

# Resource Management Plan —

## Introduction and Background

which requires that public land be managed for multiple use and sustained yield under an approved RMP.

### Purpose and Need for the Plan

Resource management in the Lakeview Resource Area (LRA) has been directed by three management framework plans that were completed in the early 1980s: the “Warner Lakes,” “Lost River,” and “High Desert Management Framework Plans” (USDI-BLM 1983a, 1983b, 1983c), and the “Lakeview Grazing Management Final Environmental Impact Statement and Record of Decision” (USDI-BLM 1982a, 1982b). To date, three plan amendments have been completed (USDI-BLM 1989b, 1996d; USDI-USFWS 1998a, 1998b). The “Warner Lakes Management Framework Plan” was amended in 1989 to officially designate the Warner Wetlands area as an area of critical environmental concern (ACEC) and to prescribe special management direction. The “High Desert Management Framework Plan” was amended in 1996 to officially designate the Lake Abert area as an ACEC and to prescribe special management for the area. The “Warner Lakes Management Framework Plan” was amended in December 1998, to adopt a proposal for exchange of land jurisdiction between the BLM and the U.S. Fish and Wildlife Service (USFWS), Hart Mountain National Wildlife Refuge. The two agencies initiated a joint planning effort in 1997 to transfer 12,880 acres of BLM-managed lands to the refuge, and to transfer 7,870 acres of lands managed by the Hart Mountain National Wildlife Refuge to the BLM. However, before the final plan amendment was completed, congressional legislation authorizing the transfer was signed in late 1998.

Because of new issues and concerns and changes in management policies, regulations, and demands on resources, these plans no longer provide adequate planning direction for resource management. Those decisions from the management framework plans, as amended, that were still considered to be valid were incorporated into the Lakeview RMP. This RMP supercedes all previous planning documents and will provide the LRA with a comprehensive framework for managing BLM-administered land (Map I-1) into the future. This plan meets the mandate of the “Federal Land Policy and Management Act” (FLPMA) of 1976

### Planning Area

The planning area includes all of the LRA except for approximately 31,500 acres administered by the Burns District and addressed in the Three Rivers RMP (USDI-BLM 1989d). In addition, the planning area includes approximately 2,172 acres in the Surprise Field Office in northern California and Nevada that the LRA manages through a cooperative agreement. (Management changes proposed by the LRA for areas outside of Oregon will be provided to the California State Director of the BLM, as the California State Director has the final jurisdiction over these lands). Map I-1 shows the relationship between the district boundary and the planning area. The planning area covers about 3.2 million acres (Table 1) of BLM-administered land in Lake and Harney Counties and area is bordered on the east by the Burns BLM District; on the south by the Modoc National Forest, Sheldon National Antelope Refuge, and BLM Surprise Field Office in Nevada and California; on the west by the Fremont and Deschutes National Forests; and on the north by the Prineville BLM District. Most of the public land is contiguous or well-blocked. Some scattered parcels occur in the north end of Lake County around Christmas Valley and in the south end of the county near Lakeview.

### Planning Process

The RMP is a land use plan as prescribed by the FLPMA. The RMP establishes in a written document:

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

**Table 1.—Land ownership/administration by county within the Lakeview Resource Area**

Ownership/administration	Lake County	Harney County	Washoe County (Nevada)	Total
<b>Bureau of Land Management</b>				
Public domain	2,333,304	744,907	2,172	3,080,383
Acquired lands	81,032	0	0	81,032
Subtotal	2,414,336	744,907	2,172	3,161,416
U.S. Forest Service	264	0	0	264
U.S. Fish and Wildlife Service	625	0	0	625
Department of Defense	2,623	0	0	2,623
Oregon State lands	111,187	15,974	0	127,161
Private	817,204	38,148	93	855,445
Other <sup>1</sup>	78,504	0	0	78,504
<b>Grand totals</b>	<b>3,424,743</b>	<b>799,029</b>	<b>2,265</b>	<b>4,226,037</b>

<sup>1</sup> Constitutes meander-surveyed lake beds, local government, and acres of unknown ownership.

- General implementation schedule or sequences; and
- Intervals and standards for monitoring the plan to determine its effectiveness.

A primary goal of this RMP is to implement management practices that ensure long-term sustainability of a healthy and productive landscape. A RMP is a set of comprehensive, long-range decisions concerning the use and management of resources administered by the BLM over a period of time, usually up to 20 years. The procedure for preparing a RMP involves a number of steps as shown in Table 2.

## Planning Issues

As a result of internal and external scoping, the following five issues were identified for consideration in the RMP process:

**Issue 1. What areas, if any, should be designated and managed as special management areas (SMA's), including ACEC designations, wild and scenic rivers (WSR's), or other?**

FLPMA and BLM policy (USDI-BLM 1988a) require the BLM to give priority to designation and protection

of ACEC's during the land use planning process. Since completion of the management framework plans in the 1980s, a number of areas have been proposed for ACEC designation. Two areas, Lake Abert and Warner Lakes, were designated through previous management framework plan amendments. Approximately 20 nominated areas were reviewed by the resource area staff. Twelve of these areas were found to meet the criteria as potential ACEC's. Several of these are also potential research natural areas (RNA's). In addition, three streams were evaluated and found to be eligible for designation as WSR's.

### Questions to be answered in resolving Issue 1:

- Which areas should be designated as ACEC's, RNA's, WSR's, or other designations?
- Which designations are most appropriate for which areas?
- How should designated areas be managed?
- What resources will be protected as a result of designation and management?
- What values or uses, particularly economic, will be enhanced or foregone as a result of designation?
- How would designation and management of areas affect other resources and their management?

**Table 2.—Steps in the BLM planning process**

Planning step	Definition/Purpose	Status
1) Identification of issues	Orients the planning process to the significant resource management problems and land use conflicts in the area covered by the plan.	Completed July 1999
2) Development of planning criteria	The standards or rules developed by the manager and interdisciplinary team to focus the planning process on the issues and management concerns.	Completed
3) Inventory and data collection	Baseline information is collected on an ongoing basis in support of resource management. Information about all ecosystem components, including human uses, is necessary to prepare a plan that meets requirements and is legally defensible.	Completed
4) Analysis of the management situation	The study and assessment of public land resources data for the area covered by the plan; completes the information base for formulating reasonable alternatives.	Completed May 2000
5) Formulation of alternatives	The development, analysis, and documentation of a reasonable range of management options that resolves conflicts and issues and provides a basis for future management.	Completed January 2001
6) Estimation of the effects of the alternatives	The consequences of the resource management alternatives are analyzed and documented.	Completed June 2001
7) Selection of preferred alternative	Based on a comparison of the estimated effects and tradeoffs associated the alternatives, a preferred alternative is identified in the Draft RMP/EIS.	Completed June 2001
8) Public review and comment on Draft RMP/EIS	After selection of preferred alternative the Draft RMP/EIS is distributed for 90-day public review and comment.	Completed January 2002
9) Publishing the proposed Resource Management Plan	Preparing the Proposed RMP/Final EIS based on evaluation of public comments of the Draft RMP/EIS.	Completed Fall 2002
10) Public protest period on Proposed RMP/Final EIS.	Publication of the Proposed RMP/Final EIS initiates a 30-day public protest period.	Completed March 2003
11) Publish approved RMP and Record of Decision	Following resolution of all protests, the plan is approved and a record of decision issued.	Summer 2003
12) Monitoring and evaluation	Conducted to determine the effectiveness of plan decisions, management actions, and future need for plan amendment or revision.	Fall 2003

- How should the Lost Forest/Sand Dunes/Fossil Lake existing ACEC be managed?
- Should boundaries or management of existing SMA's be changed, and if so, how?

***Issue 2. How can upland ecosystems be managed and restored to achieve desired range of 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, minimizes weed invasion, and

enhances the visual quality of the public land. Resource uses can affect the natural function and condition of upland communities.

The expansion of 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.

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

***Questions to be answered in resolving Issue 2:***

- What is the current condition of the various ecosystems and plant communities in the planning area, and how can their conditions be improved or maintained?
- How should the public lands in the planning area be managed to improve and maintain water quantity and quality and to promote hydrologic recovery?
- How should the public lands be managed to maintain the existence, promote recovery, and prevent listing of threatened and endangered species?
- How should vegetation be allocated to provide forage for grazing animals including livestock, wild horses, and wildlife; as well as to provide wildlife habitat and watershed protection?
- Where are noxious weeds located in the planning area, and how can lands be managed to prevent the introduction and establishment of noxious weeds and undesirable plants?
- What is the fire history in the planning area, and what is the appropriate role of fire in the management of vegetation resources on the public lands?
- Which best management practices (BMP's) should be implemented to improve and protect watersheds?

***Issue 3. How can riparian areas and wetlands be managed to protect, maintain, and restore their natural functions?***

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 livestock. 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 resource uses affect the natural function and condition of riparian areas and wetlands. These uses include livestock grazing, recreation, forest and woodland management, mineral exploration and mining, road construction and maintenance, and off-highway vehicle (OHV) use.

***Questions to be answered in resolving Issue 3:***

- How should riparian vegetation communities be managed to improve or maintain proper functioning condition?
- What kind of resource uses can be allowed in riparian areas without degrading riparian conditions?
- How should riparian systems be managed to improve or maintain habitat quality for fish, wildlife, plants, and invertebrates?
- How should riparian and wetland areas be managed to incorporate State of Oregon water quality standards and approved management plans addressing water quality concerns?
- How should management actions in upland ecosystems be developed or designed to be compatible with the needs of riparian communities?
- Which BMP's should be implemented to reduce erosion into streams?

***Issue 4. How should recreation be managed to meet public demand while protecting natural values and health and safety of the public?***

Recreation use in the resource area is increasing, especially in north Lake County. There is a demand for both developed and undeveloped recreation opportunities. OHV use needs to be managed, including determining appropriate designations for areas in the LRA regarding OHV use. There is an increasing demand for access to the LRA by "outdoor therapy" groups. This increasing use has resulted in conflicts with local residents. Hunting, camping, fishing, rock hounding, sightseeing, and pleasure driving are the most common recreation activities in the LRA.

***Questions to be answered in resolving Issue 4:***

- What types and levels of recreation should the planning area provide?
- What role should BLM serve in promoting or providing opportunities for tourism?
- How should outdoor therapy groups be managed to meet the needs of these groups while ensuring safety of the public and adjacent

- property owners?
- Should other recreation sites be developed to provide for public use?
- Can high use recreation areas such as the Sand Dunes be managed to allow continued recreation use while protecting resources? If so, how?
- How should the special/extensive recreation management areas be managed?
- Is there a need for any additional roads to provide access to areas currently inaccessible to BLM, commercial interests, or the public?
- Which areas should be designated open, limited, or closed to OHV use?
- Which roads, if any, should be closed or limited in their use?
- What roads, if any, are appropriate for special designations such as back country byways or back country discovery routes?

***Issue 5. How should public lands be managed to meet the needs of local communities and Native American Tribes?***

The communities in the LRA are generally small and isolated. As such, they have a great reliance on the public lands, including those in the national forest, to provide economic benefits to local communities, including jobs. In addition, a number of Native American groups consider the LRA part of their ancestral homelands and want to continue to have access to the land for ceremonial and religious purposes and to hunt wildlife and gather plants for various traditional uses.

***Questions to be answered in resolving Issue 5:***

- What is an appropriate role for BLM in providing support to local communities?
- How should the public lands be managed to provide economic support to local communities?
- How should the public lands be managed to meet the needs of Tribal self-sufficiency and traditions?
- How can conflicts between agency actions and Tribal needs and expectations be minimized or avoided?

## **Issues Eliminated from Detailed Study**

During the scoping process and the initial phases of plan development, a number of issues were identified,

and after discussion and review, were eliminated from further consideration. These included the need to (1) address grasshopper control, (2) make a new determination that lands in the planning area are “chiefly valuable for grazing”, (3) Interior Columbia Basin Ecosystem Management Project scientific findings that were not applicable to the planning area, and (4) implementation and effectiveness monitoring. These were all eliminated from detailed study for the reasons described in Chapter 1 of the “Proposed RMP/Final EIS” (USDI-BLM 2003).

## **Planning Criteria**

Planning criteria are the standards or rules used for data collection and alternative formulation that guide final plan selection. Planning criteria are developed from appropriate laws and regulations, BLM manuals, and policy directives, as well as, from concerns expressed by the public and other agencies. They provide a basis for judging the responsiveness of the planning decisions and the planning process to law, guidance, the results of public participation, and consultation with other agencies. Planning criteria influence all aspects of the planning process, including inventory and data collection, development of issues to be addressed, formulation of alternatives, estimation of effects, and selection of the preferred alternative. Appendix B of the “Proposed RMP/Final EIS” (USDI-BLM 2003) contains a detailed description of the planning criteria and legal authorities used in the development of this RMP.

Planning criteria help to:

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

Principles of ecosystem management, as well as, a continuing commitment to multiple use and sustained yield, will guide land use decisions in the planning area. The commitment to multiple use does 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.

## Relationship to Federal, State, Local, and Tribal Government Plans

### Federal Plans

A number of land use plans and programmatic “National Environmental Policy Act” (NEPA) analyses have been developed by the BLM and other Federal agencies that govern how management is carried out within the planning area. The BLM is responsible for determining if the RMP is in conformance with these plans. Where appropriate, the management direction and previous management decisions set forth by these documents are used to tier analyses performed in this plan or are incorporated by reference, and therefore, are not repeated in detail within this document (nor are pertinent decisions already established by these documents being revisited here). These plans/documents are summarized in Appendix B of the “Proposed RMP/Final EIS” (USDI-BLM 2003).

### State Plans

The consistency of the Lakeview RMP with various State of Oregon plans is shown in Table B-1, Appendix B of the “Proposed RMP/Final EIS” (USDI-BLM 2003). The Governor’s office was given several opportunities to review this plan and comment on its consistency with their goals, policies, and plans. Several state agencies provided comments (see Volume IV and Chapter 5 of the “Lakeview Proposed RMP/Final EIS” (USDI-BLM 2003)) during the process which were given consideration in developing the RMP.

### Lake County Plan

Lake County has an existing land use plan developed in response to the State of Oregon’s requirements (Department of Land Conservation and Development 1994). The plan consists of a number of reports, ordinances, and subsequent amendments governing land use practices and policies within the county (Lake County 1979, 1983, 1989a, 1989b, 1989c, 1992). In 1992, the county passed an “Emergency Ordinance and Interim Public Land Management Plan” (Lake County 1992) to supplement the existing land use plan. This ordinance does not support the designation of any additional wilderness areas or RNA’s within the county, but does not specifically address ACEC’s. The Lake County Commissioners and other interested members of the public who commented on the “Draft RMP/

EIS”(see Volume IV of the “Proposed RMP/Final EIS”(USDI-BLM 2003) feel the designation of new ACEC/RNA’s and the addition of lands to existing WSA’s is in direct conflict with this ordinance. The Lake County Commissioners were briefed on the development of the RMP/EIS on many occasions (see Chapter 5 of the “Proposed RMP/Final EIS” (USDI-BLM 2003)). County officials were also provided with an opportunity to review the Lakeview “Proposed RMP/Final EIS” and comment further on its consistency with their approved plans and policies. County officials filed a protest related to this issue in March 2003. This issue was addressed and resolved in the BLM Director’s response.

### Harney County Plan

Harney County has an existing land use plan developed in response to the State of Oregon’s planning requirements (Department of Land Conservation and Development 1994). The Harney County Court (Commissioners) were briefed on the development of the plan (see Chapter 5 of the “Lakeview Proposed RMP/Final EIS” (USDI-BLM 2003)) and were provided an opportunity to review the “Draft RMP/EIS”, but made no written comments. They were provided with an opportunity to further review the “Proposed RMP/Final EIS” and comment on its consistency with their approved plans and policies, but provided no feedback.

### Tribal Government Plans

Five recognized tribal governments have an interest in lands within the planning area: the Klamath Tribes, the Confederated Tribes of the Warm Springs Reservation, the Burns Paiute Tribe, the Fort McDermitt Tribe, and the Fort Bidwell Tribe. The LRA Field Manager and RMP team leader met with tribal leaders of the Klamath Tribes, Burns Paiute, and Fort Bidwell Tribes to discuss the plan and to identify tribal goals, needs, or plans which may conflict with or support any of the alternatives (see Chapter 5 of the Lakeview Proposed RMP/Final EIS (USDI-BLM 2003)). The Klamath and Burns Paiute Tribes provided written comments on the “Draft RMP/ EIS”(see Volume 4 of the “Proposed RMP/Final EIS”(USDI-BLM 2003)). All tribes were provided with an opportunity to further review the “Proposed RMP/Final EIS”. Additional meetings or consultation efforts will occur as the plan is implemented, in accordance with cultural resource management goals 1-4.

## Desired Range of Conditions

### Introduction

The desired range of conditions describes the land, resource, social, and economic conditions that are desired in the planning area as a result of plan implementation. The following desired range of conditions are descriptions of what the physical and biological conditions would be moving towards during the life of the plan. However, certain conditions, goals, or objectives may take longer to achieve.

### Rangelands

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

### Forest and Woodlands

Treated commercial (mostly pine) forests contain healthy stands of site-appropriate species. Stands are relatively open, with density within site capacity. Low-intensity fires can be accommodated without excessive loss of trees, and insect and disease occurrence is at endemic levels.

Western juniper dominance is restricted to rocky outcrops, ridges, and other historic (old growth) sites where wildland fire frequency is limited by lower site productivity and sparse fuels. Western juniper occurs in low densities in association with vigorous shrubs, grasses, and forbs (where site potential permits). Historic western juniper sites retain old growth characteristics.

Quaking aspen groves occupy historic range and are in stable or improving condition.

### Wild Horses

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

### Wildlife

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 and forage) 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 sensitive species and toward recovery of listed species.

### Recreation

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

### Special Management Areas

Special management areas (SMA's), such as wilderness/wilderness study areas (WSA's), wild and scenic rivers (WSR's), research natural areas (RNA's), and areas of critical environmental concern (ACEC's), preserve the integrity of special or unique values over the long term.

## Soils

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

## Fire

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

## Riparian, Aquatic, and Watershed

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 stream flow 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 stream banks, healing incised channels, shading water areas, filtering sediment, aiding in floodplain development, dissipating energy, delaying floodwater, and increasing recharge of ground water appropriate to climate, geology, and landform. Stream channels are narrower, water depth and channel meanders are increasing, and floodplains are developing. Stream channels and floodplains are making significant progress in dissipating energy at high-water flows and transporting and depositing sediment as appropriate for geology, climate, and landform. Riparian/wetland vegetation is increasing in canopy volume (height and width) and in healthy uneven-aged stands of key woody plants, increasing in herbaceous ground cover, and shifting toward late succession. Surface disturbances inconsistent with the physical and biological processes described above have been reduced. Disturbances such as roads, dispersed recreation sites, and inappropriate livestock use are decreasing as vegetation and soils recover naturally. There is no downward trend in riparian condition and function.

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

Management activities have been implemented on nearly all sites at risk to erosion to facilitate recovery of upland, riparian, aquatic, and water quality conditions. Improved aquatic habitat conditions allow populations of threatened or 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 perennial and fish-bearing 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 support populations of well-distributed native and desired nonnative plant, vertebrate, and invertebrate populations.

## Land Use Plan Goals

The mission of the BLM is to sustain the health, diversity, and productivity of the public lands for the

use and enjoyment of present and future generations. In order to accomplish that mission, BLM has developed a strategic plan (“BLM Strategic Plan 2000–2005”) containing a comprehensive set of broad goal statements and a subset of mission goals. Two goal statements and a subset of mission goals dealing with public land management are shown below. (The complete “BLM Strategic Plan 2000–2005” is available at the BLM web site: [www.blm.gov/nhp/info/stratplan](http://www.blm.gov/nhp/info/stratplan).)

- 1) Serve current and future publics.
  - Provide opportunities for environmentally responsible recreation.
  - Provide opportunities for environmentally responsible commercial activities.
  - Preserve natural and cultural heritage resources.
  - Reduce threats to public health, safety, and property.
  - Provide land, resource, and title information.
  - Provide economic and technical assistance.
- 2) Restore and maintain the health of the land.
  - Understand and plan for the condition and use of the public lands.
  - Restore at-risk resources and maintain functioning systems.

The Lakeview RMP also considered the broad goals developed by the Interior Columbia Basin Ecosystem Management Project (ICBEMP) (USDA-FS and USDI-BLM 2000b, 2000c), even though this planning effort did not result in a final decision. Five goals were developed for the project; they are:

- 1) Sustain, and where necessary, restore the health of the forest, rangeland, aquatic, and riparian ecosystems.
- 2) Provide a predictable, sustained flow of economic benefits within the capability of the 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.
- 5) Manage natural resources consistent with treaty and trust responsibilities to American Indian Tribes.

