RMP the consolidation of split-ownership surface and subsurface estates would facilitate the efficient and effective management of public land. Under Alternative B, consolidation of split-estate was not addressed in existing MFP's, and could result in the need for a land use plan amendment.

Objective 2: *Establish right-of-way corridor routes to the extent possible, taking into account avoidance areas, consistent with resource objectives.*

Assumptions common to all alternatives: Right-of-way corridors: Section 503 of FLPMA provides for the designation of right-of-way corridors and encourages use of rights-of-way in common to minimize environmental impacts and the proliferation of separate rights-of-way. BLM policy, as described in BLM Manual 2801.13B1, is to encourage prospective applicants to locate their proposals within corridors. However, when right-of-way corridor proposals are in conflict with SMA's such as WSA's, designated NWSR areas, and ACEC's, these areas should be avoided. Map LAND-1 in the Draft SEORMP/EIS and Appendix L, Table L-1 describe where some restrictions could apply.

Any potential rights-of-way that fall outside designated right-of-way corridors will be evaluated on a case-by-case basis and in accordance to the NEPA process.

Alternative A

Impacts: There would be no impacts to the continued designation of approximately 333 miles of rights-of-way corridors on public land. Approximately 68 miles and 265 miles are located in MRA and JRA, respectively.

Elimination of approximately 205 miles of public land right-of-way corridors would protect natural values and avoid SMA conflicts. Approximately 75 miles and 130 miles are located in MRA and JRA, respectively. About 139 miles of existing low demand right-of-way corridors would be designated. Approximately 76 miles and 63 miles are located in MRA and JRA, respectively. All proposed rights-of-way located in SMA's would be assessed on a case-by-case basis. This would not be a significant factor since most SMA's are isolated with low demand for development in these areas.

Conclusion: Under this alternative the objective would be met. Avoiding SMA's may create additional expense for utility companies by placing limitations on future development opportunities. Cumulative impacts of rights-of-way would be minimized by use of designated corridor routes. No significant cumulative impacts are expected.

Alternative B

Impacts: Existing corridor designations on facilities identified in current planning documents and the most current 1993 "Western Regional Corridor Study" (WRCS) would be continued, and as a result, there would be no impacts of significance.

Conclusion: Alternative B is the continuation of the present situation as it exists in the current MFP's, and meets the objective. There are no additions or deletions of proposed corridors and no significant impacts. Cumulative impacts of rights-of-way would be minimized by use of designated corridor routes. No significant cumulative impacts are expected.

Alternative C

Impacts: Alternative C is generally the same as Alternative A with minor exceptions. Proposals for future interties through the Owyhee Below the Dam ACEC would be scrutinized very closely and some limitations or modifications of structures could be imposed in order to minimize impacts to natural resource values. These limitations could impose additional costs to future project development.

Conclusion: Impacts would be the same under Alternative A, except that proposals for future interties would be scrutinized very closely and some limitations or modifications of structures may be imposed in order to minimize impacts to natural resource values contained within the proposed Owyhee River Below the Dam ACEC. This alternative would not preclude other interties being routed through this area but could result in additional cost if existing tower structures have to be modified in order to accommodate the additional lines. Cumulative impacts of rights-of-way would be minimized by use of designated corridor routes. No significant cumulative impacts are expected.

Alternative D

Impacts: Impacts would be the same as Alternative A with some minor exceptions.

Alternative D would eliminate or restrict corridor designations to existing corridors as previously described under Alternative C, except for the crossing of the Owyhee River downstream of Owhyee Dam. Proposals for future interties through this area would be routed to the north over the proposed 500-kV dog leg route. Implementation of this alternative could have negative impact on local and regional utility companies and other right-of-way users by restricting them to their existing facilities and routes, and proposed rights-of-way.

The implementation of this alternative would increase costs and would affect private land. The 20-mile detour route can be found in Appendix L, Table L-5.

Conclusion: Under this alternative, the objective would be met and the impacts would be the same as described under Alternative A, except that this alternative would discontinue or restrict corridor designations to existing corridors and previously disturbed areas, except near Owyhee Dam. Implementation of this alternative could have negative impacts on local and regional utility companies and other right-of-way users by restricting them to their existing facilities, routes, and currently proposed rights-of-way.

New proposals for future interties through the area below the Owyhee Dam would be routed over the proposed 20-mile 500-kV dog leg route in order to minimize impacts to natural resource values contained within the proposed Owyhee River Below the Dam ACEC. This would result in increased financial impacts to utility companies, and would affect private land. There would be a proposed addition of 20 miles of new intertie route in the area outside the proposed Owyhee River Below the Dam ACEC and the proposed recreation river designation below the Owyhee Dam under the NWSRA. The additional intertie route would have an increased negative cumulative impact to the area.

Alternative D2

Impacts: Impacts would be the same as Alternative A with some minor exceptions.

Alternative D2 would eliminate or restrict corridor designations to existing corridors as previously described under Alternative C, except for the crossing of the Owyhee River downstream of Owhyee Dam. Proposals for future interties through this area would be routed to the north over the proposed 500-kV dog leg route. Implementation of this alternative could have negative impact on local and regional utility companies and other right-of-way users by restricting them to their existing facilities and routes, and proposed rights-of-way.

The implementation of this alternative would increase costs and would affect private land. The 20-mile detour route can be found in Appendix L, Table L-5.

Conclusion: Under this alternative, the objective would be met and the impacts would be the same as described under Alternative A, except that this alternative would delete or restrict corridor designations to existing corridors and previously disturbed areas, except near Owyhee Dam. Implementation of this alternative could have negative impacts on local and regional utility companies and other right-of-way users by restricting them to their existing facilities, routes, and currently proposed rights-of-way.

New proposals for future interties through the area below the Owyhee Dam would be routed over the proposed 20-mile 500-kV dog leg route in order to minimize impacts to natural resource values contained within the proposed Owyhee River Below the Dam ACEC. This would result in increased financial impacts to utility companies, and would affect private land. There would be a proposed addition of 20 miles of new intertie route in the area outside the proposed Owyhee River Below the Dam ACEC and the proposed recreation river designation below the Owyhee Dam under the NWSRA. The additional intertie route would have an increased negative cumulative impact to the area.

Alternative E

Impacts: Management and impacts are the same as in Alternatives D and D2.

Conclusion: Under this alternative the objective would be met and the impacts would be the same as described in Alternatives D and D2.

Proposed RMP

Impacts: There would be no impacts to the continued designation of approximately 333 miles of rights-of-way corridors on public land.

Elimination of approximately 205 miles of public land right-of-way corridors would protect natural values and avoid SMA conflicts. Approximately 75 miles and 130 miles are located in MRA and JRA, respectively. About 139 miles of existing low demand right-of-way corridors would be designated. Approximately 76 miles and 63 miles are located in MRA and JRA, respectively. All proposed rights-of-way located in SMA's would be assessed on a case-by-case basis. This would not be a significant factor since most SMA's are isolated with low demand for development in these areas.

Proposals for future interties through the Owyhee Below the Dam ACEC would be scrutinized very closely and some limitations or modifications of structures could be imposed in order to minimize impacts to natural resource values. These limitations could impose additional costs to future project development.

Conclusion: Under proposed action, the objective would be met. Avoiding SMA's may create additional expense for utility companies by placing limitations on future development opportunities. Proposals for future interties would be scrutinized very closely and some limitations or modifications of structures may be imposed in order to minimize impacts to natural resource values contained within the Owyhee River Below the Dam ACEC. This alternative would not preclude other interties being routed through this area but could result in additional cost if existing tower structures have to be modified in order to accommodate the additional lines. Cumulative impacts of rights-of-way would be minimized by use of designated corridor routes. No significant cumulative impacts are expected.

Summary of Impacts

Alternatives A, C, D, D2, E, and Proposed RMP, allow for continuation, elimination, and addition of right-of-way corridors, with some limitations, within the planning area.

Alternative B is the continuation of the present situation as it exists in the current MFP's. There are no additions or deletions of proposed corridors and no significant impacts.

Alternatives C, D, D2, E, and Proposed RMP, are the same as Alternative A except for the corridor area below the Owyhee Dam. Under Alternative C, future interties through this area would be scrutinized very closely and some limitations or modifications of structures may be imposed in order to minimize impacts to natural resource values. This alternative would not preclude other interties being routed through this area, but could result in additional cost if existing tower structures have to be modified in order to accommodate the additional lines.

Under Alternatives D, D2, and E, at the corridor area Below the Dam, the route would detour to the north to avoid the proposed Owyhee River Below the Dam ACEC and the proposed recreation river designation below the Owhyee Dam under the NWSRA. New proposals for future interties through the area below the Owyhee Dam would be routed over the proposed 20-mile 500-kV dog leg route. The cost analysis of the entire 20-mile detour route can be found in Appendix L, Table L-5. There would be a proposed addition of 20 miles of new intertie route in the area outside the proposed Owyhee River Below the Dam ACEC and the proposed recreation river designation below the Owyhee Dam under the NWSRA. The additional intertie route would have an increased negative cumulative impact to the area.

Alternatives D, D2, and E, would have a negative impact on local and regional utility companies and other right-of-way users by restricting their use of existing facilities and routes, and may limit any proposed rights-of-way in order to protect natural values. Utility

companies could incur additional financial impacts, and there could be impacts to private land as a result of these alternatives.

In general, no significant cumulative impacts are expected in Alternatives A, B, C, and Proposed RMP. The additional intertie route in Alternatives D, D2, and E would have an increased negative cumulative impact to area outside the Owyhee River Below the Dam ACEC and proposed recreation river designation below the Owyhee Dam under the NWSRA.

Cumulative impacts of rights-of-way would be minimized by use of designated corridor routes.