Based on the BLM strategic plan, the ICBEMP goals, and the specific issues identified for the planning area, the following goals were developed for the Lakeview RMP:

- 1) Manage for long-term sustainability and, where necessary, restore the health of the forest, rangeland, aquatic, and riparian ecosystems in the planning area.
- 2) Manage sensitive species and communities to ensure long-term viability, and promote delisting of threatened or endangered species.
- 3) Provide recreational, educational, and research opportunities within the capability of the planning area ecosystem.
- 4) Provide a predictable, sustained flow of economic benefits within the capability of the planning area ecosystem.
- 5) Manage resources on the planning area to meet treaty and trust responsibilities to local American Indian Tribes.

## Other Strategies

### Interior Columbia Basin Ecosystem Management Project Implementation Strategy

The Interior Columbia Basin Ecosystem Management Project (ICBEMP) was initiated “to develop and then adopt a scientifically sound, ecosystem based strategy for managing all Forest Service or BLM-administered lands within the (interior Columbia) Basin” (USDA-FS 1996a). The ICBEMP analyzed an area of 145 million acres including all of Eastern Oregon. As part of the project, a science integration team was directed to “... study ecological, economic and social systems; examine current and historical conditions; and evaluate whether outcomes from current practices and trends would be consistent with long-term maintenance of ecological integrity and ecosystem health” at the basin scale (USDA-FS and USDI-BLM 2000c).

Application of this large-scale analysis was expected to require a “step-down” process to bring the findings down to a level where they can be applied within a local BLM management unit. This step-down is accomplished through a process called “subbasin review” (USDA-FS and USDI-BLM 1999). As part of the preparation for the RMP/EIS, the BLM conducted a subbasin review. This is described further in the subbasin review section below.

In December 2000, a Final EIS and proposed record of decision (ROD) was published (USDA-FS and USDI-BLM 2000b; 2000c). Some of the objectives, standards, and guidelines identified in the proposed ROD

were incorporated into the Lakeview RMP, where applicable. A final decision on the ICBEMP was not issued. Instead, a memorandum of understanding (Information Bulletin No. OR-2003-084) was developed between the agencies that accomplished several things: (1) brought the ICBEMP officially to a close, (2) outlined a mutually agreeable strategy for application of the scientific findings into future Resource Management Plans, Forest Plans, and plan amendments/revisions.

On the basis of the subbasin review, the integration of the scientific findings, and the management direction incorporated into the proposed plan, the Lakeview RMP has been determined to be consistent with the ICBEMP implementation strategy.

## Ecosystem Management

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

A major part of the ICBEMP was the gathering, organizing, and understanding information at the basin or broad scale. In order to apply the findings of ICBEMP to the local level, they had to be stepped down through more site-specific analyses (USDA-FS and USDI-BLM 2000b). The ICBEMP describes four levels of analysis below the broad basin-level analysis that are intended to provide the context to appropriately implement these broad-level decisions on individual national forests or BLM districts:

- 1) Subregional analysis—programmatic or broad overview EIS such as a resource management plan.
- 2) Mid-scale analysis—subbasin review.
- 3) Watershed-scale analysis—ecosystem analysis at the watershed (or other appropriate landscape unit) scale.

- 4) Site-specific NEPA analysis—project environmental assessment or EIS.

## Subbasin Review

The BLM conducted a subbasin review (USDA-FS and USDI-BLM 1999) between August 1, 1999 and March 1, 2000. Subbasin review, the second layer of the step-down process, is an intergovernmental process comparing mid- and fine-scale information to ICBEMP findings. It also assesses ecosystem processes, functions, and conditions at the subbasin level. The subbasin boundaries were based on the U.S. Geological Survey (USGS) 4th field hydrologic unit codes. On average, these 4th field hydrologic unit codes comprised an area of 500,000 to 1,000,000 acres. The Lakeview subbasin review area included four subbasins wholly or partially within the LRA: Summer Lake, Lake Abert, Warner Valley, and Guano, comprising an area of approximately 6.5 million acres. Land ownership and administrative responsibilities included private, State of Oregon, Forest Service, BLM, U.S. Fish and Wildlife Service, and Department of Defense. The majority of the land in the subbasin review area is administered by BLM. The science integration team identified a number of issues applicable across the Interior Columbia Basin (USDI-BLM 1996h; USDA-FS and USDI-BLM 1996a).

The subbasin review team reviewed these findings and determined that most of them applied to the area. Appendix A1 of the “Draft RMP/ EIS” (USDI-BLM 2001a) contains a summary of the subbasin review process, as well as, a summary of ICBEMP findings applicable to the planning area. The “Summary of the Analysis of the Management Situation” (USDI-BLM 2000f) contains the subbasin review report. Findings and recommendations from the subbasin review were carried forward into the RMP/EIS in the issues and alternatives analyzed.

## Ecosystem Analysis at the Watershed Scale

The watershed scale is the third layer in ecosystem analysis (REO 1995). Ecosystem analysis at the watershed scale may be used to evaluate existing conditions, capabilities, and limitations of specific watersheds. Information gained through analysis at this scale would be used to support development of ecologically sustainable programs and projects. Appendix F of the “Draft RMP/ EIS” contains a description of the watershed analysis process. The RMP provides the general direction for ecosystem analysis to address, including the desired range of conditions.

During the subbasin review, the team identified several watersheds that are priorities for future restoration (see Water Resources/Watershed Health section). The following is a description of the criteria used to prioritize watersheds and the process that would be used to change priorities, if necessary. Work would focus on higher priority areas; however, other areas may require attention to address site-specific needs.

- Legal mandates (“Clean Water Act” [CWA], “Endangered Species Act,” etc.);
- Resources at risk;
- Potential for recovery;
- Resource conflicts or controversy;
- Opportunity for interagency or partnership assessments;
- Field staff knowledge of the area;
- Current ongoing management; and
- Broad-scale priorities (identified in ICBEMP as a priority subbasin or key watershed for various reasons).

Completed watershed analyses will be reviewed periodically to determine if there have been any changes in resource issues, BLM policies and regulations, or other concerns that warrant a change in priorities.

### **Rangeland Health and Health of the Land Strategies**

The plan includes management direction intended to complement the “Standards for Rangeland Health and Guidelines for Livestock Grazing Management” (USDI-BLM 1997a) and “Standards for Land Health for Lands Administered by the Bureau of Land Management in the States of Oregon and Washington” (USDI-BLM 1998). These standards are discussed further in Appendix E4 of the “Draft RMP/EIS” and Appendix B of the “Proposed RMP/Final EIS”.

### **Adaptive Management**

Adaptive management is a procedure in which decisions and changes in management are made as part of an ongoing process. It is a continuous process of planning, implementing, monitoring, evaluating, and incorporating new information into strategies to meet the goals and objectives of the management described in the RMP. This strategy is described further at the end of this document.

# **Management Decisions**

## **Management Theme**

Alternative D from the “Proposed RMP/Final EIS” is the BLM’s preferred alternative and serves as the basis for the approved Resource Management Plan described in the following section. This plan emphasizes a high level of natural resource protection and improvement in ecological conditions while providing sustainable commodity production. This plan balances the need to protect, restore, and enhance natural values, with the need to provide for the production of food, fiber, minerals, and services on the public lands within the limits of the ecosystem’s ability to provide these on a sustainable basis and within the constraints of various laws and regulations. Constraints to protect sensitive resources will be implemented. Restoration actions will utilize active or passive methods to achieve management goals.

## **Plan Components**

The plan is described as four general components. The first component consists of individual resource or program sections (e.g., Air Quality, Plant Communities, etc.). The second consists of the individual management goals for each resource program. The third is a collection of land use or specific implementation plan actions necessary to achieve the individual management goals. Each of the resource-specific management actions is considered in combination with all other goals and actions to arrive at the desired range of conditions described earlier. The management goals may not be completely met over the life of the plan (up to 20 years). Funding and staffing levels will affect the rate of implementation.

The fourth component is monitoring. The BLM planning regulations (43 CFR 1610.4-9) call for the monitoring of resource management plans on a continual basis. Monitoring is an essential component of resource management because it provides information on the relative success of management strategies. There are four types of monitoring: implementation, effectiveness, validation, and baseline. These are described further in Appendix R of the “Proposed RMP/Final EIS”. The implementation of the RMP would be monitored to ensure that management actions (1) follow prescribed management direction (implementation monitoring), (2) meet desired objectives (effectiveness monitoring), and (3) are based on accurate assumptions (validation monitoring). Most monitoring related to the RMP will consist of imple-

mentation and effectiveness monitoring. Additional information on the purpose and methodologies of monitoring are contained in Appendix R of the “Proposed RMP/Final EIS”. Monitoring results will be periodically reported in planning update documents.

### **Management Goals, Rationale, Actions, and Monitoring**

The following section is structured in such a way that the reader can track a specific resource management goal, rationale, and approved management action(s). The following material defines and expands upon these components.

*Management goal*—the desired result of management efforts. The goals must resolve or move toward resolving a management issue(s).

*Rationale*—reasoning behind why it is important to pursue the stated management goal.

*Management actions*—measures that are to be taken to achieve a management goal and resolve a management issue. A distinction is made between land use plan and implementation decisions in each narrative by including the term “implementation decision” in the headings for actions that are expected to be implemented over time without further NEPA analysis.

*Monitoring*—techniques or studies used to determine if specific management actions are meeting the management goals.

## **Plant Communities — Shrub Steppe**

**Management Goal 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 the “Federal Land Policy and Management Act” (FLPMA) and the Public Rangeland 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 and “Standards for Land Health for Lands Administered by the Bureau of Land

Management in the States of Oregon and Washington” (USDI-BLM 1997a, 1998) directs public land management toward the maintenance or restoration of the physical function and biological health of vegetative ecosystems. This objective will 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 is to maintain or improve rangeland condition to the desired range of vegetative conditions, not specifically late or potential natural community ecological status.

Management actions authorized or implemented by BLM will 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; off-highway vehicle (OHV) use; wild horse management; recreational use; and mining.

Vegetation management has been based on existing inventories delineating the ecological status of vegetation communities. The basis for defining ecological status and potential is site descriptions that provide a summary of expected species composition and variability with vegetation communities, as well as anticipated responses with management. The delineation of ecological sites is based on soils and climate conditions. In most of the resource area, the ecological site inventory has been completed which will help provide information for future decisions. Vegetation communities in late-potential natural community seral stages express a mosaic of species composition and structure, consistent with site potential, and reflect a range of possible plant communities that should meet the objectives defining the desired range of conditions.

### **Management Direction**

Upland native shrub steppe communities will be managed to attain a trend toward the desired range of conditions based on management objectives and site potential. Management actions will maintain the condition of those native communities where vegetation composition and structure meet desired conditions. Nonnative seedlings in poor or fair condition will be managed to restore production and vigor, as well as to

improve structure and species diversity. Nonnative seedlings in good or excellent condition will be managed to maintain seeding production, improve structural and species diversity, and maintain forage production. Upland shrub cover, at moderate levels of potential, will be maintained for natural values and wildlife cover in most native vegetation communities where potential exists, and in nonnative seedlings as consistent with other resource management objectives. The frequency, distribution, and ecological integrity of native stands of mountain shrubs will be restored and maintained where site potential supports these species to meet the desired conditions and other management objectives.

Prescribed and wildland fire use will be implemented to rehabilitate or vegetate plant communities that do not meet desired conditions due to dominance by annual, weedy, or woody species such as invasive western juniper and decadent bitterbrush, but mechanical, chemical, and biological methods could also be used. Vegetation manipulation projects will be implemented primarily to direct the trend toward desired conditions, improve structural and species diversity, and protect soil, water, and vegetation resources. Priority will be placed on the rehabilitation of shrub steppe vegetation communities at risk due to dominance by annual species and invasive western juniper.

Seedlings will be implemented with appropriate mixes of adapted native and nonnative perennial and annual plant species; although native species will be preferred for seedlings. Species mixes will be determined on a site-specific basis dependent on the probability of successful establishment and risks associated with seeding failure. Use of competitive native species will be emphasized in seedlings within sites moderately and highly susceptible to degradation.

Areas burned by wildland fire, including those subsequently rehabilitated, will be rested from grazing 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.

**Management Goal 2—*Protect healthy, functioning ecosystems consisting of native plant communities. Restore degraded high-potential landscapes and decadent shrublands.***

### **Rationale**

Beginning in the 1960s, an awareness began concerning the importance of public lands for the maintenance

of biological diversity. The goals, objectives, and priorities for the fish/wildlife/botanical program were established in the national “Fish and Wildlife 2000: A Plan for the Future” (USDI-BLM 1987c), and adopted as policy for implementation by all field offices. The scope and design of the plan was to provide for improved management of fish, wildlife, and botanical habitats on public lands for the social and economic well-being of all Americans. Prepared in concert with its national counterpart, Oregon-Washington’s plan was to carry out the goals, objectives, and priorities on the local field level. This vision incorporates cooperation with other organizations and user groups such as other Federal agencies, state agencies, conservation organizations and Challenge Cost Share/Volunteer Contribution programs.

Recent research shows that microbiotic crusts may be indicators (e.g., an early warning system) of rangeland health. Although no relationship between total vascular plant cover and crust cover has been found, there is a correlation between perennial bunchgrass cover and crust cover. Bare ground is often inversely related to crust cover, which could mean that a decline in crust cover produces an increase in bare soil, rather than an increase in vascular vegetation.

During heavy fire years in the West, desired seed species for rehabilitation or restoration are often limited or not available. A program is being explored to collect, plant, and grow native seed to produce a seed bank of locally genetic and adapted plant species that will facilitate future seed planning programs.

### **Management Direction**

Resource area-wide planning will drive protection of healthy functioning ecosystems consisting of native plant communities. High priority will be given to restoration of degraded landscapes and decadent shrublands through projects such as prescribed burns, seeding of desirable native and nonnative species, development of native plant seed banks for rehabilitation, and planting of shrubs/trees in riparian zones. The prioritization for restoration will be from a subbasin or watershed perspective (see Water Resources/Watershed Health section). This will maintain functioning native plant communities where they currently exist, improve plant community structure in priority areas that are currently ecologically degraded, change plant community structure where shrubs dominate grassland sites, and protect and restore microbiotic crusts. Locally grown native seeds or those adapted to the planning area will be preferred for rehabilitation and restoration of degraded or burned areas.

Specific projects will be developed by range, wildlife, hydrology, and botany for restoration of degraded areas. As an example: microbiotic crust inoculation to reintroduce crust species could be applied in degraded areas where crusts existed.

A priority for restoration will be the Sheeprock area, noted by the “Lakeview Grazing Management Final Environmental Impact Statement” (USDI-BLM 1982a) to have vast areas of poor condition rangeland. The area falls within a watershed that ICBEMP identified as having declined substantially since historic times. Restoration methods could include prescribed burning or brush control and reseeded. Checkdams and other structures could be installed to control erosion.

## Monitoring

**Management Goal 1.** Vegetation communities would be monitored to determine progress toward attaining desired range of conditions. 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 soils 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 conditions. Recent research by Ponzetti (2000) and Belnap et al. (2001) shows that microbiotic crusts may be indicators (e.g., an early warning system) of rangeland health. Initial monitoring has begun by ecological site inventory crews measuring percent cover of biotic crusts in the northern part of the resource area. Additional research in the Northern Great Basin is needed to determine ecological roles, response to natural and human actions, and management/monitoring techniques for biological soil crusts.

In cooperation with the State of Oregon, colleges and universities, USFWS, USFS, ONHP, and private individuals, inventory the distribution and density of special status plants, unique plant communities, and specialized animal habitats. The next step would be to determine and prioritize degraded landscapes for restoration from an ecosystem perspective. Workshops and training for awareness and ability to identify these communities and species would be encouraged. Baseline inventories are being initiated which would be repeated as necessary in subsequent years to observe changes and dynamics of ecosystems.

**Management Goal 2.** Monitoring studies would be initiated to evaluate the cost analysis and effectiveness of growing native hand-collected seed in the resource area. Since viability of native versus commercially grown seeds is usually much lower, other avenues could be explored to develop local seed banks.

Monitoring of existing condition of vegetation would consist of identifying ecological sites, determining ecological status, determining soil types, vegetation mapping, baseline inventory, and assembling existing basic information. Procedures used would be primarily those in BLM Technical Reference 1734-7 (USDI-BLM 2001d) and Technical Reference 4400-5 (USDI-BLM 1992c).

Determination of trends in production, structure, composition of vegetation and determination of soil/site stability, watershed function, and integrity of biotic community would be done through the rangeland health assessment process prescribed in the most current versions of “Interpreting Indicators of Rangeland Health” (Shaver et al. 2000), “Rangeland Health Standards and Guidelines” (USDI-BLM 1997a), and BLM Manual 4180 and Handbook H-4180-1 guiding implementation of the rangeland health standards (USDI-BLM 2001b, 2001c).

Plans would be developed in conjunction with Tribal peoples for collection and protection of cultural plants and communities to determine sustainability. Refer to Cultural Resource monitoring section for more information.

## Plant Communities — Riparian and Wetland

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

### Rationale

FLPMA 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 memorandums of understanding and agreements direct BLM to manage its riparian/wetland areas for biological diversity, productivity, and sustainability for the benefit of the Nation and its economy. These directives are

listed in Appendix B. Specifically, 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.” FLPMA, section 102, also 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.

Riparian areas in good condition are essential to water quality improvement, fish habitat, and water quality yield. Riparian zones are the focal point and best overall indicator of watershed health.

Attainment of proper functioning condition will be a first step to moving habitat conditions of entire watersheds and their components (uplands, streams, riparian/wetland areas, and lakes and ponds) toward achieving terrestrial and aquatic objectives. Management practices such as grazing, mining, recreation, forest harvesting, and other forms of vegetation management will be designed for healthy sustainable and functional rangeland ecosystems as described in the “Standards for Land Health for Lands Administered by the Bureau of Land Management in the States of Oregon and Washington” (USDI-BLM 1997a, 1998a).

The next step in the attainment of desired range of conditions will be to implement management actions that meet riparian management objectives (Appendix F2) within riparian/wetland areas and riparian conservation areas. Riparian conservation areas occupy that portion of watersheds where aquatic- and riparian-dependent resources receive primary emphasis for the maintenance, protection, and restoration of ecosystem processes and functions. Riparian management objectives are generally instream and riparian characteristics within the flood-prone area, expressed as values for stream channel conditions and provide criteria to help assess aquatic, water quality, and riparian/wetland goals and objective attainment of desired range of conditions. The desired range of conditions of riparian/wetland areas usually fall between proper functioning condition and the biological (or site) potential (Appendix F2). Riparian management objectives for vegetation will be site specific based on riparian ecological site inventory assessment. Although attainment of proper functioning condition essentially assures that stream and riparian/wetland areas function and may be on an improving trend, it may not meet desired conditions. Management priorities in upland watershed areas and riparian conservation areas will focus prescriptions

for the attainment of these desired conditions.

There are a number of BLM policies relating to riparian/wetland areas including:

- Focus management on entire watersheds using an ecosystem approach, involving all interested landowners and affected parties;
- Achieve riparian/wetland area 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;
- All sites are making significant progress towards meeting standards of rangeland health.
- 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.

## Management Direction

Riparian/wetland areas will be managed for uses within the watershed that emphasize the maintenance or improvement of naturally-occurring values while providing for commodity production and the attainment of proper functioning condition, riparian management objectives, and desired range of conditions. Active restoration activities, such as intensive woody riparian vegetation plantings, vegetation manipulation, and installation of instream structures, will be used. Prior to structural work, management will be in place that will allow improvement in stream conditions.

Areas not in proper functioning condition will 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 within the riparian conservation area and contributing upland watersheds will be allowed as long as there is measurable progress towards attainment of State water quality standards, proper functioning condition, and riparian management objectives. Specifically, in fenced Federal range allotments, BLM riparian sites that are not in proper functioning condition and where it is determined that livestock are contributing to the condition, livestock will be excluded. Spring developments will be modified to promote natural function where possible, but still allow livestock and wildlife access to developed water.

No new playa lakebed development will be allowed in intact systems. Baseline data will be collected on all developed playa lakebeds to determine the feasibility of restoration or enhancement.

Riparian conservation areas will be identified and delineated. Management options focus on uses and activities that allow for the protection and maintenance of riparian conservation areas and upland watersheds and the measurable progress toward the attainment of water quality, proper functioning condition, and riparian management objectives (within riparian conservation areas) at a positive annual rate. All BLM managed and maintained roads will be removed or relocated from riparian conservation areas if they are impacting the functioning of the riparian area.

The acquisition of riparian areas from willing landowners through exchange or purchase will be a priority.

## Monitoring

Most of the current information on riparian/wetland areas in the planning area has been based on assessments of riparian condition and trend. Although the BLM standard is to use proper functioning condition assessments, trend assessments can quickly provide initial information about progress toward desired conditions. Trend assessments include the following: wildlife and aquatic monitoring, water quality monitoring, Rosgen channel typing, riparian site classification and assessment of change over time towards meeting desired range of conditions, low-level aerial photography, and remote-sensing technologies.