Chapter 5
Consultation and Coordination

Abbreviations and Acronyms

Reader note: *Refer to the list below for abbreviations or acronyms that may have been used in this chapter.*

ACEC ~ area of critical environmental concern
ADC ~ animal damage control
AML ~ appropriate management level
AMP ~ allotment management plan
AMR ~ appropriate management response
APHIS ~ Agricultural Plant and Animal Health Inspection Service
ARA ~ Andrews Resource Area
ATV ~ all-terrain vehicle
AUM ~ animal unit month
BA ~ biological assessment
BIA ~ Bureau of Indian Affairs
BLM ~ Bureau of Land Management
BMP ~ best management practice
BO ~ biological opinion
BOM ~ Bureau of Mines
BOR ~ Bureau of Reclamation
BPA ~ Bonneville Power Administration
CERCLIS ~ comprehensive environmental response, Compensation and Liability Information System
CEQ ~ Council on Environmental Quality
CFR ~ "Code of Federal Regulations"
CLCAS ~ "Canada Lynx Conservation Assessment and Strategy"
CRMP ~ "Cultural Resources Management Plan"
CWA ~ "Clean Water Act"
DLCD ~ Department of Land Conservation and Development
DOD ~ Department of Defense
DOE ~ Department of Energy
DOGAMI ~ Oregon Department of Geology and
Mineral Industries
DOI ~ Department of the Interior
DPC ~ desired plant community
DRFC ~ desired range of future conditions
EA ~ environmental assessment
EIS ~ environmental impact statement
EPA ~ Environmental Protection Agency
ER ~ entrenchment ratio
ERMA ~ extensive recreation management area ERU ~ ecological reporting unit
ESA ~ "Endangered Species Act"
ESI ~ ecological site inventory
E/EIS ~ "Eastside Environmental Impact Statement"
FAA ~ Federal Aviation Administration
FERC ~ Federal Energy Regulatory Commission
FLPMA ~ "Federal Land Policy and Management Act"
FMP ~ fire management plan
FWFMP ~ "Federal Wildland Fire Management Policy"
GIS ~ geographic information system
GMA ~ geographic management area
GTR ~ green tree replacement
HA ~ herd area
HMA ~ herd management area
HMP ~ habitat management plan
HUC ~ hydrologic unit code
ICBEMP ~ Interior Columbia Basin Ecosystem Management Project
IMP ~ "Interim Management Policy"
IMPLWR ~ "Interim Management Policy for Land under Wilderness Review"
INFISH ~ "Inland Native Fish Strategy"
JRA ~ Jordan Resource Area
KGRA ~ known geothermic resource area
LCDC ~ Land Conservation and Development Commission
LGMP ~ "Leslie Gulch ACEC Management Plan"
MFP ~ management framework plan
MOU ~ memorandum of understanding
MRA ~ Malheur Resource Area
NCA ~ national conservation area
NEPA ~ "National Environmental Policy Act"
NHOT ~ National Historic Oregon Trail
NHPA ~ "National Historic Preservation Act"
NL ~ no leasing
NOAA ~ National Oceanographic and Atmospheric Administration
NPS ~ National Park Service
NPSP ~ nonpoint source pollution
NRCS ~ Natural Resources Conservation Service
NRHP ~ National Register of Historic Places
NSO ~ no surface occupancy
NWSR ~ national wild and scenic river
NWSRA ~ "National Wild and Scenic River Act"
NWSRS ~ National Wild and Scenic River System
OAR ~ "Oregon Administrative Rules"
OBSMP ~ "Oregon's Bighorn Sheep Management Plan"
ODA ~ Oregon Department of Agriculture
ODEQ ~ Oregon Department of Environmental Quality
ODF ~ Oregon Department of Forestry
ODFW ~ Oregon Department of Fish and Wildlife
ODOT ~ Oregon Department of Transportation
ODPR ~ Oregon Department of Parks and Recreation
ODSL ~ Oregon Division of State Lands
OHV ~ off-highway vehicle
ONA ~ outstanding natural area
ONHP ~ Oregon Natural Heritage Program
ONHTMP ~ "Vale District Oregon National Historic Trail Management Plan"
ORS ~ "Oregon Revised Statute"
ORV ~ outstandingly remarkable value
OWFEIS ~ "Oregon Wilderness Final Environmental Impact Statement"
OWS ~ occupancy with stipulations
PFC ~ proper functioning condition
PILT ~ payments in lieu of taxes
PNC ~ potential natural community
PP&L ~ Pacific Power and Light
PSEORMP/FEIS ~ "Proposed Southeastern Oregon Resource Management Plan/ Final Environmental Impact Statement"
PRIA ~ "Public Rangelands Improvement Act"
PUC ~ Public Utilities Commission
RAIDS ~ riparian aquatic information data system
RAWS ~ remote automated weather station
RCA ~ riparian conservation area
RMO ~ riparian management objective
RMP ~ resource management plan
RNA ~ research natural area
ROD ~ record of decision
ROS ~ recreation opportunity spectrum
RPS ~ rangeland program summary
RS ~ "Revised Statutes"
R&PP ~ recreation and public purpose
SCORP ~ Oregon's "Statewide Comprehensive Outdoor Recreation Plan"
SEORAC ~ Southeastern Oregon Resource Advisory Council
SEORMP ~ "Southeastern Oregon Resource Management Plan"
SHPO ~ State Historic Preservation Office
SMA ~ special management area
SMCMPA ~ Steens Mountain Cooperative Management and Protective Area
SRMA ~ special recreation management area
SRP ~ special recreation permit
S&G's ~ "Standards of Rangeland Health and Guidelines for Livestock Grazing Management"
TGA ~ "The Taylor Grazing Act"
TMDL ~ total maximum daily load
TNC ~ The Nature Conservancy
TNR ~ temporary nonrenewable grazing
T&E ~ threatened and endangered
USDA ~ U.S. Department of Agriculture
USDI ~ U.S. Department of the Interior
USFS ~ U.S. Forest Service
USFWS ~ U.S. Fish and Wildlife Service
USGS ~ U.S. Geological Survey
VRM ~ visual resource management
WAFWA ~ Western Association of Fish and Wildlife Agencies
WFSA ~ wildland fire situation analysis
WRCS ~ "Western Regional Corridor Study"
WSA ~ wilderness study area
WSRO ~ "Wilderness Study Report, Oregon"
WQMP ~ "Water Quality Management Plan"
WQRP ~ water quality restoration plan

Introduction

The Draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) and Proposed Southeastern Oregon Resource Management Plan/Final Environmental Impact Statement (PSEORMP/FEIS) were prepared by an interdisciplinary team from the BLM Burns and Vale District Offices. Compilation of the Draft SEORMP/EIS began in the spring of 1996; however, a complex process that began in September of 1995 preceded the writing phase. This process has included consolidation of resource data, public participation, interagency coordination, and analysis of the management situation. Consultation and coordination with various agencies, organizations, and individuals occurred throughout the planning process.

Public Participation

Public participation in the planning process began with publication of a "Notice of Intent" in the *Federal Register* (Vol. 60, No. 164) on August 24, 1995, and distribution of a scoping notice to potential interested parties on September 1, 1995. The scoping notice — sent to nearly 2,400 individuals, organizations, and user groups — identified preliminary issues and topics to be addressed in the SEORMP/EIS and asked for public comment. The notice also announced nine public meetings on the SEORMP/EIS that were held in Vale, Burns, Jordan Valley, Diamond, Bend, and Portland, Oregon; McDermitt and Denio, Nevada; and Boise, Idaho, in September 1995.

The scoping process was the opportunity to identify concerns, needs, and management opportunities for the Bureau of Land Management (BLM) to consider during preparation of the SEORMP/EIS. Information gathered from the public, groups, or BLM determines the range of actions, alternatives, and impacts that will be addressed. The more than 120 people who attended the public meetings provided many valuable suggestions. The interdisciplinary team preparing the SEORMP/EIS also received and considered a number of written scoping comments from individuals, organizations, and agencies. Public participation was particularly important in developing of the planning criteria for the SEORMP/EIS.

Preliminary alternatives and planning criteria were distributed to the public for review and comment on March 1, 1996. The numerous comment letters that were received were considered by the interdisciplinary team in revising the issues, planning criteria, and proposed alternatives. The planning criteria were approved by the Vale and Burns BLM District Managers in May 1996.

The Draft SEORMP/EIS was made available to the public on November 1, 1998 after a "Notice of Availability of the Draft SEORMP/EIS " was published in the *Federal Register* (Vol. 63, No. 204) on October 22, 1998. During the 90-day comment period, 266 letters were received from interested parties. A "Summary of Public Comments" report was made available to interested parties during May 1999. During the comment period, a series of open house meetings was held throughout the State and in McDermitt, Nevada (see Table 5-1, Summary of Key Public Involvement Events).

Table 5-1.—*Summary of key public involvement events*

Date	Event
01-25-95	Provided briefing on the SEORMP/EIS at a meeting of Alkali Springs permittees.
02-08-95	Provided briefing on the SEORMP/EIS at a meeting of McDermitt permittees.
06-07-95	Letters seeking input on SEORMP/EIS sent to Burns Paiute Tribe; Confederated Tribes of the Warm Springs Reservation; Confederated Tribes of the Umatilla Indian Reservation; Fort McDermitt Shoshone-Paiute, Shoshone-Paiute Tribes at Duck Valley Indian Reservation; Shoshone-Bannock Tribes at Fort Hall Indian Reservation; Klamath Tribe, and Nez Perce Tribe. Letters were followed up with phone calls.
07-19-95	Meeting with Harney County Court.
07-27-95	Meeting with Burns Paiute Tribal Council.
08-09-95	Meeting with Burns Paiute Tribal Council concerning tribal issues within the SEORMP/EIS planning area.
08-16-95	Meeting with Fort McDermitt Shoshone-Paiute Tribal Council concerning tribal issues within the SEORMP planning area.
08-24-95	"Notice of Intent" published in *Federal Register* to initiate a resource management plan (RMP) and prepare an EIS and invitation to participate in the identification of issues (scoping).
09-01-95	Scoping brochure inviting public participation in planning process sent to 2,400; 60-day comment period identified. Announcement of nine public scoping meetings.
09-18-95	Public scoping meeting in Vale, Oregon (22 attended).
09-19-95	Public scoping meeting in Burns, Oregon (20 attended).
09-20-95	Public scoping meeting in McDermitt, Nevada (7 attended).
09-20-95	Public scoping meeting in Denio, Nevada (8 attended).
09-21-95	Public scoping meeting in Jordan Valley, Oregon (22 attended).
09-21-95	Public scoping meeting in Diamond, Oregon (14 attended).
09-25-95	Meeting held with Oregon Natural Desert Association (ONDA) in Bend, Oregon (7 attended).
09-25-95	Public scoping meeting in Bend, Oregon (3 attended).
09-26-95	Meeting held with Federal and Oregon State agencies in Portland, Oregon (4 attended).
09-26-95	Public scoping meeting in Portland, Oregon (10 attended).
09-28-95	Public scoping meeting in Boise, Idaho (1 attended).
01-23-96	Meeting with Malheur County Court to discuss SEORMP/EIS.
01-30-96	Meeting with the Southeastern Oregon Resource Advisory Council (SEORAC) to present a briefing on planning issues and criteria.
02-21-96	Meeting with Harney County Court to update on issues, planning criteria, and alternatives prior to sending to the public.
02-29-96	Meeting with a subgroup of the SEORAC to discuss SEORMP/EIS issues.
03-01-96	Document mailed to public on SEORMP/EIS planning issues, planning criteria, and alternatives (30-day comment period).
03-08-96	Present SEORMP/EIS briefing at meeting of Cottonwood Mountain Allotment permittees.
03-09-96	Meeting with permittees in Jordan Valley concerning SEORMP/EIS status.
03-25-96	Meeting in Jordan Valley with Vale District permittees to discuss research natural area/area of critical environmental concern (ACEC/RNA) nominations.
04-01-96	Meeting in Burns with the SEORAC concerning plan issues.
04-16-96	Meeting with Burns Paiute Tribal Council to discuss update on ACEC's and NWSR nominations.
04-17-96	Met with Harney County Court to discuss the update on ACEC's and NWSR's prior to sending to public.
04-23-96	Meeting with Malheur County Court concerning the plan.
04-23-96	Letters sent to all permittees concerning proposals for ACEC's; range staff followed up letters with phone calls to discuss any issues.
04-26-96	Planning update on process and progress, ACEC's, and NWSR's mailed to public.
05-01-96	Meeting with Fort McDermitt Tribe to provide update on plan progress.
05-11-96	Tour with Vale District permittees in Jordan Resource Area (JRA) to look at and discuss ACEC/RNA nominations.

05-14-96	Meeting with Malheur County Court concerning SEORMP/EIS.
05-20-96	Meeting with Fort McDermitt Shoshone-Paiute Tribal Council concerning SEORMP.
05-22-96	Open house in Burns District Office to discuss SEORMP progress and to take comments (35 attended).
05-23-96	Open house in Vale District Office to discuss SEORMP progress and to take comments (45 attended).
06-10-96	Meeting in Burns with the SEORAC concerning SEORMP/EIS issues.
06-26-96	Met with the Burns Paiute Tribal Council.
06-27-96	Planning update on SEORMP distributed to public.
07-05-96	Meeting with the Harney County Court.
07-19-96	Meeting with the Burns Paiute Tribal Council.
08-01-96	Meeting at Vale District Office with staff from Boise Office of U.S. Fish and Wildlife Service to discuss plan issues.
08-05-96	Meeting in Jordan Valley with the SEORAC concerning plan issues.
08-13-96	Meeting with Lions Club in Ontario to discuss the SEORMP.
08-13-96	Meeting with Malheur County Court in Vale to discuss the SEORMP.
08-16-96	Presented SEORMP briefing to Burns Paiute Tribe.
08-21-96	Meeting with Nyssa Chamber of Commerce to discuss the SEORMP.
10-21-96	Meeting in Burns with SEORAC to provide update on SEORMP.
01-17-97	Discussed plan at meeting of Allotment No. 2 permittees.
01-28-97	Presented information on plan to Malheur County Court in Vale.
02-27-97	Meeting in Ontario with SEORAC to provide update on SEORMP.
03-04-97	Meeting with North Harper Allotment permittees to discuss plan.
03-06-97	Discussion of plan at a public meeting in Jordan Valley.
03-28-97	Mailed March planning update to public.
04-14-97	Letters sent to various Indian Tribes re: plan update.
04-16-97	Harney County Court meeting in Burns for update.
04-22-97	Briefed Malheur County Court on SEORMP.
04-22-97	Open house in Vale to discuss SEORMP (25 attended).
04-24-97	Open house in Burns to discuss SEORMP (15 attended).
05-01-97	Burns Paiute Tribal Council SEORMP update meeting.
05-05-97	Harney County Court meeting to review SEORMP.
06-03-97	Confederated Tribes of the Warm Spring Reservation's Natural Resource Committee.
07-19-97	Burns Paiute Council meeting for SEORMP update.
10-03-97	Harney County Court SEORMP review meeting.
10-09-97	Meeting with Burns Paiute representative to review comments.
10-15-97	Discussion on SEORMP with USFWS.
11-26-97	Meeting with Harney County Court for SEORMP review.
01-05-98	Letter to the various Indian Tribes; plan update and offer to meet on the Draft SEORMP/EIS.
01-09-98	Meeting with Burns Paiute Council.
02-02-98	Meeting with Harney County Court.
11-30-98	Letter to all tribes offering a meeting on the Draft SEORMP.
11-30-98	Open house in McDermitt, Nevada, for Draft SEORMP comment.
11-30-98	Open house in Fields for Draft SEORMP comment.
12-01-98	Open house in Jordan Valley for Draft SEORMP comment.
12-01-98	Open house in Diamond for Draft SEORMP comment.
12-02-98	Open house in Vale for Draft SEORMP comment.
12-03-98	Open house in Burns for Draft SEORMP comment.
12-08-98	Open house in Portland for Draft SEORMP comment.
02-01-99	Telephone contact with all tribes (date is approximate).

Interagency and Intergovernmental Relationships

The following are examples of interagency coordination with other Federal agencies and state and local governments required by BLM regulations (43 CFR Part 1610.3) and provisions of existing cooperative agreements or memorandums of understanding (MOU's).

Federal Agencies

Parts of the Wallowa-Whitman National Forest and Malheur National Forest are adjacent to the planning area. The BLM and U.S. Forest Service (USFS) strive to achieve similar resource management goals on adjoining land.

The BLM has agreements with the USFS and other Federal agencies, such as the Bureau of Indian Affairs (BIA), regarding minerals management on Federal land not administered by the BLM. Minerals management on other agency land is not addressed in this plan.

The former Bureau of Mines (BOM) provided mineral evaluations in support of BLM planning efforts, and the BLM also consults with the U.S. Geological Survey (USGS) on mineral resources.

The USFWS administers the "Endangered Species Act" (ESA) of 1973 (as amended). The BLM consults with the USFWS whenever a Federal project or action could affect a listed species or its critical habitat. The USFWS then issues a formal biological opinion and recommends appropriate courses of action. A proposed action may be modified or abandoned to satisfy the requirements of the biological opinion. The BLM requests technical assistance from the USFWS for actions that could affect Federal candidate species and requests a conference for actions that could affect species proposed for listing.

The BLM and Bonneville Power Administration (BPA) coordinate resource management programs through an MOU. The BLM, BPA, and Northwest Power Planning Council work to stabilize and improve riparian zones and fish habitat as authorized by the "National Power Planning Act." Additionally, the BPA provides grants to improve aquatic habitat and it assists the BLM in identifying and evaluating regional utility corridor options.

The Federal Energy Regulatory Commission (FERC) reviews proposals for new power sites on rivers within the planning area, and has a lead role in licensing and permitting of energy facilities. BLM and FERC work jointly under a national MOU on water power and withdrawal issues.

The BOR and BLM coordinate resource management and programs through a national MOU on resource and water management issues. They also coordinate land use plans to meet each agency's management objectives and concerns.

The BLM works with the Federal Aviation Administration (FAA) to establish and maintain air navigation corridors.

The BLM works with the Natural Resource Conservation Service (NRCS) on soil and water management issues as well as other resource concerns.

The BLM and U.S. Department of Agriculture, Animal and Plant Health Inspection Service-Wildlife Services work jointly under a national MOU on animal damage control.

State and Local Governments

The BLM and Oregon Department of Fish and Wildlife (ODFW) work closely on site-specific activities coordinating on grazing management, vegetation monitoring and evaluation, and the installation of range, fish, and wildlife improvements.

The BLM cooperates with the Oregon Department of Forestry (ODF) on fire suppression.

The BLM and Oregon Department of Transportation (ODOT) cooperate and coordinate land use activities and/or authorizations such as road rights-of-way, mineral material sources, communication sites, and other issues related to public highway safety.

The BLM and Oregon Department of Agriculture (ODA) cooperate on inventory, study, and management of special status plants and noxious weeds.

The BLM coordinates with Oregon Division of State Lands (ODSL) regarding common land use issues such as river resources evaluations and land actions.

The BLM and Oregon Department of Parks and Recreation (ODPR) consult on management of public land adjacent to State parks and State scenic waterways. The department's "State Comprehensive Outdoor Recreation Plan" is used to address recreation issues and opportunities.

Under an MOU, the BLM and ODEQ work together to meet implementation requirements of the "Clean Water Act" (PL-92-500), as amended.

The Oregon Department of Geology and Mineral Industries (DOGAMI) and BLM have an MOU covering development of geothermal resources, conservation of oil and gas, and mined land reclamation on BLM-administered land. Both agencies work closely to avoid duplication in regulations, inspections, and approval of reclamation plans and attempt to minimize costs for mine operators, public, and government.

The BLM cooperates with soil and water conservation districts to establish mutual goals for range and watershed management and to gather and share information.