**Proper Functioning Condition and Riparian Management Objectives.** Attainment of proper functioning condition (USDI-BLM 1993e, 1998i) objectives is considered a minimum step in the process of achieving desired range of conditions. Proper functioning condition and other riparian objectives (see Appendix F2) in most cases do not equate to the desired range of conditions. Determination of proper functioning condition and riparian management objectives is an interdisciplinary process.

To determine improvement in conditions relating to lotic proper functioning condition, monitoring methods are described for all assessment categories in USDI-BLM Technical Reference 1737-15 (1998i). Table 3 shows goals and possible monitoring methods to determine progress toward meeting those goals; this table does not repeat the monitoring described in the proper functioning condition technical reference listed above. Since the ultimate goal is to meet site potential

or other riparian management objectives, above minimum proper functioning condition requirements, proper functioning condition inventories will not likely be repeated in the future.

**Riparian Scorecards.** Scorecards for the LRA have been developed based on the riparian ecological site inventory methodology and is in field use. They will identify vegetative conditions that could be present under high condition for a given site considering soil, climate, and water conditions. These cards will be the basis of setting objectives of riparian vegetation condition for any given reach of stream. Monitoring will be based on current vegetation conditions based on potential and measured by change over time towards meeting the goal. Riparian vegetation condition is important for water quality attainment and fish habitat protection. Establishing greenline transects that measure vegetation type and condition will be a basis for tracking changes in vegetation condition over time.

**Photo Points and Aerial Photos.** Photo points have been an integral part of stream/riparian condition monitoring in the LRA for many years. Photo sets taken at specific repeatable locations (on some sites since 1978) subjectively show changes in stream channels and vegetation over time. These study points have proven very useful to illustrate changes at specific points over time. Aerial photos show changes in channel and vegetation over the length of a stream. They include enough detail to monitor woody species changes over time.

Refer also to the Water Resources/Watershed Health and Fish and Aquatic Habitat Monitoring sections.

## Plant Communities — Forest and Woodlands

**Management Goal 1—*In commercial (pine) forest stands, maintain or restore forest health and meet wildlife habitat needs.***

### Rationale

The ICBEMP has documented declines in forest health of the interior pine forests (USDA-FS and USDI-BLM 1996a). Exclusion of natural fire has resulted in overstocked stands and a large increase in the western juniper and white fir components of these stands. They are less resilient and are more susceptible to disturbances such as insect attack, drought, and wildland fires. Wildlife dependent on these forests are also at risk.

**Table 3.—Monitoring method by fish and aquatic habitat objective**

Objective	Monitoring method
Decrease water temperature	■ Thermograph records
Reduce sediment loads, improve spawning gravel	■ Macroinvertebrate and substrate core sampling ■ Wolmen pebble counts
Improve pool quality and quantity	■ ARIMS stream survey ■ Rosgen Level 3
Improve vegetative cover	■ Greenline sampling ■ Solar pathfinder ■ Densiometer ■ Riparian score cards
Improve bank cover	■ Stream cross section and longitudinal profile
Incorporate large wood to potential	■ ARIMS stream survey ■ Riparian score cards

BLM policy requires that forest lands be classified into management categories. Most commercial forest lands in the planning area have been classified into the category “Lands Where Forest Management is for the Enhancement of Other Uses.” These are areas where forest management actions are made for the benefit of other resource uses or values. These lands will not provide an assigned allowable sale quantity of commercial or noncommercial timber volume, due to the relatively low volumes per acre, scattered locations (making efficient management impractical), and the presence of other high resource values. However, forest products could be produced as a byproduct of management activities. Commercial forest lands not classified in this category include those within ACEC’s whose management plans specifically exclude planned or sustained production of forest products. Other potential areas with such restrictions are Native American gathering areas for plant products and old growth western juniper areas.

### Management Direction

Due to the scattered locations of the commercial forest stands, harsh sites, and low volumes per acre, these lands are not suitable for intensive management for forest products. No allowable sale quantity is declared. However, these forest stands will be managed in concert with surrounding lands to provide old growth wildlife habitat, hiding cover for mule deer, watershed, and scenic values. Management treatments to reduce overstocking, control competing vegetation, remove

invasive western juniper or white fir, and reduce ground and understory ladder fuels, will be employed to improve forest health, increase resistance to insect and disease outbreaks, and reduce risk of catastrophic wildland fires.

Whenever adjacent lands are treated, whether private or national forest, treatment of the scattered BLM forest stands will be considered. Potential treatments could include salvage of dead and dying trees, selective cuts focused on thinning, culturing around old growth trees in good condition, precommercial thinning, and prescribed fire to reduce ground fuels. Wildland fire use could be initiated once fuel loadings are reduced to more natural levels. Management of commercial forest land within ACEC’s and other special areas will be guided by their specific management plans.

### Management Goal 2—Restore productivity and biodiversity in western juniper woodlands and quaking aspen groves.

#### Rationale

Under presettlement conditions, periodic fires killed western juniper saplings. Western juniper distribution was generally limited to rocky areas with only light grasses and other low fuels to carry ground fires. These “natural” western juniper sites today are the old growth sites, containing trees hundreds of years old. Reduction and exclusion of natural fires by grazing of fine fuels and fire suppression has allowed western

juniper to expand in area as well as density for the last 130 years. Western juniper is an aggressive competitor for water, and has replaced, or is in the process of replacing, native vegetation on many sites. Invasive western juniper are defined as those stands less than 130 years old. A loss of available forage for wildlife and domestic livestock, as well as increased soil erosion, has resulted. Quaking aspen stands have also been invaded by western juniper, and many are in decline from severe competition, as well as livestock browsing of sprouts.

The western juniper woodlands are considered non-commercial forest lands because the sites can only produce this noncommercial tree species. Most of these woodland stands are not naturally-occurring. In the absence of periodic natural fires, western juniper are spreading onto sites naturally occupied by other plant communities, notably mountain big sagebrush. BLM policy requires forest lands, even these unnatural stands, be classified into one of four forest management categories. The western juniper woodlands, both old growth and invasive, have been classified as "Lands Where Forest Management is for the Enhancement of Other Values." The production of wood products is not the main objective of managing these western juniper woodlands. No allowable sale quantity is assigned to these lands, but removal of wood products to meet other resource objectives is allowed.

## Management Direction

Inventory information for the western juniper woodlands will be compiled on an ongoing basis. The ecological site inventory, which identifies old growth western juniper sites on rocky ridges and other fire-protected areas, as well as invasive western juniper, will provide some of this information. Additional inventory work could show western juniper stands by age class and canopy closure. These future inventories will allow much more precise management of western juniper lands to maximize the mix of other resource values presently inhibited by the western juniper cover.

When western juniper treatments are planned, Native American values or use will be evaluated. For example, traditional plant-gathering areas will need special protection. Affected Tribes will be contacted at an early stage in project planning.

Management of western juniper woodlands within RNA's, ACEC's, or other SMA's, will be guided by the specific management direction for each area.

When evaluating areas for western juniper treatment

(including areas for commercial and public wood cutting), priority areas will be those areas where the western juniper is most adversely affecting other resources. These include quaking aspen groves, riparian areas, greater sage-grouse leks and primary habitat, deer winter range, bighorn sheep range, and younger, invasive western juniper in old growth western juniper sites. Age class of the western juniper, soil type, aspect, understory vegetation, and presence of noxious weeds will also be considered. Western juniper areas will be considered high priority for treatment where canopy cover is under 15 percent (areas that still have a grass and brush understory). These stands are more economically treatable due to the smaller size of western juniper trees and the potential for use of prescribed fire for effective control. Sales and other disposals of firewood, posts, poles, boughs, and other western juniper products, will be allowed where compatible with maintenance of other resource values. Combinations of one or more treatment methods (mechanical, chemical, biological, or prescribed fire) could be made in a treatment area. Mechanical treatments will be preferred when trying to preserve the shrub component important to wildlife.

Over the life of the plan, up to 50 percent of juniper woodlands will be treated by prescribed fire, commercial or public wood cutting, or mechanical treatment. Five of six existing juniper wood cutting areas will remain open and managed in accordance with "Programatic Environmental Assessment for Fuelwood and Other Minor Forest Products (USDI-BLM 1991c, 1999d; see Map V-3). Recovery of juniper for biomass and other products will be allowed in treatment areas where impacts to other resource values can be reduced to acceptable levels. This will involve machine skidding of material to landings and creation of temporary roads. Old growth western juniper stands will be maintained or enhanced. All quaking aspen stands in the planning area with invasive western juniper will be treated early in the life of the plan. Invasive western juniper will be treated using prescribed fire and/or mechanical treatment on 18,000 to 30,000 acres of bighorn sheep range in the Devils Garden, East Lava Field (Squaw Ridge), Fish Creek Rim (Lynch Rim), South Warner Rim, Coleman Rim, South Abert Rim, and Hadley Butte herd ranges and on 10,000 to 25,000 acres of mule deer winter range (see Map V-3). Treatments will reduce invasive western juniper by 30 to 70 percent within each of these areas over the life of the plan. Treatments occurring within WSA's will be consistent with the wilderness IMP (USDI-BLM 1995b).

## Monitoring

**Management Goal 1.** The acres of commercial (pine and mixed conifer) forest treatments are not predictable. Acres treated (usually by thinning or prescribed burning) would be tracked annually, but not to attain a plan-stated acreage goal. For areas that are treated, periodic ocular estimates will be made to assure compliance with the Forest Management and Prescribed Burning BMP's listed in Appendix D.

An operations inventory will be done on a periodic basis to monitor stand composition and structure. Stocking surveys will be done before and after thinnings and other treatments. In monitoring stand treatments, a stand exam, based on a series of sample plots, will be made by resource specialists to determine initial stand structure by species, size, and density. This information will then be used to develop a cutting prescription to achieve an improved stand condition of appropriate species, size classes, and a reduced density to fit site conditions. A post-treatment stand exam will be made to evaluate the effectiveness of the thinning treatment in meeting the prescription's goals.

**Management Goal 2.** The total acres of juniper treatments will be tracked annually and compared to limitations stated in the plan. Periodic ocular estimates will be made by resource specialists to assure compliance with the applicable BMP's.

Evaluation of juniper woodlands and aspen treatments are less complex than forest treatments in pine or mixed conifer stands. Ocular estimates will be made to evaluate the intended release of aspen in mixed juniper-aspen stands, the maintenance of old growth juniper on historic juniper sites, and the reduction of invasive juniper elsewhere. Since juniper treatments are usually made for the benefit of resource values other than woodlands, additional monitoring may be done to evaluate vegetative and edaphic responses to juniper removal for the benefit of wildlife habitat, forage, and watershed values.

## Special Status Plants

**Management Goal 1—*Manage public lands to maintain, restore, or enhance populations and habitats of special status plant species. Priority for the application of management actions will be: (1) Federal endangered or threatened species, (2) Federal proposed species, (3) Federal candidate species, (4) State listed species, (5) BLM sensitive species, (6) BLM assessment species, and (7) BLM tracking 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 "Endangered Species Act" mandates management that leads to the conservation or recovery of federally listed threatened or endangered species. This Act, BLM policy, and Oregon State law also encourage 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. It is in the public interest to prevent the need for Federal listing under the "Endangered Species Act" where evidence suggests that land uses are adversely affecting special status species not currently listed as threatened or endangered. There are both socioeconomic and biological benefits associated with conserving species to avoid Federal listing.

Maintenance, restoration, or enhancement of populations or habitat may each represent appropriate BLM management depending on the habitat needs of specific species. Restoration or enhancement may not always be the only choice regarding special status species. One potential limitation that could delay restoration or enhancement actions is that 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 a high quality.

Conservation agreements with USFWS detail monitoring, inventory, and plans to conserve these plants and their habitat; through this type of agreement, Federal listing can be postponed or negated by increasing protection.

## Management Direction

This plan includes aggressive measures for special status species management. Restoration or enhancement of habitats and populations will occur in areas where it will be biologically sound and reasonable to do so. Maintenance will occur where habitat or population conditions are considered to be at or near their potential.

Conservation and recovery of special status plant species will require:

- Acquiring basic information of distribution and habitat requirements.
- Determination of kind and degree of threats.
- Monitoring and inventory data for the development of sound plans and management actions.
- Development and implementation of species or habitat management plans such as conservation agreements written and conducted with the USFWS for all of the special status plant species that have the BLM ranking of Bureau sensitive or the former Class Two ranking of the USFWS.
- Studies of the genetics and other biological parameters to determine what makes the plant species rare and the survival conditions for the plant and its habitat.

These actions will also require:

- Analyzing existing data and identifying gaps in data/information.
- Organizing inventories, monitoring, and management information through a standardized data base.
- Identifying actions and funding necessary to conserve, recover, and maintain special status plant species.
- Scheduling surveys at the appropriate time of year to locate and identify special status plants and take appropriate management actions (which might require avoidance or mitigation) prior to project implementation.
- Ensuring that management actions necessary to protect, conserve, and recover special status plants species are implemented, monitored, and tracked.
- Seeking to acquire appropriate lands having populations of species currently not protected.

**Management Goal 2—*Protect, restore, and enhance the variety of native plant species and communities in abundance and distribution that provides for their continued existence and normal functioning.***

## Rationale

The Oregon Natural Heritage Advisory Council (1998) designates special ecosystems as cells that represent unique ecosystems that make a significant contribution to biodiversity. The “Natural Heritage Act” of 1979, as revised, specifies that these cells represent Oregon’s natural heritage resources. As such, designation of

these areas as RNA’s protects one or more plant community elements and may also protect special status plants. One of the goals for a RNA is to preserve gene pools of endangered plants; within the BLM, RNA’s are managed as ACEC’s. Creating an ACEC for a plant community or special status plant species helps facilitate protection, restoration, and enhancement of those plant species or communities.

## Management Direction

Twelve new ACEC’s will be designated, one existing area will be expanded (Abert Rim) and four existing ACEC/RNA’s will be retained. Of these, 11 areas will contain RNA’s with ONHP plant community cells. Nine of those 11 areas contain special status plant species. Management in these areas could require avoidance or mitigation measures that limit other land uses.

## Monitoring

**Management Goal 1.** Monitoring will include surveys to determine the distribution, resource conditions, and trends of special status plant species and representative habitats. This will include determining plant composition at the site, checking for invasion of exotic species, monitoring localized disturbances (from OHV use, recreational use, etc.), and determining trends in special status plant attributes. Monitoring methods will include establishing photo points and doing periodic ocular surveillance. Any new ground-disturbing activities or NEPA actions will require a survey clearance for presence or absence of special status plants.

Trends in special status plants and vegetation will be determined and could include such things as demographic studies, density, cover, frequency (in exclosures versus open areas). Methods to accomplish this could include establishing new exclosures to determine effects of use versus nonuse, developing conservation agreements/conservation strategies, and conducting vegetative attribute sampling in accordance with “Measuring and Monitoring Plant Populations” (USDI-BLM 1996b).

**Management Goal 2.** ACEC/RNA’s will be monitored on a regular basis to determine if guidelines are being met, and for the condition of the area’s values, such as the plant communities and populations. RNA’s designation also increases the possibility of future scientific research being carried out on individual plant species. Allotments will be evaluated on a regular basis and at that time ACEC/RNA monitoring would be part of the process.

## Noxious Weeds and Competing Undesirable Vegetation

**Management Goal**—*Control the introduction and proliferation of noxious weeds and competing undesirable plant species, and reduce the extent and density of established populations to acceptable levels.*

### 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 introduction and spread of noxious weeds and undesirable plants within the planning area contributes to the loss of rangeland productivity, increased soil erosion, reduced species and structural diversity, loss of wildlife habitat, and in some instances may pose a threat to human health and welfare. The “Carlson-Foley Act” (Public Law 90-583) and the “Federal Noxious Weed Act” (Public Law 93-629) direct weed control on public land. Protection of natural resource values depends on educating people about the negative impacts of weeds and what actions agencies and individuals can take to prevent weeds from becoming established.

### Management Direction

Noxious weed prevention and control will continue to be a priority. Weeds will be controlled in an integrated weed management program that includes prevention education and cultural, physical, biological, and chemical treatments. Preventative measures such as public education and livestock and wildlife management will be employed to maintain or enhance desirable vegetation cover and reduce the distribution and introduction of noxious weed seed and plant parts. Mechanical and manual control methods and burning treatments will physically remove noxious weeds and unwanted vegetation; biological controls will introduce and cultivate agents such as insects and pathogens that naturally limit the spread of noxious weeds; and chemical treatments using approved herbicides will be applied where mechanical and/or biological controls are not feasible. Integrated weed management will be implemented in cooperation with the State of Oregon, Lake County, private interests, and neighboring counties and Federal jurisdictions.

Existing weed management plans for two specific geographic areas, the “Warner Basin Weed Manage-

ment Area Plan” (USDI-BLM 1999g) and the “Abert Rim Weed Management Area Plan” (USDI-BLM 1995e), will continue to be implemented. A Greater Abert Weed Management Area will be proposed which will include the existing Abert Rim Weed Management Area and the rest of the Lake Abert Subbasin. The plan will be developed in consultation and cooperation with private landowners, ODFW, USFWS, U.S. Forest Service (USFS), Tribal governments, and other stakeholders in the Lake Abert Basin. The plan will be patterned after the “Warner Basin Weed Management Area Plan.”

The weed control program is designed to address the dynamic nature of noxious weeds such as increasing numbers of species, different plant physiology for the various species, changing conditions of infestations, and changing technologies. Selection of the appropriate control method will be based on such factors as the growth characteristics of the target species, size of the infestation, location of the infestation, accessibility of equipment, potential impacts to nontarget species, use of the area by people, effectiveness of the treatment on target species, and cost. Depending on the plant’s characteristics, these methods may be used individually or in combination and may be utilized over several years. Due to the length of seed viability, annual germination of seed from previous years, and the characteristics of certain plants, treatments could occur annually for a period of 10 or more years. Because weed infestations vary annually due to new introductions, spread of existing infestations, and the results of prior year treatments, site-specific reviews of known locations will be conducted annually prior to initiating weed treatment activities.

Approved weed control methods, including mechanical, biological, and chemical treatments as identified in “Vegetation Treatment on BLM Lands in Thirteen Western States FEIS and ROD” (USDI-BLM 1991b), “Supplement to the Northwest Area Noxious Weed Control Program FEIS and ROD” (USDI-BLM 1987a), and the “Integrated Noxious Weed Control Program Environmental Assessment” (USDA-BLM 1994d) will continue to be applied. Emphasis is on detection of new invaders and inventory and control in proven hot spots such as roads, rights-of-way, waterholes, and recreation sites, but with an expanded program to inventory areas that are less disturbed, remote, or previously uninventoried. Weed sites will be restored to desirable species. Control efforts will be expanded to include any new sites detected. Education and outreach efforts will be expanded to include areas outside of Lake County in an effort to “head-off” species that may spread into the resource area.

Herbicide treatment: Herbicides that may be used are those approved in the “Vegetation Treatment on BLM Lands in Thirteen Western States EIS” (USDI-BLM 1991b), or any that are approved through an amendment or other agency approval process (see Appendix G of the “Proposed RMP/ EIS”(USDI-BLM 2003) for the current list of approved chemicals). Application will take place only in accordance with the manufacturer’s label and by qualified/certified applicators. Methods of application include wiping or wicking, backpack spraying, spraying from a vehicle with a hand gun or boom, aerial spraying, or other approved methods.

WSAs: Noxious weeds occurring in WSA’s will be treated with methods that are in accordance with the provisions of the wilderness IMP (USDI-BLM 1995b).

## Monitoring

**Management Goal.** Evaluation of treatments will continue in cooperation with the State of Oregon, Lake County, and private interests as well as, neighboring counties and Federal jurisdictions. Inventories to identify new introductions, distribution, and density of noxious weed populations will be carried out on an annual basis in cooperation with these entities.

Known noxious weed sites which are identified for treatment will be visited each year and evaluated for effectiveness of control. Known sites not identified for treatment will be visited on a rotational basis over 3 years. All known sites visited will be located with a global positioning system unit, photographed, measured, and a determination of the need for future treatment will be made.

Inventories for new noxious weeds will be conducted each year on a 3-year rotation through the resource area. All burned areas (natural and prescribed) will be surveyed for noxious weeds for 3 years following the burn. Any newly discovered sites will be located with a global positioning system unit, photographed, measured, and a determination of the need for future treatment will be made.

Ecological trends due to changes in vegetation composition over time, in areas dominated by competing undesirable plant species, will be measured through periodic rangeland health assessments following procedures outlined in “Interpreting Indicators of Rangeland Health” (Shaver et al. 2000).

## Soils and Microbiotic Crusts

**Management Goal—***Manage soil and microbiotic crusts on public lands to maintain, restore, or enhance soil erosion class and watershed improvement. Protect areas of fragile soil using best management practices (BMP’s).*

### Rationale

Soils are the foundation for all vegetation growth. Without healthy, productive, intact soil, management goals for vegetation, watershed, wildlife, and livestock cannot be achieved. Soils in the planning area are semi-arid, young, and poorly developed. Chemical and biological soil development processes such as rock weathering, decomposition of plant materials, accumulation of organic matter, and nutrient cycling proceed slowly in this environment. Soil recovery processes are also slow; therefore, disruption of soil can lead to long-term changes in soil ecology and productivity.