The BLM consults with the Oregon State Historic Preservation Office (SHPO) prior to any activities that might adversely affect cultural resources. This consultation involves assessing the potential effects of proposed projects on cultural resources and developing appropriate mitigation measures when adverse impacts cannot be avoided.

The BLM cooperates with State and county governments on the management of noxious weeds.

Under Section 202 of FLPMA, all BLM land use plans must be consistent, as possible, with resource-related plans officially approved or adopted by State and local agencies. Comprehensive plans for Harney and Malheur Counties have been acknowledged by the Oregon Land Conservation and Development Commission and conform with statewide planning goals and objectives. The public land within the planning area is generally in an "exclusive farm use" zone.

Appendix B shows the consistency of each of this plan's alternatives with statewide land conservation and development goals. These Statewide goals have been incorporated into the comprehensive plans for Harney and Malheur Counties.

Tribal Governments

A part of southeastern Oregon was ceded to the United States on October 1, 1863, by Western Shoshone bands (rather than by local Paiute groups). An executive order on March 14, 1871 temporarily withdrew much of the remainder of southeastern Oregon from non-Indian settlement. An Executive order on September 12, 1872, established the 1.8 million-acre Malheur Reservation north and east of Burns, Oregon, opening the remainder of the region to non-Indian settlement. The Malheur Reservation went through numerous geographic changes and was largely abandoned by the Northern Paiute in 1878 during hostilities. As a result, the reservation was terminated by Executive order in the 1880's and opened to settlement. More recently, three land claim settlements were reached by the Claims Commission, with the Northern Paiute and Klamath Tribes, for much of the area addressed by this plan.

The Confederated Tribes of the Umatilla Indian Reservation have ceded land near the northernmost portions of the planning area. Similarly, the ceded land of the Confederated Tribes of Warm Springs lies to the northwest of the planning area. Treaty reserved rights, held by both governments, provide for tribal access to usual and accustomed areas for hunting and gathering on public land that lies outside of the ceded land.

Federally recognized tribes that lack ratified treaties, but have current or potential interests in the planning area for traditional use values include the Burns Paiute Tribe (Oregon), the Fort McDermitt Shoshone-Paiute Tribe (Nevada), the Fort Bidwell Indian Community (California), and the Duck Valley Shoshone-Paiute Tribe (Idaho and Nevada).

Contemporary American Indians, in general, desire to protect Indian burial grounds and archaeological sites, and seek to perpetuate traditional practices.

Cooperative agreements will be pursued with the tribes on the appropriate level and timing of consultation in conformance with the "Archaeological Resources Protection Act" (1979), "Nation Environmental Policy Act" (NEPA) (1969), and "Native American Graves Protection and Repatriation Act" (1990), and as recommended by the "National Historic Preservation Act" (1966). The BLM will also consult with appropriate tribal representatives in the early stages of activity planning or projects that may affect tribal interests, treaty rights, or traditional use areas.

Coordination With Individuals and Groups

Nearly 25 percent of land within the planning area (about 1.4 million acres) is privately owned. The numerous private landowners in the area have a direct interest in management of public land. In addition, many individuals and groups from outside the immediate area are concerned about public land management.

To facilitate communication between the BLM and these interested individuals and groups, the BLM's Vale and Burns Districts maintain mailing lists and periodically distribute newsletters providing information and soliciting public comment, and occasionally hold public meetings or open houses to discuss issues with concerned citizens.

Agencies and Organizations Contacted or Consulted

The following agencies and organizations were contacted or consulted during the planning process:

Bonneville Power Administration
Bureau of Land Management–Boise District
Bureau of Reclamation
Burns Paiute Tribe
Confederated Warm Springs Tribes
Fort McDermitt Shoshone-Paiute Tribe
Harney County Commissioners
Malheur County Commissioners
Malheur-Owyhee Watershed Council
Oregon Department of Fish and Wildlife
Oregon Division of State Lands
Southeastern Oregon Resource Advisory Council
U.S. Fish and Wildlife Service

Agencies, Organizations, and Individuals on Mailing List

The initial mailing list for the SEORMP effort included about 2,400 entries. The mailing list is currently 533 entries, which represents those who wished to remain on the mailing list for the SEORMP, and those who commented on the published draft plan. This list includes interested persons, organizations, Indian tribes, livestock permittees, and local, state and Federal agencies. The mailing list is on file at the Burns and Vale District Offices. The following is representative of the entities on the mailing list:

Elected Officials

U.S. Senator Gorden Smith
U.S. Senator Ron Wyden
U.S. Representative District No. 2 Greg Walden
Governor John Kitzhaber
Oregon State Senate
State Representative Tom Butler
State Senator Steve Harper
Malheur County Judge and Commissioners
Harney County Judge and Commissioners
Lake County Judge and Commissioners
Baker County Judge and Commissioners

American Indians

Burns Paiute Tribe (Burns, OR)
Confederated Tribes of the Umatilla Indian Reservation (Pendleton, OR)
Confederated Tribes of the Warm Springs Reservation (Warm Springs, OR)
Fort Bidwell Indian Community (Fort Bidwell, CA)
Fort McDermitt Shoshone Paiute Tribe (McDermitt, NV)
Klamath Tribe (Chiloquin, OR)
Nez Perce Tribe (Lapwai, ID)
Shoshone-Bannock Tribes (Fort Hall, ID)
Shoshone-Paiute Tribes (Duck Valley Reservation, ID)

Agencies

Assistant to the Governor for Natural Resources, Oregon
Bonneville Power Administration
Federal Energy Regulatory Commission
Idaho State Parks and Recreation Department
Natural Resource Conservation Service

Oregon Commission on Indian Affairs
Oregon Department of Agriculture
Oregon Department of Economic Development
Oregon Department of Energy
Oregon Department of Environmental Quality
Oregon Division of Fish and Wildlife
Oregon Department of Geology and Minerals Industries
Oregon Department of Human Resources
Oregon Department of State Parks
Oregon Department of Transportation
Oregon Division of State Lands
Oregon State Preservation Office
Oregon Division of Water Resources
Oregon Department of Land Conservation and Development
U.S. Army Corps of Engineers
U.S. Bureau of Indian Affairs
U.S. Bureau of Mines
U.S. Bureau of Reclamation
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Forest Service
U.S. Geological Survey
U.S. National Park Service

Organizations

1000 Friends of Oregon
Affilated Tribes of Northwest Indians
American Fisheries Society
American Lands Alliance
Animal Protective Institute
Associated Oregon Industries
Association of Northwest Steelheaders
Audubon Society
Baker County Cattlemen's Association
Baltzor Cattle Company, Inc.
Boise Cascade Corporation
Cascadia Forest Alliance
Columbia River Conservation League
Committee for idaho's High Desert
Defenders of Wildlife
Desert Trail Association
Downstream River Runners, Inc.
Eagle Picher Industries, Inc.
Eastern Oregon Mining Association, Inc.
Eastern Oregon Outfitter
Exodus Whitewater Adventures
Harney County Cattlemen's Association
Idaho Outfitters and Guides Association, Inc.
Idaho's High Desert Committee
Idaho Watersheds Project
Izaak Walton League of America
Jackies Butte Permittees
Kettle Range Conservation Group
Kiger Ranch, Inc.
League of Cities
League of Women Voters

Lucky 7 Ranch
Mackenzie Ranch
Maintain Eastern Oregon Wilderness
Malheur Anglers
Malheur County Cattlemen's Association
Malheur Lumber Company
Mazama Lodge
Minerals Exploration Coalition
Moser's Idaho Adventures River Trips
National Speleogical Society
National Wild Horse Association
National Wildlife Federation
Native Plant Society of Oregon
Natural Resources Defense Council, Inc.
Navillus Press
Northwest Environmental Defense Center
Northwest Forestry Association
Northwest Minerals Prospectors Club
Northwest Mining Association
Offroaders Unlimited
Oregon Archaeological Society
Oregon Beef Council
Oregon Cattlemen's Association
Oregon Historical Society
Oregon Hunter's Association
Oregon Natural Desert Association
Oregon Natural Resources Council
Oregon Packers and Guides, Inc.
Oregon Rivers Council
Oregon Sheepgrowers Association
Oregon State University
Oregon Wildlife Federation
Otley Ranches
Owyhee Cattlemen's Association
PacificCorp
Pacific Northwest 4-Wheel Drive Association
Pacific Rivers Council
Portland State University
Prairie Wood Products
Public Lands Institute
Range Ecology Group
RangeBiome
Roaring Springs Ranch, Inc.
Salem Audubon Society
Sierra Club
Sierra Club, Oregon Chapter
Sisters Forest Planning Committee
Skinner Ranches, Inc.
Society of American Foresters
Society of Range Management
The Nature Conservancy
The Wilderness Society
The Wildlife Society Oregon Chapter
Treasure Valley Community College
Trust For Public Lands
University of Oregon
US Cellular

Waterwatch
Western Heritage Enterprises
Wildlife Management Institute
Wildlife Society

Others

Special recreation permittees
Livestock permittees
Interested individuals
News media
Other various businesses

List of Preparers

Although individual specialists have primary responsibility for preparing sections of an EIS and RMP, the document is an interdisciplinary team effort. The document was reviewed by district staff at each stage of its preparation. Specialists at both districts and the state office of the Bureau of Land Management (BLM) reviewed the analysis and supplied information. During this internal review process, individual contributions to the document may be revised for clarification by other BLM specialists and management.

SEORMP/EIS Interdisciplinary Team

Team member	Education	Experience
Robert Alward Malheur Resource Area Vale, Oregon	B.S., Wildlife Management, Humboldt State University	Planning and management of developed and dispersed recreation, visual resource management, off-highway vehicles, NWSR's, wilderness study areas (WSA's), ACEC's, caves, and interpretation (BLM: 26 years).
John Ballenot Writer/Editor Vale District Vale, Oregon	B.A., Biology, M.A., Journalism, University of Missouri	Technical publications writer and editor for University of Wisconsin, University of Illinois, and USFS (BLM: 1 year).
Alice Bronsdon Archeologist Jordan Resource Area Vale, Oregon	B.S., Geology, Washington University; Postgraduate, Geology, University of Kansas; Postgraduate, Animal Behavior, Washington University	Government and private sector archaeologist (BLM: 15 years).
Miles Brown Area Manager Andrews Resource Area Burns, Oregon	B.S., Rangeland Management, University of Arizona	Positions as range conservationist, supervisor of natural resources staff, BLM area manager, and private industry land and ranch manager (BLM: 20 years).

Steve Christensen Rangeland Management Specialist Malheur Resource Area Vale, Oregon	B.S., Rangeland Management, Oregon State University	Experience includes research assistant for Federal and state forestry and range-and projects, and BLM range conservationist (BLM: 12 years).
Gary Cooper District Planning and Environmental Coordinator Vale District Vale, Oregon	B.S., Range Management, Oregon State University	Positions in rangeland vegetation surveys, range conservationist, environmental protection specialist (hazardous materials), district planning and environmental coordination/NEPA compliance (BLM: 24 years).
Mary Emerick Park Ranger/Wilderness Specialist Burns District Burns, Oregon	B.A., English, Michigan State University	Interpretive naturalist positions with various agencies; revegetation/restoration; prescribed fire and fire suppression; wilderness ranger/wilderness management; and recreation planning. (BLM: 5 years).
Jean Findley Botanist Malheur Resource Area Vale, Oregon	B.A., Psychology/English, Westmont College; M.S., Rangeland Resources, Oregon State University	Position in rangeland vegetaion surveys, range conservationist, district botanist coordinating management of special status plant species and ACEC's (BLM: 23 years).
Jon Freeman Realty Specialist Malheur Resource Area Vale, Oregon	B.S., Geography, University of North Alabama; M.S., Geography, University of Alabama	Positions in mapping, realty, and environmental protection (BLM: 18 years).
Leslie Frewing-Runyon Regional Economist Oregon State Office Portland, Oregon	B.A., Economics, Willamette University	Analytical support to interdisciplinary and multi-agency planning teams throughout Oregon and Washington, and regional responsibilities for economic databases and human uses and values program development and support (BLM: 12 years).
Brent Grasty GIS Coordinator Vale District Vale, Oregon	B.A., Business Management, Oregon State University; M.S., Forest Management, Oregon State University	Geographic information systems (GIS), NWSR analysis, state and Federal water rights and law, recreation use studies, resource economics, and commercial fishing (BLM: 9 years).
Michael Hartwell District Fire Management Officer Vale District Vale, Oregon	Forestry, Treasure Valley Community College, Eastern Oregon State College	Worked 26 fire seasons; 20 years managerial experience, 15 years aviation program guidance (BLM: 25 years).
William Holsheimer Geologist Vale District Vale, Oregon	B.A., Geology, Portland State College	Positions in leasable, locatable, and saleable minerals management, and photogeology in private industry (BLM: 29 years).
Pamela Keller NRS/GIS Coordinator Burns District Burns, Oregon	B.S., Soil Science, Oregon State University; M.S., Computer Science, University of Idaho	GIS and natural resource modelling, and state and Federal soil, vegetation, and riparian surveys (BLM: 11 years).

Georgina Lampman Fishery Biologist Andrews Resource Area Burns, Oregon	B.A., English, M.A., English, University of California at Davis	Positions as BLM and USFS fish biologist (BLM: 9 years).
Michael Marsh Civil Engineering Technician Jordan Resource Area Vale, Oregon	Forestry, University of Idaho; Forest Engineering, Oregon State University.	State and district-level engineering positions constructing, designing, inspecting, and administering roads, buildings, recreation sites, and bridges, etc. (BLM: 30 years).
Roy Masinton Area Manager Malheur Resource Area Vale, Oregon	B.S., Fishery Biology, Colorado State University	BLM fishery biologist for Elko, Nevada District and New Mexico State Office; natural resource specialist, Arctic District, Alaska; and supervisory natural resource specialist, Klamath Falls Resource Area, Lakeview District, Oregon (BLM: 23 years).
Scott Moore Outdoor Recreation Planner Andrews Resource Area Burns, Oregon	B.A., Recreation Administration, Humboldt State University	BLM positions in fire management/ suppression, recreation specialist, and district and resource area wilderness program leader/coordinator (BLM: 18 years).
Glenn Patterson Natural Resource Specialist Burns District Burns, Oregon	B.S., Rangeland Management, Utah State University	BLM range conservationist in Nevada and Utah, and BLM area manager in Utah and Oregon (BLM: 28 years).
Jon Sadowski Wildlife Biologist Jordan Resource Area Vale, Oregon	B.S., Wildlife Management, Humboldt State University	USFWS, NRCS, BLM range conserva-ionist, nongame wildlife biologist, district and area bio;pgost, and senior technical wildlife specialist (BLM: 25 years).
Sheldon Saxton Realty Specialist Vale District Vale, Oregon	B.S., Botany, M.S., Botany, Fort Hays State University	Range conservationist, natural resource planning, recreation and recreation construction and maintenance, mineral management, hazardous materials site clean-up and assessments, senior realty program specialist (BLM: 38 years).
Mark Sherbourne Natural Resource Specialist Andrews Resource Area Burns, Oregon	B.S., Range Management, University of Nevada at Reno	Positions in range management, environmental analysis, and realty (BLM: 24 years).
Cynthia Tait Fish Biologist Jordan Resource Area Vale, Oregon	B.S., Agriculture and Environmental Science, Rutgers University; M.S., Zoology, Oregon State University; Ph.D., Fisheries Science, Oregon State University	Teaching positions at secondary, community college, and university levels; fisheries research; and BLM fisheries biologist (BLM: 7 years).

Jerry Taylor Area Manager Jordan Resource Area Vale, Oregon	B.S., Agriculture/Range Science, Montana State University	BLM resource area manager, supervisory rangeland management specialist, and positions related to range management, ecology, soil/vegetation relationships and inventory, and rangeland rehabilitation and restoration (BLM: 22 years).
Maple Taylor Writer/Editor Vale District Vale, Oregon	B.S., Wildlife Science, New Mexico State University; M.S., Range and Wildlife Management, Texas Tech University	State and Federal range and wildlife research, and technical and popular writing for publication (BLM: 4 years).
Ken Thacker Soil Conservationist Malheur Resource Area Vale, Oregon	B.S., Forestry, University of Montana	Positions as soil scientist, surface protection specialist, and soil conservation (BLM: 21 years).
Scott Thomas Archaeologist Burns District Burns, Oregon	B.S., Zoology, Oregon State University; M.A., Anthropology, Portland State University	Archaeologist positions as a private consultant, and with BLM, U.S. Army Corps of Engineers, and U.S. Forest Service (BLM: 11 years).
Jack Wenderoth Hydrologist Vale District Vale, Oregon	B.S., Forest Resources Science, University of Idaho	Positions as soil scientist with NRCS, environmental protection specialist (hazardous materials) with Department of Defense (DOD), forest hydrologist with USFS, and BLM resource area and district hydrologist and senior specialist (hydrology) (BLM: 19 years).
Cathi Wilbanks Outdoor Recreation Planner Jordan Resource Area Vale, Oregon	B.S., Wildland Recreation Management, University of Idaho	Positions in wilderness, recreation and recreation site planning and development, visual resources, NWSR's including planning and environmental assessment development, off-highway vehicle use management and planning, WSA monitoring (BLM: 11 years).

SEORMP/EIS Supporting Specialists

Mark Armstrong	*Public Affairs Officer,* Burns District
Kristin Bail	*Hydrologist,* Oregon State Office
Al Bammann	*Wildlife Biologist,* Malheur Resource Area
Gordon Bentley	*Planning and Environmental Coordinator,* Burns District
David Blackstun	*Supervisory Natural Resource Specialist,* Andrews Resource Area
Judy Briney	*Cartographic Technician,* Oregon State Office
James Buchanan	*Range Conservationist (RMS),* Andrews Resource Area
Tom Christensen	*Outdoor Recreation Planner,* Jordan Resource Area
Rod Coleman	*Wild Horse Specialist,* Jordan Resource Area
Mary Emerick	*Park Ranger/Wilderness Specialist,* Burns District
Jerry Erstrom	*Weeds Coordinator,* Vale District
Louisa Evers	*Fire Ecologist,* Oregon State Office

Thresa Geisler	*Geologist,* Burns District
Nancy Getchell	*Realty Specialist,* Malheur Resource Area
Rick Hall	*Natural Resource Specialist,* Andrews Resource Area
Mike Hamel	*Visual Information Specialist,* Oregon State Office
Ron Harding	*Wild Horse Specialist,* Burns District
Ralph Heft	*ICBEMP Coordinator*, Vale District
Kathleen Helm	*Planner and Environmental Coordinator,* Spokane District
Bonnie Jakubos	*Wildlife Specialist,* Malheur Resource Area
Amy Kazmier	*GIS Specialist,* Vale District
Barbara Kehrberg	*Realty Specialist,* Andrews Resource Area
Jonne Hower Lowery	*Public Affairs Officer,* Vale District
Odos Lowery	*Geographic Information Systems,* Vale District
Jerry Magee	*Environmental Protection Specialist,* Oregon State Office
Rosemary Mazaika	*Environmental Protection Specialist,* Oregon State Office
Cliff McClelland	*Printing Specialist,* Oregon State Office
Fred McDonald	*Natural Resource Specialist,* Andrews Resource Area
Corey Plank	*Cartographer,* Oregon State Office
Diane Pritchard	*Cultural Resource Specialist,* Malheur Resource Area
Shaney Rockefeller	*Soil Scientist,* Malheur Resource Area
Guy Sheeter	*Wildlife Biologist,* Andrews Resource Area
Lynne Silva	*Resource Assistant,* Malheur Resource Area
Joan Slegelmilch	*Information Receptionist,* Vale District
Eric Stone	*Program Analyst,* Oregon State Office
Bill Swann	*Fire Control Officer,* Burns District
Cam Swisher	*Environmental Protection Specialist,* Andrews Resource Area
Cynthia Tait	*Fisheries Biologist,* Jordan Resource Area
Callie Webber	*Outdoor Recreation Planner,* Burns District
Donna Zurfluh	*Budget Assistant,* Vale District

Glossary

Acquired lands ~ Lands acquired for BLM administration in various ways, such as but not limited to: (1) any lands purchased by congressionally appropriated funds, (2) land donations, (3) land exchanges, (4) Land and Water Conservation Fund acquisitions, (5) land withdrawals returned to public land status through withdrawal revocations and/or relinquishments, etc., (6) split-estate acquisitions, (7) Federal agency jurisdictional transfers, (8) easement acquisitions, and/or (9) lands acquired by any other means.