Knowledge of local ecological sites such as soil characteristics and vegetation potential (available from ecological site inventory) is essential for evaluation of impacts and management. In general, ecological sites dominated by shrubs have a well-developed biological crust. The main characteristics that modify crust cover are soil surface texture and potential herbaceous plant density. The plant communities listed in Chapter 2 of the “Proposed RMP/Final EIS” (USDI-BLM 2003) as having a high potential for crust cover are the dominant communities in the planning area. However, sites where vegetation structure has been modified due to introduction of invasive weeds or crested wheatgrass will have reduced potential for biological crusts (USDA-FS and USDI-BLM 2000b).

According to research in the northern Great Basin by Ponzetti (2000), “Biotic soil crusts show promise as indicators of rangeland health, and are increasingly being recognized as important components of arid and semi-arid communities. Rangeland health is defined as the degree to which the integrity of the soil, vegetation, water, air, and ecological processes of rangeland ecosystems are sustained. Biotic crusts improve the sustainability of rangeland ecosystems by increasing soil stability and contributing to nutrient cycles. They appear to limit germination of *Bromus tectorum*, an invasive exotic annual grass. Biotic crusts in the arid and semi-arid West do not appear to limit vascular plant cover; greater crust cover often accompanies greater plant cover, or is unrelated to plant cover. In this research, we found no relationship between total

vascular plant cover and crust cover, but there was a positive correlation between crust cover and perennial bunchgrass cover. Bare ground is often inversely related to crust cover, suggesting that a decline in crust cover produces an increase in bare soil, rather than an increase in vascular vegetation. In addition, biotic crusts may serve as an early warning system, since they appear to be more sensitive to disturbance from livestock than vascular plant communities.”

### Management Direction

BMP's to mitigate potential impacts to soil and microbial crusts will be implemented for all ground-disturbing activities including new projects, livestock grazing, and road maintenance and construction. See Appendix D for a complete description of BMP's.

### Monitoring

Soil health and condition will be monitored by conducting reviews of ground-disturbing projects for implementation and effectiveness of BMP's and assessing undisturbed sites for various parameters including erosion potential and groundcover. Monitoring the effects of other resource management actions such as livestock grazing and watershed projects will consider soil condition and health. Baseline soil condition data is provided through the ecological site inventories (USDI-BLM 2001d) (see also Appendix C of the Proposed RMP/Final EIS).

Research into the role and functioning of microbiotic crusts in the Northern Great Basin will be encouraged. This research will focus on determining the validity of using soil crusts as an indicator of environmental impact and system integrity.

After determining the potential for biological crust development, livestock and other impacts can be evaluated using two criteria: season of use and utilization levels (from monitoring data). Existing ecological site inventory data will expedite this process. The least impact occurs when the crust is moist or frozen (not dry, dormant); and regrowth potential is greatest during periods when cool season moisture is consistent for several weeks. If the crust is fragmented, the soil surface is vulnerable to erosion by wind and water. In addition, the crust fragments can be removed from the site along with surface soil, reducing the potential for future recovery. A biological crust matrix could be created to assist in evaluating potential management actions to negatively impact biological crusts, such as OHV use and livestock grazing (USDA-FS and USDI-BLM 2000b).

Recent research has been carried out by Ponzetti et al. (2001). A two-level field study, including permanent plots and nonpermanent, stratified landscape sampling of biotic crust communities was initiated on parts of the Horse Heaven Hills near Richland, Washington. This research addresses understanding the influence of grazing on the integrity of biotic soil crusts in semiarid rangelands. This research model could be implemented in the LRA to help with future management actions by evaluating the permanent plots, calculating the descriptors of the biotic crust community, and then comparing the results. This model could be used to evaluate grazing, fire, and OHV impacts.

## Water Resources/Watershed Health

**Management Goal 1—*Protect or restore watershed function and processes which determine the appropriate rates of precipitation capture, storage, and release.***

### Rationale

All the land in the planning area is part of a watershed. These discrete areas process water as it comes into the system as precipitation. Watersheds receive precipitation and then lose it to the atmosphere by evaporation, evapotranspiration, and sublimation. Watersheds move water across the land surface through the shallow subsurface zone (soil mantle) and deeper groundwater aquifers. Watershed function is controlled by climate, geology, topography, vegetation, and soil characteristics.

Vegetation and soil conditions change naturally over time in response to climate, fire, and other natural ecological processes. The rate water is captured by the watershed, the amount of storage available, and the rate and location of water release depends on the amount and type of vegetation and type and condition of soil. These parameters are affected by land management activities.

Watersheds provide the environment to which species, populations, and communities have adapted. Watersheds provide the habitat formed by natural processes which support the distribution, diversity and complexity of animal and plant species.

Rangelands are managed according to the “Standards for Land Health for Lands Administered by the Bureau of Land Management in the States of Oregon and

Washington” (USDI-BLM 1997b). These standards and guidelines provide a clear statement of agency policy and direction for those who use public lands and for those who manage and are accountable for public land conditions. The objectives are “. . . to promote healthy sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangelands to properly functioning conditions . . . and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands.”

Healthy watersheds are the foundation of rangeland health objectives. To meet these objectives, the regulations on rangeland health identify fundamental principles providing direction in the management and use of rangeland ecosystems.

A hierarchy, or order, of ecological function and process exists within each ecosystem or watershed. Each system consists of four primary, interactive components: a physical component, a biological component, a social component, and an economic component. This perspective implies that the physical function of an ecosystem supports the biological health, diversity, and productivity of that system. In turn, the interaction of the physical and biological components of the ecosystem provides the basic needs of society and supports economic use and potential.

The fundamentals of rangeland health (Appendix E4 of the “Draft RMP/ EIS” (USDI-BLM 2001a)) combine the basic precepts of physical function and biological health with elements of law relating to water quality, and plant and animal populations and communities. They provide direction in the development and implementation of the standards for rangeland health.

## Management Direction

Watershed management will incorporate state and Federal laws that protect the watershed health. BMP’s are required by the CWA and developed during the NEPA process. Watersheds will be further protected by the evolution of watershed science and an increase of information and data. This is incorporated into management through multi-scale analyses such as watershed analysis and site-specific environmental assessment. The implementation of water quality management plans will improve the watershed condition of watersheds with water quality limited segments (Table 4) as defined by section 303(d) of the CWA. The criteria used to determine priority streams are presence of threatened or endangered species or habitat, water quality limited designation, an active watershed

council, and willingness of other agencies to participate. High priority watersheds are:

- Deep Creek Watershed
- Honey Creek Watershed;
- Twentymile Watershed;
- Bridge Creek Subwatershed;
- Buck Creek Watershed;
- Guano Valley Watershed;
- Alkali Lake Watershed; and
- Sheeprock Basin Watershed

Watersheds will be managed for uses and activities that emphasize restoration, protection, or improvement of watershed function and processes while providing for commodity production. Management will strive to attain and maintain water quality standards, proper functioning condition, and desired range of conditions of the watersheds. Active restoration of native plant communities will be used in areas unable to attain the desired range of conditions through changes in management.

Watersheds with streams and water bodies not meeting minimum State water quality standards will be managed to attain an upward trend in the composition and structure of upland and riparian vegetation communities and desired soil conditions. Management activities and uses within the watershed that adversely affect infiltration rates, soil moisture storage, or safe release of water will be adjusted, restricted, or limited if desired vegetation and soil conditions could not be attained or maintained.

Management uses and activities will be the primary tool for maintenance and restoration of upland vegetation and soils condition. However, enhancement and restoration projects will be implemented in those areas not recovering naturally. Management options will focus on uses and activities that allow for the protection, maintenance, and restoration of upland watershed health and measurable progress toward the desired condition of vegetation and soils. Livestock grazing will achieve conditions of a healthy watershed that includes mostly productive soils, native vegetation, and some biological crusts.

A priority for restoration will be the Sheeprock Allotment. This area was also identified in the ICBEMP as a watershed (habitat) that has declined substantially since historical times. Restoration methods could include prescribed burning or plowing and reseeded. Checkdams and other structures could be installed to control erosion.

**Table 4.—1998 State of Oregon water quality impaired stream reaches on LRA-administered lands**

Subbasin	State identification	Waterbody	Parameter of concern
Summer Lake	OR42A-SILV0-1998	Silver Creek	Temperature
Summer Lake	OR42A-SIWF0-1998	Silver Creek, West Fork	Temperature
Lake Abert	OR42B-CHEW0-1998	Chewaucan River	Temperature
Lake Abert	OR42B-CHEW27.5-1998	Chewaucan River	Temperature, biological criteria
Lake Abert	OR42B-WILL0-1998	Willow Creek	Temperature
Warner Lakes	OR42C-CAMA0-1998	Camas Creek	Temperature
Warner Lakes	OR42C-DEEP0-1998	Deep Creek	Temperature
Warner Lakes	OR42C-DRAK0-1998	Drake Creek	Temperature
Warner Lakes	OR42C-FIFT0-1998	Fifteenmile Creek	Temperature
Warner Lakes	OR42C-HONE0-1998	Honey Creek	Temperature
Warner Lakes	OR42C-PARS0-1998	Parsnip Creek	Temperature
Warner Lakes	OR42C-SNYD0-1998	Snyder Creek	Temperature
Warner Lakes	OR42C-TWEL0-1998	Twelvemile Creek	Temperature
Warner Lakes	OR42C-TWEN0-1998	Twentymile Creek	Temperature
Goose Lake	OR42D-CRAN0-1998	Crane Creek	Temperature

On a case-by-case basis, close and rehabilitate roads on public lands that are causing resource damage.

**Management Goal 2—***Ensure that surface water and groundwater influenced by Bureau of Land Management (BLM) activities comply with or are making significant progress toward achieving State of Oregon water quality standards for beneficial uses, as established 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. BLM is responsible to meet the requirements of the Act on BLM-administered lands, but primacy in implementing the Act is retained by the State of Oregon. BLM is required to maintain water quality where it presently meets U.S. Environmental Protection Agency (EPA)-approved Oregon State water quality standards and improve water quality on public lands where it does not meet standards. State developed total maximum daily loads and State approved water quality management plans are required for watersheds containing water quality limited segments (Table 4; Appendix F3), as defined by section 303(d) of the CWA. In addition to the Act, numerous laws, regulations, policies, and Executive orders direct BLM

to manage water quality for the benefit of the Nation and its economy (refer to Appendix B of the “Proposed RMP/Final EIS” (USDI-BLM 2003). A discussion of the BLM strategy for developing water quality restoration plans is in Appendix F3.

Water quality is important not only for human use, but also for proper ecological function. Management practices such as grazing, mining, recreation, forest harvesting, and ecological restoration will be designed for healthy, sustainable streams and good water quality.

### Management Direction

Establishment of total maximum daily loads for CWA section 303(d) listed water bodies is the responsibility of the State of Oregon with approval of by the EPA. It is also the State of Oregon’s responsibility to develop a water quality management plan that details how the total maximum daily load will be implemented. It is BLM’s responsibility to provide them a water quality restoration plan for the land they manage within any watershed containing a water quality limited segment. Each water quality restoration plan will identify adverse condition that BLM can improve within the watersheds which affect listed stream segments and specify management actions necessary to restore water quality and meet Oregon water quality standards.

Elements of a water quality restoration plan per USFS and BLM guidance are shown in Appendix F3 of the

“Draft RMP/ EIS” (USDI-BLM 2001a). Water quality restoration plans will be developed for the watersheds with water quality limited stream segments. The State tentatively plans to complete all subbasins in the planning area by 2007. The water quality restoration plans will be done proactively and could be submitted to the State before the work is completed.

Water resources will be managed for uses and activities that emphasize maintenance or improvement of natural values while providing for commodity production. This alternative will strive for the attainment and maintenance of water quality standards, proper functioning condition, and desired range of conditions of the water resources. Public uses and activities will be allowed along streams and other water bodies and associated watersheds, as long as there is measurable progress toward attainment of State water quality standards. For streams with water quality limited segments, management activities will be implemented with the intent to restore water quality to the minimum level.

Streams and water bodies not meeting minimum State water quality standards and/or proper functioning condition will be managed to attain an upward trend in the composition and structure of key riparian and wetland vegetation and desired physical characteristics of the stream channel and soils. Uses and activities within the riparian conservation area and contributing upland watershed areas that adversely affect water quality and or lead to channel or riparian or wetland resource degradation will be adjusted, restricted, or limited if water quality and proper functioning condition cannot be attained or maintained with existing management.

Management within streams and riparian conservation areas will focus on uses and activities that allow for the protection and maintenance of riparian conservation areas and upland watersheds, and measurable progress toward the attainment of water quality standards and desired range of conditions.

## Monitoring (Management Goals 1 and 2)

**Water Quality.** Water quality monitoring would be conducted for various parameters comparing water quality standards to current condition. Specific examples include, but are not limited to:

*Thermographs:* These devices record a temperature at various intervals through the day. When placed in a stream, they record water temperature throughout the day for months at a time. Maxi-

imum daily temperatures can be determined by this method. Stream temperature, measured as a 7 day average of daily maximums, is a water quality criteria that the BLM is mandated by the EPA to manage. Cooler stream temperatures are also a critical component of fish habitat, especially for redband trout and Warner suckers. Stream channel and vegetation condition, among other factors, effect water temperature and will be managed by methods described elsewhere.

*Substrate core sampling:* In areas where sediment loading is a concern, a streambed sediment core may be used to determine the amount of fine sediment that has collected in a representative site. If a profile of these cores is taken up and down a stream system, especially just below tributaries, it can be used to identify the origin of major sediment input sources.

**Best Management Practices.** BMP's designed to minimize impacts to watershed conditions will be specified for each project. Examples of BMP's that may be used are listed in Appendix D. Each year, several projects will be evaluated by resource staff to determine if the BMP's were followed and if they served their intended function. This would be part of the RMP implementation monitoring process described earlier.

Various methods could be used to track the effects of BMP implementation. For example, if sediment traps were planned to capture silt produced from a wildfire, the trap placement could be confirmed and channel cross sections or sediment cores placed before and after runoff events to determine amount of silt collected on-site or prevented from entering a stream system.

**Riparian Scorecards.** Riparian scorecards would be used as described in the Riparian and Wetland Monitoring section to measure riparian vegetation condition. Riparian vegetation condition is important for water quality attainment and fish habitat protection. These scorecards will be used in development of total maximum daily loads and used to measure progress toward meeting the terms of the total maximum daily loads.

Refer also to the Riparian/Wetland and Fish and Aquatic Habitat Monitoring sections.

## Fish and Aquatic Habitat

**Management Goal—Restore, maintain, or improve habitat to provide for diverse and self-sustaining**

*communities of wildlife, 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 aquatic 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.” In addition, Executive orders for floodplain management and protection of wetlands provide further direction for protection and management of fisheries habitat.

Through a statewide memorandum of understanding between the BLM and ODEQ, the BLM implements the CWA by meeting State water quality standards. Hydrologic basins covered by this RMP “. . . shall be managed to protect the recognized beneficial uses [which include] salmonid fish (trout) rearing, salmonid fish spawning, [and] resident fish 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.

Proper functioning condition (see Plant Communities, Riparian/Wetland Vegetation section) alone may not meet certain desired range of 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 measures that exceed those necessary to attain proper functioning condition.

## Management Direction

Management emphasis will provide habitat for fish and other aquatic organisms to maintain the distribution of native species among subwatersheds while providing opportunities for commodity uses. Nonnative species will receive less emphasis and will be supported only where they do not interfere with native species. Habitat will also be provided for the native species needed for self-sustaining aquatic communities.

Management will 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. Where nonnative species already occur, habitat objectives will be based on the requirements of the native species. The purpose is to maintain a distribution of native species that will 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 will 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 proper functioning condition, desired range of conditions, and riparian management objectives.

Livestock grazing and related activities will be removed from those stream segments where proper functioning condition assessment ratings are functioning-at-risk with no apparent trend, downward trend, or nonfunctioning and where grazing is determined to be a factor in the current condition. This is especially critical in the BLM riparian sites in fenced Federal range allotments. Exclusion of livestock will continue in these areas until systems are determined able to support reintroduction of grazing with proper management to improve riparian conditions.

Where habitat conditions are determined to be lacking and the goal cannot be reached with management, instream improvements may be initiated, such as installing instream structures to modify stream flow, and planting vegetation, etc.

Roads will be managed in riparian conservation areas to improve conditions. Roads will be removed and/or relocated where it is determined that they are contributing to less than desirable conditions. Road construction and maintenance will follow BMP's to minimize sediment input and channel effects.

Acquisition of habitat or water rights with willing owners will be pursued. Water rights will be converted to instream or habitat rights.

## Monitoring

**Rosgen Level 3 Steam Channel Classification.** There are several factors measured in Rosgen channel classification, including stream channel cross sections and longitudinal profiles, channel material characteristics, meander width ratio, flood prone area, stream sinuosity, and pool and riffle dimensions. Stream reaches, as described by entrenchment, width/depth ratio, sinuosity, gradient and, substrate size are characterized by dimension, pattern, and profile and then compared to what should be there given site conditions. A full level 3 survey will be reserved for project level monitoring or channel condition determination.

Individual aspects of the classification may be used for monitoring specific deficiencies of channel condition. These deficiencies may have been identified in proper functioning condition assessments or stream surveys. For example, width/depth ratio and access to flood plains may have been identified as a reason for impaired function of a stream in proper functioning condition determination. Stream channel cross sections would confirm this assessment and could be used to monitor progress towards improving this condition.

**Macro-Invertebrate Sampling.** The assemblages of large insects (those that can be seen without a microscope) in a stream indicate many water quality conditions. For example, the presence and relative abundance of certain species may indicate excessive temperature or sediment load. Because the insects exist over a period of time, they tend to represent conditions over a season rather than a short period of time.

**ARIMS Stream Habitat Survey.** This method of stream survey is specifically used to identify limiting fish habitat conditions, and in combination with fish counts by habitat units, for tracking change in fish populations over time. This survey tracks pool quality and quantity, spawning substrate, bank conditions and cover, pool/riffle ratios, quality and quantity of large wood, channel form and suitable spawning substrates. This survey should be completed every 5 years to

determine trends in fish habitat conditions. Data from these surveys would be added to the statewide ARIMS database. Habitat deficiencies could result in specific project development to correct limiting conditions.

**Riparian Scorecards.** Riparian scorecards, as described in the Wetland and Riparian Monitoring section will be used to rate riparian vegetation condition. This is important for water quality attainment and fish habitat protection.

**Photo Points and Aerial Photos.** Photo points have been an integral part of stream/riparian condition monitoring in the LRA for many years. Photo sets taken at specific repeatable locations (on some sites since 1978) subjectively show changes in stream channels and riparian vegetation over time. These study points have proven very useful to illustrate changes at specific points over time. Aerial photos show changes in channel and vegetation over the length of a stream. They include enough detail to monitor woody species changes (affecting stream shading) over time.

Refer also to the Water Resources/Watershed Health and Wetland and Riparian Monitoring sections.

## Wildlife and Wildlife Habitat

### Introduction

Note: riparian/wetland wildlife habitat management actions are described in the Riparian/Wetland Vegetation section and are not addressed under this section.

**Management Goal 1—Facilitate the maintenance, restoration, and enhancement of big game (mule deer, elk, pronghorn, and bighorn sheep) populations and habitat on public land. Pursue management in accordance with Oregon Department of Fish and Wildlife (ODFW) big game species management plans in a manner consistent with the principles of multiple use management.**

### Rationale

Section 102.8 of FLPMA states it is 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. PRIA directs BLM to improve rangeland conditions with due consideration given the needs of wildlife and their habitats.

BLM has a policy and the responsibility to cooperate with state agencies to accommodate species management goals to the extent they are consistent with the principles of multiple use management. The ODFW manages wildlife species populations through management objectives set up in their respective management plans and the BLM manages adequate habitat to support these numbers. Table 5 shows existing wildlife forage allocations which are based on the dietary preferences of cattle and do not necessarily reflect the food resources actually available to wildlife. The original wildlife allocations were set up over 20 years ago. Since that time, big game populations have expanded their range and increased in numbers.

Elk populations have greatly expanded in central Oregon as well as other portions of the State. Habitat use has shifted to areas that are not considered traditional elk habitats. Management objectives for these areas have been set by ODFW and the BLM is making an attempt to manage for these numbers. Mule deer and pronghorn populations have fluctuated due to habitat changes, winter conditions, and ODFW harvest management. Bighorn sheep have been reintroduced into the planning area. ODFW has been pursuing a statewide effort to restore bighorn sheep into suitable unoccupied habitat and enhance populations in currently occupied areas. Although the ODFW has successfully released and managed bighorn sheep on public land since the mid-1960s, current populations and distributions are still considered to be below their potential. Bighorn sheep are native to eastern Oregon and their presence contributes to the overall biological diversity and productivity of public land.

## Management Direction

Bighorn sheep habitat maintenance, restoration, and enhancement will be emphasized as identified in existing wildlife habitat management plans (USDI-BLM 1980c, 1984a, 1984b, 1986a, 1987c, 1996d) and ODFW's current bighorn sheep management plan. Bighorn sheep expanding outside of the current range will only be allowed where there are no disease transmission conflicts. A 9-mile buffer, as recommended in "Mountain Sheep Ecosystem Management Strategy in the 11 Western States and Alaska" (USDI-BLM 1995h), is required between new domestic sheep and goat permitted use areas and bighorn sheep use areas, as a mechanism to further avoid disease transmission. Domestic sheep grazing will not be allowed on BLM lands within the planning area unless it can be demonstrated that it will not negatively impact existing populations of bighorn sheep or future augmentation sites proposed by ODFW.

Restoration of bighorn sheep range and mule deer winter range will occur through reduction of western juniper encroachment on 18,000 to 30,000 acres of bighorn sheep range in the Devils Garden, East Lava Field (Squaw Ridge), Fish Creek Rim (Lynch Rim), South Warner Rim, Coleman Rim, South Abert Rim, and Hadley Butte herd ranges (see Map V-3) and on 10,000 to 25,000 acres of mule deer winter range. These treatments will be accomplished through the use of prescribed fire or other methods. Treatments will reduce invasive western juniper by 30 to 70 percent within each of the treatment areas. Any treatments occurring within the WSA will be consistent with BLM's wilderness IMP (USDI-BLM 1995b).

Improvement of big game winter habitat, as identified in the Fort Rock/Silver Lake, Paisley, North and South Warner Lakes Habitat Management Plans ((USDI-BLM 1980c, 1984a, 1984b, 1986a, 1987c, 1996d will continue (includes overlapping habitat for elk, pronghorn, mule deer, and bighorn sheep (Map W-2)). Big game habitat within the planning area will be managed to attain desired wildlife habitat conditions over the long term. Achievement of desired wildlife habitat conditions will include a variety of methods to increase or decrease the big sagebrush overstory.

Approximately 22,829 AUM's of forage will be allocated to wildlife to provide for expanding elk and bighorn sheep populations and readjust AUM's in mule deer and pronghorn antelope winter range allotments to reflect ODFW management population changes. This is an increase of 9,138 AUM's over current the allocation, and will have no affect on livestock allocations. Current and proposed wildlife forage allocations by allotment and wildlife species are shown in Table 5 and Appendix E1. (The Other Wildlife category on Table 5 reflects the forage needs of raptors, small mammals, birds, and important shrub-steppe species such as greater sage-grouse). Livestock grazing use within mule deer and pronghorn winter range allotments will not be allowed to exceed an average of 15 percent of the current year's growth of browse 2 out of 3 years.

The present public land base within big game winter ranges will be retained in Federal ownership, unless an exchange could be made that will be more beneficial to wildlife. Any proposed changes will be reviewed by the ODFW.

**Management Goal 2—Manage upland habitats, including shrub steppe, forest, and woodlands, so that the forage, water, cover, structure, and security necessary for wildlife are available on public land.**

**Table 5.—Forage allocation and allotment summary**

Allotment #	Name	MIC 1999	Public land acres	Other acres	Male deer/antelope		Elk	Big-horn sheep	Other wildlife <sup>1</sup>	Wildlife total	Wild horse <sup>2</sup>	Livestock SNU <sup>3</sup>	Period of use <sup>4</sup>	Grazing system <sup>5</sup>	Allotment evaluation	AMP Date	Management objective <sup>6</sup>
					Animal unit months (AUM's)	Animal unit months (AUM's)											
00100	Peter Creek	M	13,800	640	25	30	30	5	90	0	329	0 Sp,Su,Fa	RR	1990	4		
00101	East Green Mountain	M	17,241	1,440	285	50	60	30	425	0	980	0 Sp,Su,Fa	RR	1993	4		
00102	Crack-in-the-Ground	I	15,419	400	133	40	20	10	203	0	298	0 Sp,Su,Fa	RR		4		
00103	ZX-Christmas Lake	I	524,180	54,640	500	260	20	29	809	778/408	31,069	6,588 Sp,Su,Fa	DR	2001	2001	4	
00200	Blue Creek Seeding	C	600	0	45	0	0	5	50	0	131	0 Su, Fa	Sp,Su			1,2,3,4	
00201	Vinyard Individual	I	8,600	160	100	10	100	12	222	0	460	0 Sp,Su	RR	1969	1999	1,2,3,4	
00202	Hickey Individual	M	10,906	90	163	30	0	17	210	0	583	0 Sp,Su,Fa	DR	1975	1993	1,2,3,4	
00203	O'Keefe FRF <sup>7</sup>	C	565	0	1	9	0	1	11	0	48	0 Sp	Sp		1993	1,2,3,4	
00204	Crump Individual	I	2,930	395	45	0	100	5	150	0	92	0 Sp,Su	Sp		1993	4	
00205	Greaser Drift	M	9,210	0	90	0	30	10	130	0	356	0 Fa, Wi	Fa	1999		1,3,4	
00206	Lane Plan II	I	9,910	3,330	130	30	0	16	176	0	450	0 Sp,Su	RR	1970	1993	1,2,3,4	
00207	Lane Plan I	M	24,725	1,370	180	30	0	20	230	0	1,942	0 Sp,Su,Fa	RR	1971	1993	1,2,3,4	
00208	Sagehen	M	3,820	2,050	40	30	0	20	90	0	266	0 Fa	D		1992	1,2,3,4	
00209	Schadler	C	1,917	0	15	15	0	5	35	0	57	0 Su,Fa	Sp,Su			1,2,3,4	
00210	Rim	M	2,376	680	10	0	0	5	15	0	39	0 Sp,Su	Sp,Su			4	
00211	Round Mountain	M	16,330	1,640	160	90	0	23	273	0	1,102	0 Sp,Su	RR	1970	1990	1,2,3,4	
00212	Rahilly-Gravelly	I	33,285	2,031	329	0	0	21	350	0	1,781	0 Sp,Su,Fa	RR	1984	1992	1,2,3,4	
00213	Barro Springs	M	7,500	0	55	0	20	5	80	0	279	0 Sp,Wi	Sp		1992	1,3	
00214	Chukar Springs	M	1,764	0	10	0	20	5	35	0	52	0 Sp	Sp			1,3,4	
00215	Hill Camp	M	30,790	2,710	270	0	45	30	345	0	3,932	0 Sp,Su,Fa	RR	1975		1,2,3,4	
00216	O'Keefe Individual	I	51,785	3,010	240	0	0	26	266	0	4,808	0 Sp,Su,Fa	RR	1989		1,3,4	
00217	Cox Individual	M	1,246	60	65	0	0	5	70	0	74	0 Sp,Su,Fa,Wi	RR	1972		1,3,4	
00218	Sandy Seeding	M	4,850	0	25	0	0	5	30	0	600	0 Sp	Sp		1993	4	
00219	Cahill FRF	C	470	0	15	0	0	5	20	0	280	0 Fa,Wi	Wi			1,3,4	
00222	Fisher Lake	M	4,230	656	45	0	0	5	50	0	781	0 Sp,Wi	Wi	1975		1,3,4	
00223	Hickey FRF	C	412	0	50	15	0	11	76	0	64	0 Sp	Sp,Su		1992	4	
00400	Coglan Hills	M	12,774	0	120	0	40	5	175	0	117	0 Sp,Su	Sp,Su			4	
00436	Diablo Peak	C	74,098	0	80	0	100	5	185	0/123	0	0 N/A	N/A			4	
00437	Abert Rim	C	14,659	0	180	0	180	20	380	0	0	0 N/A	N/A			4	
00401	Fenced Federal	C	160	520	0	0	0	5	15	0	16	0 Sp	Sp			4	

Animal unit months (AUM's)										
Other wildlife	Wildlife total	Wild horse <sup>1</sup>	Livestock	SNU <sup>2</sup>	Period of use <sup>3</sup>	Grazing system <sup>4</sup>	AMP Date	Allotment evaluation	Management objective <sup>5</sup>	
1	2	0	18	0	Sp,Su	Sp			4	
5	200	0	472	0	Sp,Su	RR			1,3,4	
1	2	0	15	0	Sp,Fa	Sp,Su			1,2,4	
5	40	0	200	0	Sp,Su	Sp,Su			1,2,4	
1	2	0	0	0	N/A	N/A				
5	20	0	0	0	N/A	N/A				
1	2	0	15	0	Sp,Su	Sp			1,4	
1	2	0	13	0	Sp	Sp			4	
2	60	0	58	0	Sp,Su	Sp	1992		1,4	
2	7	0	42	0	Sp	Sp,Su			4	
1	1	0	10	0	Sp,Su,Fa	Sp,Su			4	
16	96	35/69	834	0	Sp	RR			4	
3	53	58/39	750	0	Sp	Sp			4	
11	31	0/14	925	0	Sp,Su	RR			4	
3	6	0	158	0	Wi	Wi			4	
5	20	0	585	0	Sp,Wi	Sp	1992		4	
10	240	0	238	0	Sp,Su	Sp,Su			4	
10	120	0	600	0	Sp,Fa	Sp	1999		4	
3	5	0	95	0	Fa	Sp,Fa			4	
15	220	0/45	1,021	0	Sp,Wi	Sp,Su	1992		4	
25	175	0	4,220	0	Sp,Su,Wi	DR	1992		4	
17	337	929/490	4,000	0	Sp	RR	2001		4	
15	150	0	2,272	0	Sp,Su	Sp,Fa	1992		4	
5	80	0	4,201	0	Sp,Su,Wi	RR	1992		4	
20	140	0	275	0	Wi	D			4	
5	35	0	920	0	Sp,Su	RR	1992		4	
10	80	0	2,236	0	Sp,Su	D	1992		4	
10	60	0	1,220	0	Fa,Wi	D			4	
5	55	0	120	134	Sp,Su,Fa,Wi	FRF <sup>7</sup>			4	
10	75	0	329	0	Sp,Su,Fa,Wi	FRF <sup>7</sup>			4	
10	75	0	295	0	Sp,Su,Fa,Wi	FRF <sup>7</sup>			1,2,3,4	
1	2	0	20	0	Sp,Su,Fa,Wi	FRF <sup>7</sup>			4	
1	2	0	120	0	Sp,Su,Fa,Wi	FRF <sup>7</sup>			4	



Animal unit months (AUM's)									
Other wildlife	Wildlife total	Wild horse <sup>1</sup>	Livestock	SNU <sup>2</sup>	Period of use <sup>3</sup>	Grazing system <sup>4</sup>	AMP Date	Allotment evaluation	Management objective <sup>5</sup>
12	122	0	200	0	0 Sp	RR	1992	1990	3,4
13	179	0	1	250	0 Wi	Ungrazed			3,4
5	30	0	1	0	0 Wi	Wi			3,4
29	1289	0	1,970	0	0 Sp,Su,Fa	Sp,Su			3,4
11	351	0	419	0	0 Sp,Fa	DR			3,4
34	674	0	891	0	0 Su,Fa,Wi	DR			3,4
6	106	6	232	0	0 Sp,Su,Fa	Sp,Su			4
11	131	0	118	0	0 Sp,Su,Fa,Wi	DR			4
8	568	0	685	0	0 Sp,Su,Fa,Wi	DR			3,4
11	101	0	112	0	0 Su,Fa	DR			3,4
16	826	0	0	0					3,4
14	634	0	616	0	0 Sp,Su,Fa,Wi	DR			3,4
12	302	0	1,068	0	0 Sp,Su,Fa	DR			3,4
12	282	0	680	0	0 Sp,Su,Fa	DR		1992	3,4
17	167	0	613	0	0 Sp,Su,Fa	RR			4
13	313	0	1,395	0	0 Sp,Su,Fa	DR	1984		4
35	605	0	1,000	0	0 Sp,Su,Fa	DR	1985		4
40	510	0	5,418	0	0 Sp,Su,Fa	RR			1,2,3,4
5	110	0	6,223	0	0 Fa,Wi	Wi		1990	3,4
2	14	0	73	0	0 Sp,Su,Fa,Wi	Sp,Su			4
2	4	0	900	0	0 Fa,Wi,Sp	Sp			4
2	5	0	10	0	0 Fa	Unk			4
2	5	0	10	0	0 Sp,Su	Unk			4
4	14	0	30	0	0 Su,Fa	Unk			4
5	10	0	20	0	0 Sp,Su	Unk			4
4	14	0	29	0	0 Sp,Su,Fa	Unk			4
7	27	0	55	0	0 Sp	Unk			4
0	0	0	4	4	4 Sp	Sp			4
1,399	22,829	4,440/3,420	164,132	25,807					

other wildlife)  
 the herd area which were incorrectly allocated forage for wild horses. Forage allocations are redistributed based on herd management area appropriate management level (150 horses in the Paisley Herd Management Area, 250 horses in the Beauty Butte Herd Management Area).

= Winter, FRF = Federal range fenced, Unk = unknown.  
 Maintain and/or improve wildlife habitat; 4 = Maintain and/or improve ecosite condition.  
 as vary and are generally unknown.

## Rationale

Section 102.8 of FLPMA states 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. Rangeland health regulations identify the need to foster productive and diverse populations and communities of plants and animals.

The character of upland vegetation types (arrangements, densities, age classes, etc.) greatly influences wildlife habitat quality and productivity. 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 vegetation treatments (such as burning and seeding) to the health of wildlife habitat. The outcomes of what may be considered proper range or forest management may not result in high quality wildlife habitat. Wildlife must have a reasonable amount of protection from the adverse impacts associated with human disturbances. This is especially true during breeding periods and on winter ranges.

Numerous wildlife species depend on native upland sagebrush steppe and other priority habitats to meet life history needs. In managing uplands, the BLM needs to consider the consequences and relationships of management to the life history needs of wildlife, consistent with guidelines addressed in the "Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Interim Management Plan" (Sage-Grouse Planning Team 2000).

## Management Direction

Equal emphasis will be placed on game and nongame wildlife habitat needs in sagebrush steppe, forest, woodland, and other priority (see Appendix H-2 of the "Proposed RMP/Final EIS"; USDI-BLM 2003) habitats. To the extent possible and practical, wildlife community connectivity and interrelationships will be emphasized in most habitats. This approach will stress landscape or ecosystem management and be distinctly different from single-species management emphasis. Pine forest, western juniper woodland, quaking aspen, and mountain shrub habitat types will be managed as described under the Shrub Steppe and Forest and Woodlands sections of this chapter.

Big sagebrush habitat will be managed for shrub cover, structure, and forage values for the benefit of game and

nongame wildlife. The desired range of conditions will include shrub cover values that meet or exceed the requirements described in "Wildlife Habitats in Managed Rangelands" (Thomas and Maser 1986) and big sagebrush distribution over a large enough area to avoid the adverse impacts of habitat fragmentation. The desired range of conditions will strive for big sagebrush overstories that emphasize the presence of mature, light- to moderately-stocked shrub canopies, capable of supporting diverse herbaceous understories, and that are present in a variety of spatial arrangements important to wildlife. This will apply to all native range or seeded areas in big sagebrush habitats throughout the planning area.

Management of large blocks of sagebrush steppe will also be done with migratory landbirds in mind. Management will focus on existing shrub steppe in high ecological condition on a no-net-loss basis and improve degraded habitats. Habitat fragmentation will be reduced through active restoration of degraded rangelands and changes in management activities.

Disturbance to nesting raptors during mating, nesting, and fledging season will be avoided.

Wildlife water developments (2,000–3,000-gallon guzzlers) will be installed where wildlife water is deficient.

New rights-of-way will be avoided in greater sage-grouse breeding habitat (Map L-8). Most of north Lake County will be designated as limited to existing roads and trails year-round to protect wildlife habitat (see Map R-7 and SMA-24).

## Monitoring

**Management Goal 1.** Every 5 years the number of acres of bighorn sheep habitat that has undergone vegetation treatments will be evaluated to determine what percentage of the proposed treatment has been completed. This includes areas proposed for juniper reduction within bighorn sheep habitat.

Every 5 years bighorn sheep population levels and distribution within the resource area will be evaluated using annual observations and herd counts conducted by ODFW. Data will be used to help determine areas where habitat is limited and where special management may be needed.

Where vegetation treatments are applied, annually or biannually monitor results with photo points and vegetation sampling that includes species and structural

composition both before and after treatment, if possible. Baseline sheep use patterns and estimated population levels will be calculated using information collected annually from ODFW. These would be compared with post-treatment use patterns and population numbers to determine relative effectiveness of the treatment.

Forage production and wildlife allocations will be monitored on an allotment basis during allotment evaluations or rangeland health assessments. Annual livestock and wild horse utilization records gathered by BLM staff and wildlife use records reported by ODFW and BLM observations will be used to determine possible conflicts. Differences in use patterns and timing of use between these groups will be evaluated and taken into account. Conflicts in forage allocations between livestock, wild horses, and wildlife will be resolved and new allocations set during the assessments and/or subsequent grazing permit renewals. Impacts to wildlife populations will take into account changes in herd management objectives as set by the ODFW.

**Management Goal 2.** Annually or semiannually assess landscape changes in big sagebrush habitats from wildfire, prescribed fire, vegetation treatments, insect infestations, or other major influences. These changes will be mapped using global positioning system, geographic information system, and remote sensing technologies. The number of acres will be reported for each type of action. Assessments will be based on changes in size and composition of big sagebrush habitats. Changes will reflect suitability for sagebrush dependant species.

Big sagebrush and other wildlife habitats will be evaluated periodically during Rangeland Health Assessments (USDI-BLM 1997a) and after major catastrophic events such as large-scale wildfires. Where necessary, recommendations will be made for protection or restoration of damaged or degraded sagebrush habitats. Annually or biannually monitor areas where habitat treatments occur. Use photo points and vegetation sampling techniques that include species and structural composition of the area before and after treatment, if possible.

## Special Status Animal Species

**Management Goal—*Manage public land to maintain, restore, or enhance populations and habitats of special status animal species. Priority for the application of management actions will 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 “Endangered Species Act” mandates management that leads to the conservation or recovery of federally listed threatened or endangered species. This Act, as well as BLM policy, encourages management to protect special status species not currently listed as threatened or endangered, to prevent Federal listing.

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 land uses are adversely affecting special status species not currently listed as threatened or endangered, it is in the public interest to prevent the need for Federal listing under the “Endangered Species Act.” Listing of a species as threatened or endangered may lead to restrictions on land uses, and under some circumstances may cause adverse socioeconomic impacts to commodity users. In most cases, 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, 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 to identify needed management. Maintenance may also be a preferred course of action where resource conditions are exceptional.

### Management Direction

Management of Warner sucker, Foskett speckled dace, Hutton tui chub, bald eagle, and peregrine falcon will be in accordance with current recovery plans, biological opinions, and on-going consultation with the

USFWS. Management of greater sage-grouse will be in accordance with current BLM management strategies as outlined in the “Greater Sage-grouse and Sagebrush-Steppe Ecosystems Management Guidelines” (Sage-Grouse Planning Team 2000). The BLM is currently part of a working group developing a long-term conservation strategy plan for Oregon and Washington to replace the interim guidance. All BLM actions in “The Recovery Plan for the Threatened and Rare Native Fishes of the Warner Basin and Alkali Subbasin” (USDI-USFWS 1998) will be implemented (see Appendix H-1 of the “Draft RMP/EIS; USDI-BLM 2001a). Special status species management actions will be adjusted to accommodate additions or deletions in official listings of special status species.

Management will emphasize achieving desired range of 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 will be managed so that BLM actions will not contribute toward the need to list the species as federally threatened or endangered.

Management will 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 will be included in management prescriptions, but not to an extent that overemphasizes that value of any one particular habitat type.

A variety of projects or other land use adjustments could be required to manage for special status species. Some management for habitat 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.

## Monitoring

In conjunction with other private, state or Federal agencies, continue to monitor known populations of special status species considered to be sagebrush obligates (such as greater sage-grouse, pygmy rabbit, and kit fox). This monitoring will be accomplished by contract or with the aid of private, state, or Federal employees. Monitoring could consist of intensive research projects or passive population inventories designed to help identify the extent of the populations and what habitats are being used. Inventories will be

completed at least once every 10–15 years for each special status species known to occur within the planning area. Information will be used to identify habitats important for the survival of these species.

## Livestock Grazing Management

**Management Goal—Provide for a sustainable 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 development of regional “Standards for Land Health for Lands Administered by the Bureau of Land Management in the States of Oregon and Washington” (USDI-BLM 1997a). The five standards are described in Appendix E4 of the Proposed RMP/Final EIS.

### Management Direction

Protect and improve natural values through the average authorized use level (1991-2000) of 108,234 AUM’s of permitted use, with acknowledgment that the full permitted use level of 164,128 AUM’s (active preference) could be authorized. Herbaceous forage utilization levels will not exceed moderate. The current licensed grazing levels (Appendix E1) will be maintained until analysis or evaluation of monitoring data or rangeland health assessments identify a need for adjustments to meet objectives. Applicable activity plans (including existing allotment management plans, agreements, decisions and/or terms and conditions of grazing use authorizations) will be developed, revised where necessary, and implemented to ensure that resource objectives are met.