Activity occasion ~ A standard unit of recreation use consisting of one individual participating in one recreation activity during any reasonable portion of any one day.

Actual use data ~ The number of livestock, kind or class of those livestock, and time period those livestock actually grazed a specific allotment or pasture.

Agate ~ A variety of chalcedony that exhibits several different color patterns (such as flat and/or concentric bands, swirls and loops) usually caused by mineral impurities. It is generally used as an ornamental or gem stone. Moss, lace, and plume agate are notable varieties.

Allotment management plan (AMP) ~ A plan for managing livestock grazing on specified public land.

Allowable sale quantity ~ The quantity of timber that may be sold from suitable land and that has been included in the yield projections for the timber period specified by the land use plan. Usually expressed on an annual basis as the average annual allowable sale quantity.

Alluvium ~ Material deposited on the land by water, such as sand, silt, or clay.

All-terrain vehicle (ATV) ~ Small, 3-wheel and 4-wheel recreational vehicles capable of operating in rugged terrain.

Andesite ~ A fine-grained igneous rock of intermediate composition composed of about equal amounts of iron and magnesium minerals and plagioclase feldspars.

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) ~ The optimum number of wild horses that provides a thriving natural ecological balance on the public range.

Appropriate management response (AMR) ~ Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

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.

Argillite ~ A weakly metamorphosed clay-rich sedimentary rock.

Asbestos ~ A group of fibrous silicate minerals, generally used in the manufacture of heat and fire resistant materials (such as cloth, yarn, paint, paper, brake-linings, and tile).

Attribute ~ A discreet feature or characteristic of biotic or physical resources that can be measured (example: plant density, which is the number of individuals or stems per unit area).

Badlands ~ Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels, most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.

Band ~ A group of wild horses running together or a lone wild horse.

Basalt ~ A dark, heavy, fine-grained silica-poor igneous rock composed largely of iron and magnesium minerals and calcium-rich plagioclase feldspars.

Beneficial use ~ Any of various uses of water in an area. Water may be for agricultural, domestic, or industrial use, salmonid spawning, recreation, wildlife habitat, or other uses.

Bentonite ~ A soft, plastic, porous, light-colored rock composed essentially of clay of the smectite group, plus colloidal silica, and produced by the devitrification and accompanying chemical alteration of rhyolitic tuffs or volcanic ash. It has the ability to absorb large quantities of water and expand several times its original volume. It is used as a sealant on dams and reservoirs, in drilling mud, and pet litter, and as a binder.

Best management practices (BMP's) ~ A set of practices which, when applied during implementation of management actions, ensures that negative impacts to natural resources are minimized. BMP's are applied based on site-specific evaluation and represent the most effective and practical means to achieve management goals for a given site.

Black acres ~ Actual burned area or actual acres treated for mechanical.

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.

Board foot ~ A unit of measure of the wood in lumber, logs, or trees. The amount of wood in a board 1-foot wide, 1-foot long, and 1-inch thick before finishing.

Borax ~ An evaporite mineral (Na2B4O7. 10H2O). It is the major source of boron and is generally found in alkali lake deposits. It has a variety of uses (including glass and ceramics manufacturing, agricultural chemicals, chemical fluxes, fire retardant and preservative).

Brine ~ Subsurface water with a high concentration of dissolved salts, usually sodium, potassium and/or calcium, and lesser concentrations of other salts (such as boron).

Buffer strip ~ A protective area adjacent to an area of concern requiring special attention or protection. In contrast to riparian zones, which are ecological units, buffer strips can be designed to meet varying management concerns.

Burning period ~ That part of each 24-hour period when fires spread most rapidly, typically from 10 a.m. to sundown.

Calcareous soil ~ A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caldera ~ A volcanic depression much larger than the original crater and generally formed by the violent eruption of rhyolitic magma (examples: Crater Lake, and Mahogany Mountain Caldera).

Cave ~ See Chapter 2, Caves, for definition.

Chalcedony ~ A cryptocrystalline variety of quartz (SiO2) consisting of microscopic fibers**.** It exhibits a myriad of colors and patterns, and is used primarily as an ornamental or gemstone. Agate, jasper and thunder eggs are varieties.

Channeled ~ Refers to a drainage area in which natural meandering or repeated branching and convergence of a streambed have created deeply incised cuts, either active or abandoned, in alluvial material.

Chert ~ A hard, very dense, fine-grained sedimentary rock composed largely of microscopic quartz (SiO2) crystals; synonymous with *flint*.

Clastic ~ A rock composed of broken pieces of preexisting rock.

Clay ~ As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt. *Geology*: A rock or mineral fragment of any composition finer than 0.00016 inches in diameter. *Mineral:* A hydrous aluminum-silicate that occurs as microscopic plates, and commonly has the ability to absorb substantial quantities of water on the surface of the plates.

Clayey soil ~ Silty clay, sandy clay, or clay.

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.

Coarse textured soil ~ Sand or loamy sand.

Colluvium ~ Soil material, rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Commercial forestland ~ Forestland that can produce 20 cubic feet of timber per acre per year and that is not withdrawn from timber production.

Commercial thinning ~ A cutting made in a forest stand to remove excess merchantable timber in order to accelerate growth or improve the health of the remaining trees.

Commodities ~ Goods and services produced by industries.

Complex, soil ~ A map unit of two or more kinds of soil or miscellaneous areas 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. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Corrective maintenance ~ Maintenance performed on a nonroutine basis and considered to be a one-time only cost.

Craton ~ A portion of a continent that has been structurally stable for a prolonged period of time.

Crown ~ The upper part of a tree or shrub, including the living branches and their foliage.

Cryptogamic crust ~ See microbiotic crust.

Custodial management ~ Management of a group of similar allotments with minimal expenditure of appropriated funds to continue protecting existing resource values.

Deep soil ~ A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Diameter at breast height (DBH) ~ The diameter of a tree measured 4.5 feet above the ground.

Diatomite ~ A soft, crumbly, lightweight, highly porous sedimentary rock consisting mainly of microscopic siliceous skeletons of diatoms (single-celled aquatic plants related to algae). It is used for filter aids, paint filler, abrasives, anti-caking agents, insecticide carriers, and insulation.

Drainage, surface ~ Runoff, or surface flow of water, from an area.

Duff ~ A generally firm organic layer on the surface of mineral soils consisting of fallen, decaying plant material including everything from the litter on the surface to underlying pure humus.

Earnings ~ Wages and salaries, other labor income, and proprietor's income (including inventory valuation and capital consumption adjustments).

Ecological site condition ~ See ecological status.

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 (see below) 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-based management ~ (1) management driven by explicit goals, executed by policies, protocols, and practices, and made adaptable by monitoring and research based on our best understanding of the ecological interactions and processes necessary to sustain ecosystem composition, structure, and function; (2) any land management system that seeks to protect viable populations of all native species, perpetuate natural-disturbance regimes on

the regional scale, adopt a planning timeline of centuries, and allow human use at levels that do not result in long-term ecological degradation.

Employee compensation ~ Wages and salaries paid to employees by industries, plus the value of benefits and any contributions to Social Security and pension funds by the employee and employer.

Enhancement of habitat for special status animal and plant species ~ Taking deliberate, proactive measures that are expected to make habitat conditions more productive, diverse, or resilient to disturbances for the benefit of special status animal and plant species.

Enhancement of populations of special status animal and plant species ~ Taking deliberate, proactive measures in cooperation with the Oregon Department of Fish and Wildlife or U.S. Fish and Wildlife Service to meet their respective species management goals. For animal species, enhancement means allowing supplemental releases of fish or wildlife into existing populations to increase overall numbers of animals or to improve their genetic health. For plants, enhancement means transplanting or seeding species to supplement existing populations.

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.

Epithermal deposit ~ A type of hydrothermal deposit that occurs mainly as veins formed within 1,600 feet of the surface and with temperatures ranging from 122–392 °F.

Erosion ~ The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated) ~ Erosion much more rapid than geologic erosion, occurring mainly as a result of human or animal activities or of a catastrophe in nature, such as with fire, that exposes the surface.

Erosion (geologic) ~ Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains; synonymous with *natural erosion*.

Escaped fire ~ A fire that has exceeded initial attack capabilities.

Evaporite mineral ~ A mineral precipitated as a result of evaporation (example: halite).

Extended attack situation ~ The situation when a fire cannot be suppressed with initial attack forces within a reasonable period of time. This type fire can usually be suppressed by additional forces from within the geographic area of the district and usually within 24 hours after suppression action has started.

Extensive recreation management area (ERMA) ~ Area where recreation management is less structured (than within an SRMA) and recreation use more dispersed with minimal regulatory constraints and where minimal recreation-related investments are required.

Feldspar ~ The most abundant minerals of the Earth's crust. The two groups are Alkali and Plagioclase.

Fertility, soil ~ The quality that enables a soil to provide plant nutrients in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fuel type ~ An identification association of fuel elements of distinctive species, form, size, arrangement or other characteristics that will cause a predictable rate of spread or resistance to control under specific weather conditions.

Fine textured soil ~ Sandy clay, silty clay, or clay.

Fire effects ~ The physical, biological, and ecological impact of fire on the environment.