The full permitted use level for each allotment has been and continues to be analyzed through individual allotment assessments, such as rangeland health and

livestock grazing management guidelines, allotment evaluations, allotment management plans, watershed analyses, and implementation of biological opinions. It is through these assessments that any changes in forage allocation will be made, where needed, on an allotment specific basis. However, livestock permittees have the option to license up to their full active preference in any given year. Currently, the total permitted use for the resource area is 164,128 AUM's. However, permittees seldom use their full active preference for a variety of reasons, including previous agreements with BLM, management prescriptions in allotment management plans, economic factors, and forage and water availability.

Where livestock grazing is found to be limiting achievement of multiple use objectives, actions to control intensity, duration, and timing of grazing and/or provide for periodic deferment and/or rest will be required to meet physiological requirements of key plant species and to meet other resource objectives. Upon determining that existing grazing management practices on public land are contributing to the nonattainment of resource objectives, appropriate actions will be implemented. The intent of grazing management is to leave sufficient herbaceous material on the ground to provide soil and watershed protection, to provide forage and cover for wildlife and wild horses, and to meet other resource objectives. Generally, problems pertaining to livestock grazing are not related to existing forage allocations, but are related to needed changes in management, such as permitted use, season of use, and livestock distribution. This is addressed in Appendix E1, which also notes problem areas and gives recommendations.

In areas where livestock grazing is not compatible with other uses, no grazing will be permitted. Public land which has been found not to be suitable for livestock grazing or containing resource values which cannot be adequately protected from livestock impacts through mitigating measures are not allocated to livestock grazing. Table 6 and Map G-3 show areas that are not allotted or are excluded from livestock grazing due to conflicts with other uses. Additional exclosures could be implemented based on the findings of rangeland health assessments, or development of allotment, ACEC, or other more site-specific management plans.

Vegetative treatments will be implemented to return rangelands to proper functioning communities. Range improvement projects will be constructed, as described in Table 7 and Appendix E3. Standard implementation procedures for construction of rangeland improvements will follow BLM Manual Handbook H-1741-1 and -2

(USDI-BLM 1989e, 1990k), and USDI-BLM and USDA-FS (1988). Rangeland improvement projects (Table E3-1 of Appendix E3) will be implemented to meet resource objectives. Administrative solutions (i.e., season of use revision, stocking level adjustment, and pasture exclusion) will be the preferred solution to meet resource management objectives. Range improvement projects that do not enhance resource values and meet management objectives will be abandoned and rehabilitated.

Areas burned by wildland fire or prescribed fire will be rested a minimum of two growing seasons before they are reopened to livestock grazing. Decisions to resume livestock grazing will be based on monitoring data. Rest for less than two growing seasons may be justified on a case-by-case basis.

Livestock grazing will be managed during and following drought in accordance with the current "Oregon and Washington Drought Policy" to maintain soil and vegetation health and productivity following procedures outlined in Appendix E6 in the "Proposed RMP/Final EIS" (USDI-BLM 2003).

Temporary nonrenewable grazing will be authorized only if such use will not conflict with other resource management objectives.

## Monitoring

Monitoring will include recording actual use, measurements of utilization, continuation of collection of ecological site inventory data and conducting allotment evaluations or rangeland health assessments. Conditions and trends of resources affected by livestock grazing will be monitored to support periodic analysis/evaluation and site-specific adjustments of livestock management actions. Monitoring will determine when grazing would be authorized in burned areas or prescribed burn treatments based on attainment of resource objectives.

**Actual Use.** Actual use will be recorded by the permittees and submitted to the BLM in the form of an actual use report. This report, submitted within 15 days after completing the authorized grazing use, is a record of forage consumed by livestock in terms of AUM's (animal unit months) based on number of livestock and length of grazing use. The report includes livestock numbers, pasture use, turnout dates and gather dates. Actual use reports are submitted for all allotments at the end of the grazing season.

**Utilization.** Utilization data will be collected to

**Table 6.—Areas unallotted or excluded from livestock grazing**

Area	Acres
<b>Unallotted</b> <sup>1</sup>	124,800
<b>Excluded</b>	
Beaty Butte BLM/USFWS Highway 140 Exclosure <sup>2</sup>	9,516
Buck Creek	590
Fossil Lake	5,725
Table Rock	4,086
Warner Wetlands	31,355
Miscellaneous livestock exclusion areas <sup>3</sup>	5,818
Guano Creek WSA Cooperative Management Area	11,796
North half Diablo WSA <sup>2</sup>	53,648
West half Abert Rim WSA	9,766
Tucker Hill <sup>2</sup>	3,896
Alkali Lake	570
Subtotal	136,766
<b>Total ungrazed area</b>	<b>261,566</b>

<sup>1</sup> Includes most of Devils Garden, Four Craters, and Squaw Ridge WSA's; isolated parcels in the area of Christmas Valley and Lakeview; Crane Mountain; east half of Summer Lake; and Abert Lake.

<sup>2</sup> Where grazing is currently not allowed due to grazing agreements, a grazing decision is needed to officially exclude these areas from grazing.

<sup>3</sup> Areas include: small, unnamed stream, spring, reservoir, riparian, and other livestock exclosures.

**Table 7.—Characteristics representative to each wild horse herd**

Herd	Color/Type	Markings	Size	Weight
Paisley Desert	Any color, especially pinto, buckskin, dun, grulla, and grey/saddle type	N/A	14–16 hands	950–1,300 lbs
Beaty Butte	Any color, especially red or blue roan, and grey/saddle type; dun, grulla, buckskin, claybank, and variations/Spanish mustang type	Dorsal stripes	13–16 hands	750–1,300 lbs

determine the percent of forage consumed in an allotment during a particular grazing period. This data, in conjunction with crop year index data will be used to calculate the adjusted utilization. Annually, the utilization data gathered in the field and the adjusted utilization allows managers to determine if proper use levels are being met or exceeded, and if distribution of livestock is adequate or in need of improvement and what is necessary to facilitate improvement. Over the long-term, adjusted utilization will be used to calculate

the proper stocking level of an allotment.

The primary method used in the LRA is the key forage plant method (USDI-BLM 1989f). The key forage plant method is an ocular estimate of utilization within one of the six utilization classes (none, slight, light, moderate, heavy, severe) on one or more key herbaceous and/or browse species. Utilization is generally expressed as a percentage of available forage weight or numbers of plants, twigs, etc., that have been consumed

or destroyed, and is expressed in terms of the current year's forage production removed.

**Trend.** Trend refers to the direction of change and indicates whether rangeland vegetation is being maintained or is moving toward or away from the desired plant community or other specific vegetation management objectives. Trends may be judged by noting changes in composition, density, cover, production, vigor, age class, and frequency of the vegetation and related parameters of other resources. The trend methods may include step-point nearest plant method, nested frequency, line intercept method, photo plots, and Parker three-step method.

**Climate.** Climate will be monitored at various weather stations in the area. Data collected includes precipitation, temperature, and wind speed. From this data, the crop yield index will be calculated. Crop year index is used to calculate the adjusted utilization. Crop yield index will also be used in conjunction with the adjusted utilization to determine the potential stocking level of an area.

**Monitoring Schedule.** Following the completion of the "Lakeview Grazing Management Final Environmental Impact Statement" (USDI-BLM 1982a), the Selective Management Policy was adopted which categorized allotments into one of three management categories: (I) Improve, (M) Maintain, and (C) Custodial. The categorization was based on the following factors: (1) present resource condition, (2) potential productivity, (3) presence of resource conflicts or controversy, (4) present management situation, (5) opportunity for positive economic return, (6) appropriate local factors. This categorization is carried forward into this RMP. Monitoring requirements in the (I) category allotments are the most intensive and are designed to measure progress toward meeting specific objectives. The (I) category allotments have trend plots examined every 3 years and the utilization recorded every time a pasture is used. In the (M) category allotments, monitoring intensity is reduced. The primary emphasis is on monitoring changes from current resource conditions. The utilization level is determined every year. Trend plots are examined every 5 years. Monitoring in the (C) category allotments is limited to periodic inventories and observations to measure long-term resource condition changes. Trends plots are examined once every 10 years.

**Allotment Evaluations.** Every allotment will undergo an evaluation using the "Healthy Rangelands Standards and Guidelines" (USDI-BLM 1997a) and BLM Manual 4180 and Handbook H-4180-1 guiding implementation

of the rangeland health standards (USDI-BLM 2001b, 2001c) on a periodic basis. Currently, this is expected to occur about once every 10 years, preferably just before or during the permit renewal process for a given allotment. Rangeland health assessments will be completed for all allotments by 2008. Monitoring data will be utilized to determine attainment of the five standards.

## Wild Horses

**Management Goal—***Maintain and manage wild horse herds in established herd management areas at appropriate management levels to ensure a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values.*

### Rationale

The "Wild Free-Roaming Horse and Burro Act" of 1971 requires the BLM to protect and manage wild horses in areas where they were found at the time of the Act, in a manner designed to achieve and maintain a thriving natural ecological balance in keeping with the multiple use management concept of public lands.

### Management Direction

Management of both the Paisley and Beaty Butte Herd Management Areas is guided by existing herd management area plans (USDI-BLM 1977a, 1977b, 1995c; USDI-BLM and USDI-USFWS 1998b) that identify specific management objectives for each herd management area. These plans will remain in effect and be revised by management direction contained in this RMP. Wild horse population levels will be adjusted in accordance with the results of monitoring studies, allotment evaluations, and rangeland health assessments, when needed, in order to achieve and maintain objectives for a thriving natural ecological balance and multiple use relationships in each herd management area. Gathering of wild horses will continue, as necessary, to adjust wild horse populations. During gathers, horses will normally be reduced to the low end of the appropriate management level range, then allowed to increase to the top end of appropriate management level before another gather will occur. If emergency situations arise, horses could be gathered for their survival. Horses straying outside the herd management areas will be removed. The current memorandum of understanding with Hart Mountain National Antelope Refuge, whereby the BLM agrees to remove stray wild horses within the refuge boundaries,

will be followed.

Horses released back into herd management areas after gathers will be animals exhibiting the special and unique characteristics of that herd, as described in Table 7. In some instances, these horses may be from other wild horse herds. Horses will be selected to maintain herd characteristics and to diversify genetic variability, especially in the Paisley Desert Herd Management Area that has a lower appropriate management level. Research on fertility control will continue to be implemented on a case-by-case basis, as necessary to continue the research in developing a safe, effective vaccine. The fertility control vaccine (if approved for general use by the Food and Drug Administration) may be considered an option to reduce the frequency of gathers and benefit the health of wild horses and rangelands.

The boundary in the Paisley Desert Herd Management Area will be modified. A total of 31,859 acres in the northwest corner will be designated as an unoccupied herd area. A herd will not be reestablished or managed in this unoccupied herd area. See Map SMA-4 for location of the unoccupied herd area and herd management area.

The initial appropriate management level will be increased in the Paisley Desert Herd Management Area to 60–150 horses. This represents an increase of 40 horses at maximum appropriate management level, which is supported by monitoring data. The appropriate management level in the Beaty Butte Herd Management Area will remain at 100-250 horses. The increase for the Paisley herd reflects extending the timeframe between gathers to 5 years, consistent with the gathering cycle in the Beaty Butte herd. Forage allocations for the Paisley Desert will be 1,800 AUM's; the Beaty Butte allocation will remain at 3,000 AUM's. Forage for wild horses will be allocated to all horses in the herd management area regardless of age. Forage allocations for wild horses will be reduced to zero in Allotments 400 and 426 because these allotments are outside the herd management area boundaries. The calculation for allocating forage for wild horses will be consistent with other resource management plans in the State (the calculation is: the number of horses at the top appropriate management level x 12 months).

When monitoring data support a downward adjustment in the allocation of forage within herd management areas, proportionate decreases in wild horse appropriate management levels and authorized active use by livestock will be implemented. This will 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 appropriate management levels and livestock authorized active use will be emphasized, as consistent with meeting other management objectives.

Range improvements will be installed to encourage horses to stay within herd management area boundaries. Improvements will be consistent with other resource objectives. Established water developments and other projects supporting wild horse populations will be maintained, consistent with other management objectives. Projects designed to facilitate wild horse management that do not emphasize natural values will be abandoned and sites will be rehabilitated. Construction of water developments and other projects that minimize impacts to other resources and emphasize natural values will be considered.

## Monitoring

Aerial and ground census information will continue to be gathered periodically to determine the number of adults and foals, colors, special characteristics, and overall health of the horse herds. Aerial counts will be done at a minimum of once every 3 years. Data, including the ratio of mares to studs and age class, will be collected during gathers and/or at the Burns Horse Adoption Center as horses are processed.

Wild horse actual use of forage will be determined by multiplying inventoried or estimated numbers of horses by the length of grazing period on their summer and winter ranges. Utilization and trend study methods are the same as described previously in the Livestock Grazing Management monitoring section.

Data collected in other studies, such as monitoring of special status plants and animals, microbiotic crusts, wildlife, water resources, weeds, riparian, and wetland sources may be used to determine the effects of wild horse management actions on these resources. Results and recommendations will be recorded in allotment evaluations or rangeland health assessments as described in the Livestock Grazing section.

## Special Management Areas — Areas of Critical Environmental Concern and Research Natural Areas

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

### 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. Appendix I of the "Proposed RMP/Final EIS" (USDI-BLM 2003) contains a detailed description of each existing and proposed ACEC/RNA.

### Management Direction Common to All ACEC/ RNA's

*Designation:* Four existing ACEC's are retained and 12 new ACEC's are designated. One existing ACEC is expanded.

One existing RNA will be retained and nine new RNA's will be designated. All RNA's fall within existing or newly designated ACEC's. RNA's will be managed to preserve natural features and ecosystems in as natural a condition as possible for research and educational purposes. The BLM designates and manages RNA's under the same management guidance as ACEC's.

Special management direction for all ACEC/RNAs is summarized in Table 8. More detailed management plans may be developed in the future, if needed. These plans will tier to the management direction contained in this RMP.

*WSA management in areas of overlap with ACEC/  
RNA's:* All management actions for those portions of ACEC's within an instant study area (ISA) or WSA will also be governed by the wilderness IMP (USDI-BLM 1995b) until such time as Congress makes a

determination regarding wilderness designation for the area. Any WSA's, or portions thereof, designated as an ACEC and later released from wilderness study will be managed according to the applicable ACEC management direction. In some cases, the ACEC management direction may be more restrictive than the wilderness IMP. Should WSA's be designated as wilderness in the future, they will be managed in accordance with the direction contained in the authorizing legislation. Seven existing or newly designated ACEC's overlap with existing WSA's and an ISA: Devil's Garden, Sand Dunes, Lost Forest, Abert Rim, Fish Creek Rim, Hawk Mountain, Guano Creek, and Lost Forest (Table 9).

*Special status and Bureau sensitive plants:* Disturbances to all special status plant populations will be avoided in all ACEC/RNA's where they occur. General inventories, monitoring, and research will continue for special status plants. Conservation agreements will be written for all Bureau sensitive plant species (former Federal Candidate Category 2).

*Fire management:* In all ACEC's and RNA's, wildland fires will be managed according to appropriate management response; however, some ACEC's will be analyzed for possible wildland fire use in subsequent fire or ACEC management plans. Use of heavy equipment in ACEC's, RNA's, and overlapping WSA's will be avoided and require line officer approval. Use of retardant will be allowed within these areas for initial attack. Retardant use during extended attack will be considered as a part of the wildland fire situation analysis, after considering the resource values at risk. If used, heavy equipment will be restricted to existing roads and trails. Prescribed fires could be used in ACEC's where it can be shown to preserve or promote the desired characteristics of the area and meet management objectives.

*Weed management:* Noxious weeds would be aggressively controlled in all ACEC/RNA's using integrated weed management methods, such as biological control, site-specific spraying, and grubbing by hand, consistent with protection or enhancement of relevant and important values and the existing weed control plan/environmental assessment (USDI-BLM 1994d). (Some areas such as Lake Abert and Warner Wetlands are covered by specific weed management plans (USDI-BLM 1995e, 1999g)). Any weed control measures proposed in WSA's overlapping with ACEC's will be consistent with wilderness IMP direction (USDI-BLM 1995b).

*Road management:* In all ACEC/RNA's designated closed to OHV's, or where OHV's are limited to designated roads and trails, all roads not designated

**Table 8.—Management summary for ACEC/RNA’s**

ACEC/RNA	Acres <sup>1</sup>	ROW’s <sup>2</sup>	Tenure zone	OHV <sup>3</sup>	VRM <sup>4</sup>	Grazing <sup>5</sup>	Personal wood/plant collecting <sup>6</sup>	Minerals <sup>7</sup>		
								Locatable	Leasable	Salable
<b>Existing ACEC’s</b>										
Devils Garden ACEC	28,241	EX	1	LD	I (II)	O <sup>8</sup>	O/O	NREC	C	C
Lake Abert ACEC	50,165	AV	1, 2	LE	I/II	O <sup>8</sup> /C	C/C	C, O	C, NSO	C, O
Lost Forest/Sand Dunes/Fossil Lake ACEC										
Lost Forest RNA	8,883	EX	1	LD	I (III)	O <sup>8</sup>	C/O	C	C	C
Sand Dunes	9,125	EX	1	O	I (III)	O <sup>8</sup>	C/O	NREC	C	C
Fossil Lake	8,988	AV	1	C	III	C	C/O	O	NSO	C
Remainder of ACEC	8,500	AV	1	LD	III	O <sup>8</sup>	C/O	O	O	O
Warner Wetlands ACEC	52,033	AV	1	LD	III	L	O/O	O	O, NSO	C, O
<b>New ACEC’s</b>										
Abert Rim ACEC	18,049	EX	1	LD	I (IV)	L	O/O	NREC	C	C
Black Hills ACEC/RNA	3,048	AV	1	LD	III	O <sup>8</sup>	C/C	O	NSO	O
Connley Hills ACEC/RNA	3,599	AV	1	LD	III	O <sup>8</sup>	C/C	O	NSO	O
Fish Creek Rim ACEC/RNA	8,725	AV	1	LD	I (II)	O <sup>8</sup>	O/C	O, NREC	C, O	C, O
Foley Lake ACEC/RNA	2,230	AV	1	LD	III	O <sup>8</sup>	O/C	O	O	O
Guano Creek/Sink Lakes ACEC/RNA	11,199	AV	1	LD	I (III)	C	O/C	NREC	C	C
Hawksie-Walksie ACEC/RNA	17,339	AV	1	LD	I (III)	O <sup>8</sup>	O/C	NREC	C	C
High Lakes ACEC	38,985	AV	1	LD	III	O <sup>8</sup>	O/O	O	O	O
Juniper Mountain ACEC/RNA	6,335	AV	1	LD	IV	O <sup>8</sup>	O/O	O	NSO	O
Rahilly-Gravelly ACEC/RNA	19,648	AV	1	LE	III	O <sup>8</sup>	O/O	O	NSO	O
Red Knoll ACEC	11,127	AV	1	LD	II	L <sup>8</sup>	O/O	C, O	C, O	C, O
Spanish Lake ACEC/RNA	4,699	AV	1	LD	IV	O <sup>8</sup>	O/O	O	O	O
Table Rock ACEC	5,139	AV	1	LD	II	L <sup>8</sup>	O/O	O	NSO	C

<sup>1</sup> Acreage values are based on geographic information system calculations.

<sup>2</sup> ROW’s = rights-of-way; EX = exclusion ~ no new rights-of-way allowed; AV = avoid ~ new rights-of-way would be allowed if there were no other options; O = open to new rights-of-ways.

<sup>3</sup> OHV = off-highway vehicle; C = closed to OHV’s; O = open to OHV’s; LD = limited to designated roads and trails; LE = limited to existing roads and trails.

<sup>4</sup> VRM = visual resource management; class in parentheses is how the area would be managed if released from wilderness study.

<sup>5</sup> C = closed to grazing; O = open to grazing; L = some portions of the area are open and some are closed to grazing.

<sup>6</sup> Plant collecting applies only to collection of plants or plant material for personal use or onsite firewood collection (dead and down) for camping; commercial firewood, post, or pole cutting would not be allowed in any of the ACEC’s.

<sup>7</sup> Minerals; O = open for exploration, development, extraction of minerals; C = closed to all mineral activity; NSO = no surface occupancy allowed during exploration, development or extraction of oil, gas, or geothermal resources. In those ACEC’s which overlap with WSA’s, the WSA portion would be open to locatable minerals; however, no actions requiring reclamation are allowed (NREC). WSA’s are closed to the sale or lease of minerals. If these WSA’s are not designated wilderness, they would continue to be open to locatable minerals and could be open to sale or lease of minerals, depending on the ACEC.

<sup>8</sup> Would continue to be open to grazing unless conflicts are identified in the future that would require modification to current grazing management.

open will be signed closed, physically blocked, and/or rehabilitated (Table 10). Existing road data sources include one or more of the following: U.S. Geological Survey (USGS) digital line graph and digital orthophotography data, global positioning system data, and field mapping. Additional, non-inventoried roads or trails may be present on the ground. Any new roads or trails discovered in the future within SMA’s in the existing roads and trails category will remain open unless determined in a subsequent analysis that they are not needed or are causing resource damage. Any new roads or trails discovered in the future in SMA’s under the designated roads and trails category will be closed.

Based on recent road inventory, it has been discovered that a number of roads within overlapping WSA’s do not appear on wilderness inventory maps (USDI-BLM 1989a) and must be closed to comply with the wilderness IMP (USDI-BLM 1995b). These are shown as “historically closed” on the SMA maps. direction.

Rock and boulder climbing or rappelling will be prohibited in Table Rock, High Lakes, and Black Hills ACEC’s. The use of bolts or other permanent safety devices for these activities will require a permit within the remainder of the ACEC/RNA’s. The use of bolts or other permanent safety devices will be prohibited

**Table 9.—Overlap of ACEC's and WSA's**

Area of critical environmental concern	Acres	Wilderness study area	Acres	WSA recommendation
Abert Rim Addition	18,049	Abert Rim	18,019	Suitable
Devils Garden	28,241	Devils Garden Lava Bed	28,241	Suitable
Fish Creek Rim	8,725	Fish Creek Rim	6,876	Suitable
Guano Creek/Sink Lakes	11,199	Guano Creek	11,199	Suitable
Hawksie-Walksie	17,339	Sage Hen Hills, Hawk Mountain	963	Suitable
High Lakes	39,985	Guano Creek	0	Suitable
Lake Abert	50,117	Abert Rim	7,110	Suitable
Lost Forest RNA/Sand Dunes/Fossil Lake		Sand Dunes, Lost Forest ISA <sup>1</sup>	24,516	Nonsuitable

<sup>1</sup> ISA = instant study area.

within all overlapping WSA's, Lost Forest ISA, and significant caves.

*Minerals:* According to 43 CFR 3809.11, an approved plan of operation is required prior to commencing any operation, except casual use, involving locatable minerals in a designated ACEC. Other restrictions may be applied for leasable or salable minerals, depending on the type of other resource values present. Proposed mineral activities in those ACEC/RNA's that overlap with WSA's will be further limited by the wilderness IMP (USDI-BLM 1995b).

*Lands and Realty:* Any inholdings acquired will be managed in accordance with the management direction for the surrounding ACEC/RNA.

*Tribal Consultation:* Native American traditional uses and concerns will continue to be identified and protected through consultation with Tribal governments and individual Native Americans for management actions within ACEC/RNA's.

### Management Direction—Devils Garden ACEC

The existing Devils Garden ACEC will be retained (Maps SMA-4 and -5).

New rights-of-way will be excluded except to provide access to non-Federal land (Map L-8). The area will continue to be managed as land tenure Zone 1 (retention) (Map L-5).

The Cabin Lake/Silver Lake Deer Winter Range Cooperative Vehicle Closure will include this area (Maps R-7 and SMA-24). Those roads closed to comply with the wilderness IMP (USDI-BLM 1995b) will remain closed (shown as "historically closed" on

Map SMA-5), even if released from wilderness study. The road to Derrick Cave will be closed. The remainder of the roads will be closed to motorized travel from December 1 through March 31, annually. Motorized travel will be limited to designated roads and trails for the remainder of the year (Table 10).

The ACEC will continue to be managed as VRM Class I (Map VRM-3), but will revert to VRM Class II if it is not designated wilderness.

Livestock grazing will be managed according to existing permit stipulations (Map G-3). Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important resources and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed projects will be evaluated for impacts and permitted where relevant and important ACEC or WSA values will be maintained or enhanced.

Though locatable mineral entry is allowed under the wilderness IMP, actions that require reclamation are not currently allowed (USDI-BLM 1995b). This effectively closes the area to mineral location. The area is also closed to the sale or lease of minerals (Map M-8, -9, and -10). If the area is not designated wilderness, the ACEC will be opened to all mineral uses, but activity will be managed to minimize impacts to bighorn sheep and other BLM special status species. Oil, gas, or geothermal activity will be subject to no-surface-occupancy stipulations, while locatable mineral exploration and development will require a plan of operation.

**Table 10.—Miles of roads to be closed within special management areas <sup>1</sup>**

Area	Miles <sup>2</sup>	Reasons
<b>Existing areas of critical environmental concern</b>		
Devils Garden ACEC/WSA <sup>3</sup>		
<i>Permanent</i>	11.6	WSA & Big Game
<i>Seasonal</i> <sup>4</sup>	40.0	Big Game
Lake Abert/Abert Rim ACEC/WSA <sup>3</sup>	9.7	WSA Resources
Fossil Lake/Sand Dunes/Lost Forest ACEC/RNA/WSA <sup>3</sup>	25.1	WSA, Cultural & Paleontological Resources
Warner Wetlands ACEC		
<i>Permanent</i>	30.6	Wildlife/Erosion
<i>Seasonal</i>	4.8	Erosion
<b>Proposed areas of critical environmental concern</b>		
Black Hills ACEC/RNA	3.7	Botanical Resources/ Erosion
Connley Hills ACEC/RNA	4.1	Botanical Resources/ Erosion
Fish Creek Rim ACEC/RNA/WSA <sup>3</sup>	7.9	WSA & Botanical Resources/ Erosion
Foley Lake ACEC/RNA	0.2	Botanical Resources/ Erosion
Guano Creek/Sink Lakes ACEC/RNA/WSA <sup>3</sup>	2.6	WSA & Botanical Resources/ Erosion
Hawksie-Walksie ACEC/RNA/WSA <sup>3</sup>	7.8	WSA, Cultural, & Botanical Resources/ Erosion
High Lakes ACEC	17.8	Cultural Resources
Juniper Mountain ACEC/RNA	4.3	Botanical Resources/ Erosion
Rahilly-Gravelly ACEC/RNA	0.0	Botanical & Cultural Resources/ Erosion
Red Knoll ACEC	3.8	Cultural Resources
Spanish Lake ACEC/RNA	0.6	Botanical Resources/ Erosion
Table Rock ACEC/RNA	3.9	Botanical & Cultural Resources/ Erosion
<b>Other areas</b>		
Cabin Lake/Silver Lake Deer Winter Range Cooperative Seasonal Road Closure Area <sup>4</sup>	243.4	Big Game
Buck Creek Watchable Wildlife Site	0.4	Wildlife/Erosion
Cougar Mountain	1.7	Big Game
Crane Mountain	0.7	Cultural & Botanical Resources/Erosion
Green Mountain	0.4	Botanical Resources
Westside Gravel Pit	0.2	Cultural Resources
Twelvemile Creek WSR	0.2	WSR Resources
Alkali Lake Sand Dunes	0.0	
<b>Wilderness Study Areas</b>		
Four Craters	16.7	WSA Resources
Sage Hen Hills	2.1	WSA Resources
Squaw Ridge	9.7	WSA Resources
Diablo Mountain	39.0	WSA Resources
Spaulding	21.7	WSA Resources
Orejana	10.1	WSA Resources
Basque Hills	7.1	WSA Resources
Rincon	1.7	WSA Resources
<b>Totals</b>		
<i>Permanent</i>	246.5	
<i>Seasonal</i>	288.2	

<sup>1</sup> Mileage values are calculated from road data within geographic information systems.

<sup>2</sup> Closure total includes miles historically closed under previous management.

<sup>3</sup> Includes WSA overlap with the ACEC.

<sup>4</sup> Closure is seasonal from December 1 to March 1 each year; the remainder of the year OHV's are limited to existing roads and trails.

## Management Direction —Lake Abert ACEC

The Lake Abert ACEC (50,117 acres) will be retained (Maps SMA-4 and -7). Management of the ACEC will be according to the existing management plan amendment (USDI-BLM 1996d) and the wilderness IMP (USDI-BLM 1995b), as summarized below and in Table 3-3; the wordperfect version of this table is missing.

New rights-of-way locations will be avoided in the Lake Abert area (Map L-8). The Abert Rim WSA portion of the ACEC will continue to be managed as an exclusion area. The Abert Rim WSA portion of the area will continue to be managed as tenure Zone 1 (retention). Abert Lake will be managed as Zone 1 (retention) (Map L-5).

OHV use east of Highway 395 and up to the top of the rim will be restricted to designated roads and trails. The remainder of the area (west of Highway 395) will remain in the existing roads and trails category (Map R-7). Seasonal closures will be placed on the playa at the north end of the lake, in deer/bighorn sheep critical winter range, and near raptor nest sites, if needed. An existing two-track road at the mouth of Juniper Creek, east of Highway 395, will be converted to a foot trail. About 3.3 additional miles of roads and trails will be closed (Map SMA-7). Several miles of roads and trails within the Abert Rim WSA (Table 10) have already been closed. These are shown as “historically closed” on Map SMA-7.

The Abert Rim corridor will remain in its existing VRM Class I category. The remainder of the ACEC will be managed as VRM Class II (Map VRM-3).

Livestock grazing management will continue as described in the management plan amendment (USDI-BLM 1996d). Grazing will continue to be excluded from most of the western shoreline and from the eastern shoreline up to the top of Abert Rim (Map G-3). Livestock use will continue based on existing permit stipulations and approved grazing systems. Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

The ACEC, including the western portion of Abert Rim WSA, will be closed to the collection of all plant materials.

Within the WSA portion of the ACEC, mineral leasing or mineral disposal is currently not allowed under the wilderness IMP (USDI-BLM 1995b). Locatable mineral activity requiring reclamation will not be allowed; which essentially precludes locatable mineral activity (Maps M-8, -9, and -10). If Congress decides to release Abert Rim WSA from WSA study, that portion of the WSA within the ACEC will remain closed to salable and leasable mineral activities while locatable mineral activity will be allowed, but subject to preparation of a plan of operations.

The northern portion of the ACEC area (Map M-9) will be closed to sodium leasing. The rest of the ACEC is open to mineral leasing, but subject to special stipulations related to lake levels, total dissolved solids, and visual quality. Geothermal, oil, and gas leasing could occur throughout the remainder of the ACEC, but no surface occupancy will be allowed within the ACEC boundary. Locatable mineral activity will be allowed throughout the remainder of the ACEC, but will require preparation of a plan of operations. Mineral material disposal will continue from the two existing pits only.

Noxious weeds will continue to be managed according to direction in the plan amendment (USDI-BLM 1996b, the wilderness IMP (USDI-BLM 1995b), and the “Abert Rim Weed Management Area Plan” (USDI-BLM 1995e).

Disturbance to nesting raptors will be avoided (January–August, depending on species).

Other management direction, as specified in the plan amendment (USDI-BLM 1996b) for air quality, fire, water resources, special status species, and cultural resources will be continued.

## Management Direction—Abert Rim Addition to Lake Abert ACEC

Noxious weeds will continue to be managed according to the direction set forth in the “Abert Rim Weed Management Area Plan” (USDI-BLM 1995e). The area will continue to be managed according to the wilderness IMP (USDI-BLM 1995b)

A total of 18,019 acres will be added to the existing Lake Abert ACEC (Maps SMA-4 and -7). The add-on area lies completely within the Abert Rim WSA (Map R-9) and will be managed according to the Lake Abert

ACEC management plan (USDI-BLM 1996d) and the wilderness IMP (USDI-BLM 1995b).

New rights-of-ways will be excluded from the area (Map L-8). The ACEC will be managed as land tenure Zone 1 (retention) (Map L-5).

OHV's will be limited to designated roads and trails (Map R-7). Based on a recent road inventory, it has been discovered that about 6 miles of roads not appearing on the wilderness inventory maps (USDI-BLM 1989a) must be closed to comply with the wilderness IMP (USDI-BLM 1995b). These are shown as "historically closed" on Map SMA-7. About 3.3 additional miles of roads and trails will be closed under this alternative (Table 10). If the WSA is not designated wilderness, these road restrictions will remain in effect.

The area will be managed as VRM Class I due to the WSA status (Map VRM-3). If released from wilderness study, it will be managed as VRM Class IV.

Livestock grazing will continue as it is currently managed based on existing permit stipulations. The majority of this area is in Allotment 517, which is grazed from April through October. The south end of the proposed add-on is within Allotments 400, 502, and 518. Allotment 518 is grazed in summer. This portion of Allotment 400 is excluded from grazing use. Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important resources and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

The area will be closed to mineral leasing and disposal. Locatable mineral activity will be limited by the no reclamation requirement of the wilderness IMP (USDI-BLM 1995b). Should the area be removed from WSA status, it will become open mineral leasing and disposal. It will also be open to locatable mineral development subject to the development of a plan of operations (Maps M-8, -9, and -10).

Disturbance to nesting raptors will be avoided (January–August, depending on species).

## **Management Direction —Lost Forest/Sand Dunes/Fossil Lake ACEC/RNA**

The existing ACEC/RNA will be retained. The boundary of the ACEC will be amended to exclude the Department of Defense withdrawal along the south boundary of the ACEC. However, if the Department of Defense should decide at some point in the future that this site is no longer needed for military purposes, the withdrawal could be revoked and the southern boundary would revert back to its prior location. In addition, the northern boundary of the ACEC and the Lost Forest RNA will be made consistent and relocated to the southern edge of BLM Road 6141 (Maps SMA-4 and -9). The Lost Forest RNA/ISA and the Sand Dunes WSA will be managed according to the wilderness IMP (USDI-BLM 1995b) until such time as Congress makes a determination regarding wilderness designation for the two areas.

The Sand Dunes WSA and Lost Forest RNA/ISA will be excluded from location of new rights-of-way. The existing electrical transmission line through the Fossil Lake will be identified as a right-of-way corridor up to 1000-foot wide for future utility lines or other rights-of-way. New rights-of-way in the remainder of the ACEC will be avoided unless there are no other options (Map L-8). The entire ACEC/RNA will be managed as land tenure Zone 1 (retention) (Map L-5).

The existing vehicle closure on Fossil Lake will be expanded to 8,988 acres (Maps R-7 and SMA-9a). The closure boundary shown on Map SMA-9a has been located using the global positioning system and leaves as much of the large, contiguous dunes in the open area as possible. The closure boundary will be fenced or signed on the ground. Vehicle use in the Lost Forest RNA/ISA will continue to be limited to designated roads and trails. Additional area west of Lost Forest and north of the Fossil Lake closure will be added to the designated roads and trails class (Maps R-7 and SMA-9a). Most of the Sand Dunes WSA will remain open to OHV use.

Road 6151 through the Lost Forest RNA/ISA will be minimally upgraded to prevent widening and braiding of the road and resulting damage to relevant and important resources. Approximately two miles of open roads would be closed (Table 10). Those roads shown as "historically closed" on Map SMA-9 will remain closed.

The Lost Forest RNA and Sand Dunes WSA will continue to be managed as VRM Class I (Map VRM-3). If Congress removes these areas from wilderness

consideration they will revert to VRM Class III. Fossil Lake and the remainder of the ACEC will continue to be managed as VRM Class III.

Primitive camping areas will be designated in the Lost Forest RNA and Sand Dunes WSA, with camping allowed only in these sites (Map SMA-9). Parking areas along the main road 6151 through the Lost Forest will be provided for day use. Camping areas within the Sand Dunes WSA will be managed on a rotational basis (for example, two of the camping/staging areas will be open and available to use and the other area will be closed for an indeterminate amount of time [2–6 years] to allow natural rehabilitation to occur). The length of the closure will be based on the following criteria: (1) success of natural revegetation, (2) obliteration of human activities by the natural movement of sand, and (3) the public's adherence to the closures. Specific travel routes from the camping/staging areas to the barren dunes which are open to OHV use will be established. Adaptive management activities which will allow the continued use of each of these camping/staging areas while protecting the natural values of the area will be adopted as necessary to ensure their long-term use and protection. The establishment of a campground on private lands within the sand dunes area will be encouraged.

The grazing closure on Fossil Lake will be expanded to 8,988 acres (Map G-3). This will require construction of a fence within a WSA. Livestock use in the rest of the ACEC will continue based on existing permit stipulations. Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

Collecting of firewood for camping use will be prohibited.

The mineral withdrawal on the Lost Forest RNA/ISA will be retained (Map M-2 of the Draft RMP/EIS). The Sand Dunes WSA and Lost Forest RNA/ISA areas will be closed to the sale and lease of minerals. Any locatable mineral activity in the Sand Dunes WSA will be subject to the no reclamation restriction of the wilderness IMP. Should Congress remove the Sand Dunes WSA from wilderness study, locatable mineral devel-

opment will be allowed. Fossil Lake will be open to locatable mineral activity subject to seasonal restrictions and preparation of a plan of operations. It will be open to mineral leasing subject to no-surface-occupancy restrictions. Fossil Lake will be closed to mineral material disposal. Mineral activity within the remainder of the ACEC will be allowed, but subject to seasonal restrictions and locatable mineral development will require a plan of operation (Maps M-8, -9, and -10).

Disturbance to nesting raptors will be avoided (January–August, depending on species).

### **Management Direction —Warner Wetlands ACEC**

The existing Warner Wetlands ACEC (53,087 acres) will be retained. Management of the ACEC will be according to the existing “Warner Wetlands Area of Critical Environmental Concern (ACEC) Management Plan” (USDI-BLM 1990b, 1990c, 1990d, 1990e, 1990f, 1990g, 1990h, 1990i, 1990j), except as highlighted below (Maps SMA-4 and SMA-10).

Vehicles will be restricted to designated roads and trails (Table 10, Maps R-7 and SMA-10). Roads shown as “historically closed” on Map SMA-10 will remain closed.

The area will be managed as VRM Class III (Map VRM-3).

The eastern half of the ACEC will be closed to mineral disposal, open to leasing with no-surface-occupancy restrictions, and open to mineral location subject to seasonal restrictions along with the need to prepare a plan of operations. The western half is open to mineral disposal, open to mineral leasing, and open to mineral locations subject to preparation of a plan of operation (Maps M-8, -9, and -10).

Weed management in the ACEC will be conducted according to the “Warner Basin Weed Management Area Plan” (USDI-BLM 1999g).

The ACEC will be considered a right-of-way avoidance area (Map L-8). The entire ACEC will be managed as land tenure Zone 1 (retention) (Map L-5).

Most of the core wetland area (potholes and acquired lands) will remain closed to livestock grazing. The remainder of the ACEC will be grazed in accordance with an approved allotment management plan (USDI-BLM 1990g). However, management of the 400-acre

meadow management area at Hart Bar will be changed to manage for tallgrass nesting bird species rather than short-grass nesting species. This will involve incorporating the meadow management area into the southern portion of the core wetland acquired lands portion of the ACEC (e.g., that portion south of Anderson Lake within the ditch and dike system [Map SMA-10]). This area will be divided by fencing or natural barriers. The southern portion will utilize fire, mowing, and livestock grazing (authorized on a temporary nonrenewable grazing basis) to meet specific management objectives or as a pretreatment prior to planned prescribed fire to facilitate/enhance fuel breaks. This will expand the meadow management area by approximately 1,500 acres.

### **Management Direction—Black Hills ACEC/RNA**

About 3,049 acres will be designated as an ACEC and a RNA (Maps SMA-4 and -11).

New rights-of-way will be avoided unless there were no other options and then only with appropriate mitigating measures to protect relevant and important values (Map L-8). Legal access across private land will be obtained, if needed, for public and administrative access. The entire ACEC/RNA will be managed as land tenure Zone 1 (retention) (Map L-5).

OHV's will be limited to designated roads and trails (Map R-7). Approximately 1.9 miles of road closed in the past will remain closed (Table 10). These are shown as "historically closed" on Map SMA-11. An additional 1.8 miles of roads will be closed.

The area will be managed as VRM Class III (Map VRM-3).

Livestock grazing will continue based on existing permit stipulations (Map G-3). Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important resources and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced. If needed, fences will be installed to exclude livestock and wild horse use.

Collecting plant or plant material (living or dead) for

personal use will be prohibited.

The ACEC/RNA will be open to all minerals activity. All minerals activities will be subject to stipulations and mitigating measures to protect relevant and important values including: a no-surface-occupancy stipulation for geothermal, oil, or gas leasing activity and preparation of a plan of operation for locatable mineral development (Maps M-8, -9, and -10).

Camping and collection of dead or downed woody material for campfire use will be prohibited. Day-use only will be allowed.

Disturbance to nesting raptors will be avoided (January–August, depending on species).

The conservation agreement with USFWS for Cusick's buckwheat will be completed, signed, and implemented. Monitoring and research on Cusick's buckwheat and snowline cymopterus will continue. The existing habitat management plan for these species will continue (USDI-BLM 1981b).

### **Management Direction—Connley Hills ACEC/RNA**

About 3,559 acres will be designated as an ACEC and a RNA (Maps SMA-4 and -12).