Fire intensity ~ The product of the available heat of combustion per unit area of ground and the rate of spread of the fire.

Fire management area ~ One or more parcels of land having a common set of fire management objectives.

Fire regime ~ Periodicity and pattern of naturally occurring fire in a particular area or vegetative type, described in terms of frequency, biological severity, and area extent (Society of American Foresters, 1996).

Fire return interval ~ The number of years between two successive fires documented in a designated area (such as the interval between two successive fire occurrences).

Fire strategy ~ An overall plan of action for fighting a fire that gives regard to the most cost-efficient use of personnel and equipment in consideration of values threatened, fire behavior, legal constraints, and objectives established for resource management. Leaves decisions on the tactical use of personnel and equipment to line commanders in the suppression function.

Fire suppression ~ All the work activities connected with fire-extinguishing operations, beginning with the discovery and continuing until the fire is completely extinguished.

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.

Fluorite ~ Fluorospar (CaF2). A halide mineral-related to table salt (Na2Cl), and the principal ore of fluorine gas**.** Fluorite is used as a flux in the manufacture of glass, in the manufacturing of hydrofluoric acid (HF), and as a source of carved ornamental stones.

Fluvial (Fluviatile) deposit ~ A sedimentary deposit laid down, transported by, or suspended in, a stream.

Forb ~ Any herbaceous plant not a grass or a grasslike species.

Forest health ~ The condition in which forest ecosystems sustain their complexity, diversity, resiliency and productivity while providing for human needs and values.

Forestland ~ Land that is now, or is capable of being, at least 10 percent stocked by forest tree species such as ponderosa pine, Douglas fir, western larch, white fir, or lodgepole pine.

Fuels ~ Includes living and dead plant materials that are capable of burning.

Fuel type ~ An identification association of fuel elements of distinctive species, form, size, arrangement or other characteristics that will cause a predictable rate of spread or resistance to control under specific weather conditions.

Graben ~ A fault-bounded down-dropped portion of the Earth's crust.

Gravel ~ Rounded or angular fragments of rock as much as 3 inches (2 millimeters–7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel ~ (Geology) Unconsolidated, rounded rock fragments greater than 0.08 inches in diameter. Sizes range from pebbles (.008–2.5 inches) to cobbles (2.5–10 inches) to boulders (greater than 10 inches).

Greenstripping ~ The practice of establishing or using patterns of fire-resilient vegetation and/or material to reduce wildfire occurrence and size. Examples are establishing fire-resilient vegetation adjacent to roads or railways, around or interspersed in valuable shrub stands, or within large blocks of flash fuels.

Ground water (geology) ~ Water filling all the unblocked pores of the material below the water table.

Ground yarding ~ Use of tracked or wheeled equipment to transport logs from where they are cut to a landing.

Gully ~ A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Harvest unit ~ An area from which trees are harvested. Harvest method can range from clearcutting to individual tree selection.

Herd ~ One or more wild horse bands using the same general area.

Herd Area (HA) ~ 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 HMA's, in conformance with decisions made in approved management framework or resource management plans.

High resource values ~ Lands with high resource values are considered to be public lands that have the caliber of resources to qualify them for inclusion in SMA's such as ACEC's, NWSR's, WSA's, and high resource areas such as critical wildlife habitat areas, wild horse herd areas, critical fish habitat areas, cultural site areas, threatened and endangered species habitats, etc. Long-term retention of public lands in these SMA's is either required by law through congressional action or identified through the land use planning process.

Horizon, soil ~ A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes.

Horst ~ A fault-bounded uplifted portion of the Earth's crust.

Hot-springs deposit ~ A type of hydrothermal deposit formed in a hot-springs environment.

Hydrothermal deposit ~ A mineral deposit formed by hot, mineral-laden fluids.

Igneous rock ~ Rock that solidified from a molten or semimolten state. The major varieties include intrusive (solidified beneath the surface of the Earth) and volcanic (solidified on or very near the surface of the Earth).

Incident commander ~ Individual responsible for the management of all incident (fire) operations.

Initial attack ~ First action taken to suppress a fire, via ground and/or air. An aggressive suppression action consistent with firefighter and public safety and values to be protected.

Individual tree selection cutting ~ A cutting method in which selected trees are removed throughout a harvest unit to meet a specific goal. Goals can range from harvest of a specific volume to improving the health of the remaining trees.

Infiltration rate ~ The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Initial attack ~ First action taken to suppress a fire, via ground and/or air.

Interim management policy (IMP) ~ Policy for managing public lands under wilderness review. Section 603 (c) of 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 law 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."

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 drainage ~ Streams with no outlet to the sea.

Known geothermal resource area (KGRA) ~ "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)].

Lacustrine deposit (geology) ~ Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landing ~ A location where timber is gathered for further transport.

Limestone ~ A sedimentary rock consisting chiefly of calcium carbonate.

Limits of acceptable change ~ For recreation management, a nine-step process used to define the desired resource conditions for an area and to determine acceptable levels of resource change due to recreation use. The process helps to develop management actions to avoid exceeding standards.

Loam ~ Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Magma ~ Molten rock from within the Earth capable of flowing like liquid.

Maintenance of habitat for special status animal and plant species ~ Avoidance or mitigation of projects and land uses so that they cause no new significant adverse impacts on habitats of special status animal and plant species. The quality of the habitat to be maintained is probably variable and may range from poor to excellent. The amount of habitat may be below its potential. Under maintenance management options, especially where habitat quality is low, there is some risk that species may eventually need to be listed under the authority of the ESA.

Maintenance of populations of special status animal and plant species ~ Avoidance or mitigation of projects and land uses so that they have no new significant adverse impacts on populations of special status animal and plant species. Populations to be maintained may range from low to high over time and may be below their potential level. Under maintenance management options, especially where populations are small, there is some risk that species may eventually need to be listed under the authority of the ESA.

Management framework plan (MFP) ~ BLM land use plan, predecessor to the RMP.

Map unit ~ The basic system of description in a soil survey and delineation on a soil map. Can vary in level of detail.

Mature timber ~ Trees that have passed their maximum rate of growth in terms of physiological processes, height, diameter or volume.

MBF ~ Thousand board feet.

Mechanical treatment ~ Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil ~ Very fine sandy loam, loam, silt loam, or silt.

Merchantable trees ~ Trees that are of sufficient size to be economically processed into wood products.

Metamorphosed ~ Rock that has been altered in composition, texture or structure by heat and/or pressure.

Microbiotic crust ~ Lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing on or just below the surface of soils.

MMBF ~ Million board feet.

Monitoring ~ The periodic and systematic collection of resource data to measure progress toward achieving objectives.

Multiple use management ~ Management of public land and resource values 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.

Multiplier ~ A change in an economic measure resulting from a specified change in some other economic measure.

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.

Near natural rate of recovery ~ Synonymous with the PACFISH requirement not to "retard" or "measurably slow" recovery of degraded riparian features. Further defined in these recommendations within the context of effects that "carry over to the next year." Any effect that carries over to the next year is likely to result in cumulative negative effects and measurably slow recovery of degraded riparian features.

Net value change ~ The sum of the changes resulting from increases (benefits) and decreases (damages) in the value of outputs from the land area affected as the consequences of fire. An average dollar value per acre is assigned based on the change to all resources including range, watershed, wildlife, soils, and recreation.

Nutrient, plant ~ Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil, and carbon, hydrogen, and oxygen obtained from the air and water.

Off-highway vehicle (OHV) ~ A vehicle that can be operated off of improved and regularly maintained roads with hardened or gravel surfaces.

Old growth forest ~ Dry site pine stands meeting the following criteria: At least 10 trees/acre that are at least 150 years of age and/or 21 inches dbh, and have a basal area of 24 square foot/acre at least 10 acres in size; or, in very late-seral stands, at least 2 trees/acre that are at least 200 years of age and/or 31 inches dbh, and have a basal area of 11 square foot/acre.

Organic matter~ Plant and animal residue in the soil in various stages of decomposition.

Overstory ~ The trees in a forest that form the upper crown cover.

Percolation ~ The downward movement of water through the soil.

Perennial stream ~ A stream in which water is present during all seasons of the year.

Perlite ~ A rhyolite volcanic glass that contains more water than ordinary obsidian. It commonly contains a cracked texture caused by contraction during cooling. The material is used primarily as lightweight aggregate and as an insulator.

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.

Personal income ~ Employee compensation plus property income.

Phase 1 fire planning ~ The first phase of a two-stage fire management planning process that identifies desired resource conditions and fire management direction, including fire management strategies, which will promote achievement of resource objectives

pH value ~ A numerical designation of acidity and alkalinity in soil (see "reaction, soil").

Physiographic province ~ A geographic region with similar climatic, land form, and geologic features, and which is significantly different from adjacent regions.

Picture rock ~ (Also known as picture jasper, scenic jasper.) A variety of chalcedony with fanciful patterns that often resemble scenery. Varieties are found in southeastern Oregon (examples: Owyhee jasper and McDermitt jasper).

Pluton ~ An igneous rock that crystallized deep underground.

Pluvial ~ Referring to a period of greater rainfall.

Pluvial Lake ~ A lake formed during a period of exceptionally high rainfall (such as during a time of glacial advance during the Pleistocene epoch) and now either extinct or existing as a remnant, such as Lake Bonneville.

Porphyry deposit ~ A large, low-grade metallic mineral deposit containing disseminated sulfide minerals (examples: copper, gold, molybdenum, or tin).

Prescribed burning ~ Controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions that 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, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition.

Prescription ~ Written statement defining objectives to be attained, as well as measurable criteria, which guide the selection of appropriate management actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, and legal considerations under which the fire will be allowed to burn.

Preventative maintenance ~ Scheduled servicing, repairs, inspections, adjustments, and replacement of parts that result in fewer breakdowns and fewer premature replacements, and achieve the expected life of facilities and equipment.

Primary wilderness values ~ The primary or key wilderness values described in the "Wilderness Act" by which WSA's and designated wilderness 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) ~Nnonmotorized 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.

Productivity ~ (1) *Soil productivity*: the capacity of a soil to produce plant growth, due to the soil's chemical, physical, and biological properties (such as depth, temperature, water-holding capacity, and mineral, nutrient, and organic matter content). (2) *Vegetative productivity*: the rate of production of vegetation within a given period. (3) *General*: the innate capacity of an environment to support plant and animal life over time.

Project acres ~ (fire) Total project size.

Public land ~ Any land or interest in land owned by the United States and administered by the Secretary of the Interior through the BLM.

Public resource values ~ Lands with public resource values are considered to be any public lands located outside SMA's, and high resource areas that do not have the caliber of resources to qualify them for inclusion in SMA's and high resource areas. For these types of lands BLM would maintain its land tenure adjustments options within Zone 1, 2, and 3 areas. Any land tenure adjustments involving public lands having "public resource values" must be determined to be in the public interest and must meet the requirements of NEPA and the General Management Criteria of Appendix L.

Pumice ~ A glassy, rhyolitic rock exhibiting a vesicular, or frothy texture. It is generally used as a light weight aggregate and an abrasive.

Pyroclastic debris ~ Rock fragments produced by a volcanic explosion.

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.

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.

Rangeland health ~ The degree to which the integrity of the soil and the ecological processes of rangeland ecosystems are sustained.

Reaction, soil ~ A measure of acidity or alkalinity of a soil, expressed in pH values. Soils with pH values less than 7 are acidic and those with pH greater than 7 are alkaline.

Recreation opportunity spectrum (ROS) ~ A means of characterizing recreation opportunities in terms of setting, activity, and experience opportunities.

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.

Regeneration ~ The new growth of a natural plant community that develops from seed.

Rehabilitation ~ The activities necessary to repair damage or disturbance caused by wildfire or the fire suppression activity.

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 ACEC's and are designated as ACEC's.

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 management plan (RMP) ~ A land use plan as described by the FLPMA.

Restoration ~ Holistic actions taken to modify an ecosystem to achieve desired, healthy, and functioning conditions and processes.

Restoration of habitat for special status animal and plant species ~ Taking deliberate, proactive measures to reestablish habitat suitable for supporting special status animal and plant species.

Restoration of populations of special status animal and plant species ~ Taking deliberate, proactive measures in cooperation with the ODFW or USFWS to meet their respective species management goals. Restoration means reestablishing a species into a currently unoccupied suitable area.

Rhyolite ~ A fine-grained light-colored silica-rich igneous rock composed largely of potash feldspars and quartz.

Rift ~ A graben of regional extent; it marks a zone where the entire crust is ruptured under tension.

Right-of-way ~ A permit or an easement authorizing 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 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 that are similar, identical or compatible.

Rill ~ A steep-sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Riparian/wetland areas ~ See Chapter 2, Water Resources and Riparian/Wetland Areas section, Riparian and Wetland Definitions, Processes, Functions, and Patterns.

Risk assessment ~ Assessing the chance of fire starting, natural or human-caused, and its potential risk to life, resources and property.

Rock fragments ~ Rock or mineral fragments having a diameter of 2 millimeters or more (examples: pebbles, cobbles, stones, and boulders).

Runoff ~ The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground water runoff or seepage flow from ground water.

Saline soil ~ A soil containing soluble salts in an amount that impairs the growth of plants. A saline soil does not contain excess exchangeable sodium.

Salvage cutting ~ Removal of trees that are dead or in imminent danger of being killed by injurious agents.

Sand ~ (geology) A rock fragment or detrital particle between 0.0025 and 0.08 inches in diameter.

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.

Schist ~ A metamorphic rock characterized by coarse-grained minerals oriented approximately parallel.

Section 202 lands ~ Lands being considered for wilderness designation under section 202 of FLPMA.

Sediment ~ Soil, rock particles and organic or other debris carried from one place to another by wind, water or gravity.

Selection cutting ~ Removal of individual or small groups of trees to meet predetermined goals for the remaining stand.

Seral stage ~ See ecological status.

Series, soil ~ 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 that have 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.

Shallow soil ~ A soil that is 10 to 20 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Sheet erosion ~ The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Silica ~ Silicon dioxide (SiO2), occurring in both crystalline (such as quartz, cristobalite, and chalcedony) and amorphous (such as opal) form, as well as impure (such as diatomite, and chert) forms, and combined as silicates for numerous significant minerals (such as feldspars or amphiboles).

Silt ~ *Geology*: A rock fragment or detrital particle smaller than very fine sand and larger then coarse clay, ranging from 0.0024 to 0.00016 inches in diameter and commonly having a high content of clay minerals. *As a soil separate:* Individual mineral particles ranging in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). *As a soil textural class:* Soil that is 80 percent or more silt and less than 12 percent clay.

Simple approach smoke estimation model ~ A straight-line Gaussian plume dispersion model designed as a screening tool to predict maximum particulate concentrations and visual impacts from prescribed fire. The model simulates emissions, transport, dispersion, and optical effects of any inert pollutant over flat terrain.

Skid trails ~ Pathways along which logs are dragged to a landing for further transportation.

Skidding ~ A commonly used term for the yarding of logs to a landing.

Slash ~ The branches, bark, treetops, reject logs, and broken or uprooted trees left on the ground after logging.

Slate ~ A compact, fine-grained, platy metamorphic rock formed from shale or claystone.

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. For example, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Smectite ~ A group of clay minerals, characterized by a three-layer crystal lattice, that is capable of absorbing water molecules between the layers of the crystal lattice allowing it to expand several times its original volume. Montmorillonite and Hectorite smectites are the major constituents of the bentonites found the planning area.

Sodic (alkali) soil ~ A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Soil ~ A natural, three-dimensional body at the Earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

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 productivity ~ The capacity of a soil for producing a specified plant or sequence of plants under specific management.

Soil profile ~ A vertical section of the soil extending through all its horizons and into the parent material.

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 one of the principal management objectives, 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 that may affect their survival. Lists of special status species are prepared by knowledgeable specialists throughout the State of Oregon; BLM prepares a list of State sensitive species predominantly based on the lists prepared biennially by ONHP.

Special stipulation ~ A specific operating condition or limitation added to a mineral lease to protect sensitive resources. It modifies the original terms and conditions of that lease.

Stand ~ A community of trees occupying a specific area and sufficiently uniform in species, age, spacial arrangement and condition as to be distinguishable from trees on surrounding lands.

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.

Structure, soil ~ The arrangement of primary soil particles into compound particles or aggregates.

Sunstone ~ A calcium-rich variety of plagioclase feldspar that exhibits a pink to red metallic shimmer when viewed perpendicular to the surface. The shimmer is caused by light reflecting off the surface of minute parallel platelets of native copper suspended in the stone.

Supplemental wilderness values ~ Includes ecological (such as 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.

Talc ~ A very soft, light green mineral (Mg3Si4O10 (OH2)), found in basic igneous rocks and metamorphosed dolomites (CaMg (CO3)2). It is used in a wide variety of applications (such as filler, cosmetics, lubricants and as a source of ornamental stone).

Talus ~ Rock fragments of any size or shape, commonly coarse and angular, derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose, broken rock formed chiefly by falling, rolling, or sliding.

Terrace (geologic) ~ An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Terrane ~ A suite of similar rocks transported by crustal movements into a position where they are separated from dissimilar rocks by faults.

Thinning ~ A cutting made in a forest stand to remove or kill excess timber in order to accelerate growth or improve the health of the trees that remain.

Thriving natural ecological balance ~ The condition of the public range when resource objectives related to wild horses in approved land use and/or activity plans have been achieved.

Thunderegg ~ An agate, opal, or chalcedony-filled nodule deposit formed in rhyolitic lavas or tuffs.

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.

Tuff ~ Volcanic ash or rock composed of compacted ash.

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); may refer either to a single plant species, a group of species, or to the vegetation as a whole; synonymous with *use*.

Values-at-risk ~ Any or all natural resources, improvements or other values that may be jeopardized if a fire occurs (value-at-risk, risk of resource values).

Vegetation manipulation ~ Alteration of present vegetation by using fire, plowing, or other means to manipulate natural succession trends.

Visit – A unit of measure for evaluating the amount of recreational activity on public land; equivalent to one person spending any part of a day recreating on public land.

Visual resource classes ~ Refer to Chapter 2.

Volcanic arc ~ A curved, linear belt of volcanoes.

Volcaniclastic ~ A sedimentary rock consisting largely of lava fragments, volcanic glass, and crystals.

Wild horses ~ Unbranded and unclaimed horses that use public land as all or part of their habitat, or that have been removed from such land by an authorized officer but have not lost their status under section 3 of the "Wild Free-Roaming Horse and Burro Act."

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.

Wilderness inventory ~ A written description of resource information and data, and a map of those public lands that meet the wilderness criteria as established under Section 603 (a) of FLPMA and Section 2 (c) of "The Wilderness Act."

Wilderness study area (WSA) ~ A roadless area or island that has been inventoried and found to have wilderness characteristics as described in section 603 of FLPMA and section 2 (c) of "The Wilderness Act." WSA's were administratively designated by BLM following evaluation of wilderness inventories.

Wildfire ~ Any fire occurring on wildland that is not meeting management objectives and thus requires a suppression response. An unwanted wildland fire.

Wildland fire ~ Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

Wildland fire situation analysis (WFSA) ~ A decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economical, political, and resource management objectives as selection criteria.

Woodland ~ A forest community occupied primarily by noncommercial species such as juniper, mountain mahogany or aspen.

Xenolith ~ A fragment of rock distinctly different from the igneous rock in which it is enclosed; a foreign intrusion into rock.

Yarding ~ The moving of logs from the stump to a landing for further transportation.

Zeolite ~ A group of hydrated silicates of aluminum with alkali metals. They contain a porous molecular structure that allows them to selectively trap individual molecules within that structure. Zeolites are used in water purification and decontamination systems, animal feed supplements, drying agents, and for soil improvement.

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