New rights-of-way will be avoided unless there were no other options and then only with stipulations to protect relevant and important resources (Map L-8). The ACEC/RNA will be managed as land tenure Zone 1 (retention) (Map L-5). Actions will be taken to acquire the 80-acre private inholding from a willing landowner.

OHV's will be limited to designated roads and trails (Maps SMA-12 and R-7). About 4.1 miles of existing roads will be closed (Table 10).

The entire ACEC/RNA will be managed as VRM Class III (Map VRM-3).

Livestock use will continue based on existing permit stipulations and approved allotment management plans (Map G-3). Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of

use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

The ACEC/RNA will be limited to day-use only. No camping or collection of dead or downed woody material for campfire use will be allowed.

Collecting plant or plant material (living or dead) for personal use will be prohibited.

The ACEC/RNA will be open to all mineral development. Leasable mineral activity will be subject to a no-surface-occupancy stipulation. Locatable mineral activity will require preparation of a plan of operations.

Disturbance to nesting raptors will be avoided (January–August, depending on species).

Important cultural sites within the area will be nominated to the National Register of Historic Places.

### **Management Direction—Fish Creek Rim ACEC/RNA**

About 8,725 acres will be designated as an ACEC and a RNA (Maps SMA-4 and -13). Since part of the proposed ACEC/RNA is within the Fish Creek Rim WSA (Map R-9), management will be according to the wilderness IMP (USDI-BLM 1995b) until such time as a decision is made by Congress regarding wilderness designation.

New rights-of-way will be excluded from the WSA and avoided in the remainder of the ACEC/RNA (Map L-8). If the WSA is released from wilderness study, it will be managed as a right-of-way avoidance area. The area will continue to be managed as land tenure Zone 1 (Map L-5).

OHV's will be limited to designated roads and trails (Map R-7). About 5.8 miles of roads not appearing on the wilderness inventory maps (USDI-BLM 1989a) must be closed to comply with the wilderness IMP (USDI-BLM 1995b). These are shown as "historically closed" on Map SMA-13. An additional 2.1 miles of other roads will be closed (Table 10). These roads will remain closed even if the area is released from WSA status.

The WSA will be managed as VRM Class I. If it is not designated wilderness, it will be managed as VRM Class II. The remainder of the ACEC, outside the WSA, will be managed as VRM Class II (Map VRM-3).

Grazing use will be based on existing permit stipulations (Map G-3). Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important resources and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced. Any fence construction in the WSA will be subject to the wilderness IMP guidelines.

Commercial and personal plant collecting will be limited by the wilderness IMP (USDI-BLM 1995b).

The WSA will be closed to mineral disposal and leasing. Mineral location within the WSA will be subject to the no reclamation requirement of the wilderness IMP (USDI-BLM 1995b). If released from wilderness study, the WSA will be open to all mineral activity, with appropriate stipulations to protect relevant and important resources, including preparation of a plan of operations for mineral location. The area outside of the WSA (falling within the ACEC boundary) will be open to all mineral activity. Mineral location will require a plan of operation (Maps M-8, -9, and -10).

Disturbance to nesting raptors will be avoided (January–August, depending on species).

A strategy will be developed to protect and manage the prostrate lousewort and the nodding melic grass, two Bureau sensitive plant species.

### **Management Direction—Foley Lake ACEC/RNA**

About 2,230 acres will be designated as an ACEC and a RNA (Maps SMA-4 and -14). The Featherbed Lake portion will not be excluded since the Columbia cress has not been seen growing in or around the lake in 8 years. The boundary on the east side of the ACEC/RNA will be set back 100 feet from the existing County Road 3-10 right-of-way.

New rights-of-way in the ACEC/RNA will be avoided unless there are no other options (Map L-8). The area will be managed as land tenure Zone 1 (retention) (Map L-5).

OHV's will be limited to designated roads and trails

(Map R-7). About 0.2 miles of roads will be closed (Table 10 and Map SMA-14).

The ACEC/RNA will be managed as VRM Class III (Map VRM-3).

Livestock use will continue based on existing permit stipulations and approved allotment management plans (Map G-3). The enclosure at Foley Lake itself will be enlarged to protect the Columbia cress from further grazing. Other changes in grazing use could also be necessary. Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

Collecting plant or plant material (living or dead) for personal use will not be allowed.

The area will be open to all mineral activity with stipulations to protect relevant and important resources, and subject to preparing a plan of operations for mineral location.

Eligible cultural resource sites will be nominated to the National Register of Historic Places.

### **Management Direction—Guano Creek/Sink Lakes ACEC/RNA**

About 11,239 acres will be designated as an ACEC and a RNA (Maps SMA-4). The ACEC/RNA boundary will be expanded to the same boundary as Guano Creek WSA (Map R-9 and SMA-16).

New rights-of-way will be excluded, even if released from wilderness study (Map L-8). The area will continue to be managed as land tenure Zone 1 (retention) (Map L-5).

OHV's will be limited to designated roads and trails (Map R-7), even if the area is released from wilderness study. About 0.2 miles of roads not appearing on the wilderness inventory maps (USDI-BLM 1989a) must be closed to comply with the wilderness IMP (USDI-BLM 1995b). These are shown as "historically closed" on Map SMA-16. An additional 2.4 miles of roads will be closed (Table 10), even if the area is released from

WSA status.

The area will be managed as VRM Class I due to WSA status. If the area is released from wilderness study, it will be managed as VRM Class III (Map VRM-3).

The area will continue to be closed to grazing (Map G-3) as described in a recent plan amendment (USDI-USFWS and USDI-BLM 1998a, 1998b) and the "Oregon Public Lands Transfer and Protection Act" of 1998, even if released from wilderness study.

Commercial and personal plant collecting will be limited by the wilderness IMP (USDI-BLM 1995b).

Due to WSA status, the area will be closed to mineral disposal and leasing even if released from wilderness study. Mineral location within the WSA will be subject to the no reclamation requirement of the wilderness IMP (USDI-BLM 1995b). If released from wilderness study, the WSA will be open to all mineral location, subject to the preparation of a plan of operations.

### **Management Direction—Hawksie-Walksie ACEC/RNA**

About 17,339 acres will be designated an ACEC and a RNA (Maps SMA-4 and -15).

New rights-of-way in the ACEC/RNA will be excluded (Map L-8), even if released from wilderness study.

OHV's will be limited to designated roads and trails (Map R-7 of the Draft RMP/EIS), even if released from wilderness study. About 3.7 miles of roads not appearing on the wilderness inventory maps (USDI-BLM 1989a) must be closed to comply with the wilderness IMP (USDI-BLM 1995b). These are shown as "historically closed" on Map SMA-15. An additional 4.1 miles of roads will be closed (Table 10), even if released from wilderness study.

The area is currently managed as VRM Class I due to its WSA status (Map VRM-3). If released from wilderness study the area will be managed as VRM Class III.

Livestock use will continue based on existing permit stipulations and the approved "Beaty Butte Allotment Management Plan" (USDI-BLM and USDI-USFWS 1998a, 1998b) (Map G-3). Wild horse use will continue to be managed in accordance with the wild horse herd management plan (USDI-BLM 1977a) (Map SMA-4). Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts

on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

Commercial and personal plant collecting will be limited by the wilderness IMP (USDI-BLM 1995b).

Under the wilderness IMP (USDI-BLM 1995b), the area will be closed to the sale or lease of minerals. The area will be open to locatable mineral subject to the no reclamation stipulation (Maps M-8, -9, and -10). Should the area be released from WSA status, it will become open to mineral sale and location, subject to stipulations necessary to protect relevant and important resources. Mineral leasing will become open, subject to no surface occupancy.

Disturbance to nesting raptors will be avoided (January–August, depending on species).

### **Management Direction—High Lakes ACEC**

About 38,985 acres will be designated as an ACEC (Maps SMA-4 and -16). The southern boundary of the ACEC will be set back 100 feet from the northern edge of the State Highway 140 right-of-way. The northern boundary will extend to the southern boundary of Hart Mountain National Antelope Refuge and Guano Creek WSA.

New rights-of-way in the ACEC will be avoided unless there were no alternatives (Map L-8). Legal access across the private land in the vicinity of Badger Hole will be acquired from a willing landowner, if necessary, to allow administrative and public access. The area will be placed into land tenure Zone 1 (retention) (Map L-5).

OHV's will be limited to designated roads and trails (Map R-7). About 17.8 miles of roads and trails will be closed (Table 10 and Map SMA-16).

The ACEC will be managed as VRM Class III (Map VRM-3).

Livestock use will continue based on existing permit stipulations and the approved allotment management plans (USDI-BLM 1975, 1994b; USDI-BLM and USDI-USFWS 1998a, 1998b) (Map G-3). Any pro-

posed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, particularly to cultural plants (plants used for traditional Native American practices), existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

The ACEC will be open to all mineral activities, subject to the preparation of a NEPA analysis, with stipulations to protect relevant and important resources. Mineral location will require preparation of a plan of operations (Maps M-8, -9, and -10).

The high concentration of greater sage-grouse leks in the ACEC (Map W-1) will be managed to maintain the continuity of greater sage-grouse habitat and to avoid disturbance during the breeding season.

If the berm at the north end of Long Lake is no longer needed, it will be removed.

### **Management Direction—Juniper Mountain ACEC/RNA**

About 6,335 acres will be designated as an ACEC and RNA (Maps SMA-4 and -17).

New rights-of-way in the ACEC will be avoided unless there are no other options (Map L-8). The area will be managed as land tenure Zone 1 (retention) (Map L-5). Acquisition of the 80-acre inholding from a willing landowner will be pursued.

OHV's will be limited to designated roads and trails (Map R-7). About 4.3 miles of roads and trails will be closed (Table 10 and Map SMA-17).

The ACEC will be managed as VRM Class IV (Map VRM-3).

Livestock grazing will continue based on existing permit stipulations (Map G-3). Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in

grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

The existing wood cutting area (USDI-BLM 1991c, 1999d) will be closed. Collecting dead and down woody material for onsite camping will be allowed.

The ACEC will be open to all mineral activity. Mineral location will require preparation of a plan of operations. Mineral leasing activity will be subject to a no-surface-occupancy stipulation (Maps M-8, -9, and -10).

### **Management Direction—Rahilly-Gravelly ACEC/RNA**

About 18,691 acres in Oregon will be designated as an ACEC and a RNA (Maps SMA-4 and -18). In addition, about 957 acres in northern Nevada are recommended to the California State Director of the BLM to consider for designation and management as part of this ACEC/RNA during future land use planning efforts in this area by the Surprise Field Office of the BLM.

New rights-of-way in the ACEC will be avoided unless there were no other options. The area will be managed as land tenure Zone 1 (retention) (Maps L-5 and -8). Actions to acquire inholdings or adjacent lands from willing landowners will be initiated if such acquisition will enhance management of the relevant and important resources.

OHV's will be limited to existing roads and trails (Table 10 and Map R-8).

The entire ACEC will be managed as VRM Class III (Map VRM-3).

Livestock use will continue based on existing permit stipulations and approved allotment management plans (USDI-BLM undated C) (Map G-3). Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Of particular concern will be spring grazing of cultural plants (plants traditionally used by Native Americans). Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

The ACEC will be open to all mineral activities. Locatable mineral development will require a plan of operations. Leasable mineral activity will be subject to a no-surface-occupancy stipulation.

The high concentration of greater sage-grouse leks in the ACEC (Map W-1) will be managed to maintain the continuity of greater sage-grouse habitat and to avoid disturbance during the breeding season.

The ACEC will be identified as a traditional cultural property.

### **Management Direction—Red Knoll ACEC (formerly Tucker Hill)**

About 11,127 acres will be designated an ACEC (Maps SMA-4 and -19). The boundary will exclude the exiting Tucker Hill perlite mine. The southeast boundary of the ACEC will be set 100 feet back from existing county road right-of-way (Highway 2-10) to allow maintenance of the road or additional right-of-way uses.

There are major noxious weed infestations, primarily medusahead, in the proposed ACEC. Noxious weeds will be treated in the area using integrated weed management techniques with an emphasis on treatment and rehabilitation of medusahead sites. A Greater Abert Weed Management Area is proposed in this area that will include all of the land in the proposed Red Knoll ACEC. If a weed management area is established, the plan that will be developed for it will be the direction for weed management activities inside this ACEC. If the weed management area is not developed, but the ACEC becomes established, weed management will occur according to the weed management direction for the rest of the planning area.

New rights-of-way in the ACEC will be avoided unless there are no other options

OHV's will be limited to designated roads and trails (Map R-7). Approximately 3.8 miles of roads and trails will be closed (Table 10 and Map SMA-19).

The ACEC will be managed as VRM Class II (Map VRM-3).

Livestock grazing in the ACEC will continue based on existing permit stipulations (Map G-3). Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse

impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

The BLM will petition the Secretary of the Interior to withdraw the northwest one-third of the ACEC (approximately 4,600 acres) from locatable mineral entry (Map SMA-19). This same area will be closed to the sale or lease of minerals. The southern two-thirds of the ACEC will be open to locatable mineral entry, subject to the preparation of a plan of operations, and to the sale or lease of minerals with stipulations to protect relevant and important resources (Maps M-8, -9, and -10).

Disturbance to nesting raptors will be avoided (January–August, depending on species).

### **Management Direction—Spanish Lake ACEC/RNA**

About 4,699 acres will be designated as an ACEC (Maps SMA-4 and -20).

New rights-of-way in the ACEC will be avoided unless there are no other options (Map L-8). The area will be managed as land tenure Zone 1 (retention) (Maps L-5).

OHV use will be limited to designated roads and trails (Map R-7). Approximately 0.6 miles of roads and trails will be closed (Table 10 and Map SMA-20).

The ACEC will be managed as VRM Class IV (Map VRM-3).

Livestock use will continue based on existing permit stipulations (Map G-3). Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced. The livestock watering pond in the middle of the lake will be rehabilitated.

The ACEC will be open to all mineral activity (Maps

M-8, -9, and -10). Mineral location will require preparation of a plan of operations.

### **Management Direction—Table Rock ACEC**

About 5,138 acres will be designated as an ACEC (Maps SMA-4 and -21). The western boundary of the ACEC will be set back 100 feet from the eastern edge of the county road right-of-way (Highway 5-14).

New rights-of-way will be allowed within existing rights-of-way. New rights-of-way outside the existing rights-of-way will be avoided unless there were no other options (Map L-8). The area will be managed as land tenure Zone 1 (retention) (Maps L-5). Actions to acquire the private property adjacent to the northeast corner of the ACEC from willing landowners will be initiated.

OHV use will be limited to designated roads and trails (Map R-7). About 3.6 additional miles of roads and trails will be closed (Table 10 and Map SMA-21).

The ACEC will be managed as VRM Class II (Map VRM-3).

Part of the ACEC (Allotment 0714) will remain closed to grazing and part (Allotment 0708) will allow livestock use to continue based on existing permit stipulations (Map G-3). Any proposed changes in grazing, including time and intensity of use, will be evaluated for impacts on the relevant and important values and will be permitted if the values will be maintained or enhanced. Where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.

The ACEC will be open for locatable mineral development, subject to preparation of a plan of operations, and leasable minerals, subject to a no-surface-occupancy stipulation. The ACEC will be closed to the sale of minerals (Maps M-8, M-9, and M-10).

Camping will be allowed in designated areas only.

Disturbance to nesting raptors will be avoided (January–August, depending on species).

The draft conservation agreement for Cusick's buckwheat will be finalized and implemented.

The ACEC will be identified and managed as a traditional cultural property.

## Monitoring

Collate existing base information and develop additional baseline inventories of plant communities following “Research Natural Areas: Baseline Monitoring and Management” (USDA-FS 1984). Periodically monitor the impacts of management actions on resource values, including the health of RNA plant community cells. This will be done using such techniques as photo points, line intercept transects, ocular surveillance, study plots, and value points.

**Lost Forest/Sand Dunes/Fossil Lake ACEC.** In this area, periodically monitor the eastern dune edges for dune movement/changes over time. Develop baseline markers on trees on the edge of some sand dunes to determine if there is an increase in dune movement. Use existing and ongoing research by the Desert Research Institute (2001) as a baseline for measuring future dune movement. Monitoring methods would include using the global positioning system to establish the leading edge of the eastern dune field, marking trees on northwestern edge of the dune fields, and locating measuring plots.

## Special Management Areas — Wilderness

**Management Goal—Wilderness study areas (WSA’s) will be managed under the “Interim Management Policy for Lands Under Wilderness Review” (wilderness IMP) (USDI-BLM 1995b). BLM-administered land acquired since the wilderness inventory and determined to have wilderness characteristics will be managed to protect those characteristics.**

### 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 wilderness IMP (USDI-BLM 1995b). The general standard for interim management is that land under wilderness review must be managed so as not to impair suitability for preservation as wilderness. Wilderness characteristics and values, described in section 2(c) of the “Wilderness Act of 1964” (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 BLM’s “Oregon Final Wilderness EIS” (USDI-BLM 1989a) and “Wilderness Study Report for Oregon” (USDI-BLM 1991a). WSA’s designated through this process are listed in Table 11 and are shown on Map R-9.

Lands acquired by the BLM since that time (currently 3,043 acres via donation, exchange, or purchase) were not included in the initial inventory for wilderness suitability. Sections 201 and 202 of FLPMA provide for ongoing inventories of public land resources and identification of significant areas through the land use planning process.

## Management Direction

Management direction for all designated WSA’s and ISA’s is set under the wilderness IMP (USDI-BLM 1995b) until such time as Congress makes a determination regarding wilderness designation. The wilderness IMP generally takes precedent over all other management direction. However, in cases where a WSA overlaps another special designation, such as special recreation management area or an ACEC, if management of these areas is more restrictive than the IMP, the most restrictive management direction will be followed. Management of any congressionally designated wilderness areas will be set in future legislation, and can not be predicted at this point in time. Management direction for any WSA’s not designated by Congress and released from WSA status will be based on the existing RMP management direction for surrounding lands.

Preservation of wilderness values is paramount when managing WSA’s and is the primary consideration when evaluating any proposed action or use that may conflict with, or be adverse to, those wilderness values. Wilderness resource management objectives within a WSA will take precedence over all other management objectives.

For existing WSA’s previously studied (Sage Hen Hills and part of Hawk Mountain) under Section 202 of the FLPMA, existing and new mining operations under the 1872 mining law will be regulated under 43 CFR 3802 only, to prevent unnecessary or undue degradation of the lands, rather than prevent impairment of wilderness suitability. All other activities will be managed under the IMP.

According to the wilderness IMP, the use in WSA’s of “. . . mechanical transport, including all motorized

devices as well as trail and mountain bikes, may only be allowed on existing ways and within open areas that were designated prior to the passage of FLPMA (October 1976).” For the purposes of this analysis, existing roads and ways within WSA’s are those that existed on the ground at the time the FLPMA was passed (1976) and were subsequently shown or described in the “Oregon Wilderness Final EIS” (USDI-BLM 1989a). After the publication of the Draft RMP/EIS, the BLM reexamined the roads and ways within all WSA’s. This involved comparing the maps in the “Oregon Wilderness Final EIS” (USDI-BLM 1989a) with 1994 digital orthophotography, as well as, on-the-ground global positioning system location work. New roads and ways were captured using global positioning system or by “heads-up” digitizing from the digital orthophotography. Any new roads or ways that have been created or discovered either have already been closed to vehicle use or should be closed to comply with the wilderness IMP. These roads and ways are shown as “historically closed” on the SMA maps. (In contrast, existing roads and trails within the remainder of the planning area are defined as those roads or trails that exist on the ground at the time the RMP is approved and the record of decision is signed. These will be verified by comparison with 2000–2001 USGS National High Altitude Photography program photos which represents the best and most timely available source of data on this topic).

All proposals for uses and/or facilities within WSA’s will be reviewed to determine whether the proposal meets the nonimpairment criteria. The nonimpairment criteria are: (1) the use, facility, or activity must be temporary (this means a temporary use that does not create surface disturbance or involve permanent placement of facilities may be allowed if such use can easily and immediately be terminated upon wilderness designation); and (2) when the use, activity, or facility is terminated, the wilderness values must not have been degraded so far as to significantly constrain the area’s wilderness suitability for preservation as wilderness. The only permitted exceptions to the nonimpairment criteria are:

- 1) emergencies associated with wildfire or search and rescue operations;
- 2) reclamation activities designed to minimize impacts created by violations and emergencies;
- 3) uses and facilities which are considered grandfathered or valid existing rights under the IMP;
- 4) uses and facilities that clearly protect or enhance the

land’s wilderness values or are the minimum necessary for public health and safety; and

- 5) reclamation of pre-FLPMA impacts.

The minimum tool concept will be applied to any approved actions within WSA’s. This means that any proposed actions will be accomplished using methods and equipment that have the least impact on the quality of an individual or group’s wilderness experience, as well as the physical, biological, and cultural resources with the WSA.

Pre-FLPMA developments may continue to be used and maintained in WSA’s to keep them in an effective, usable condition, but can not be modified to where they exceed the physical and visual impacts existing at the time FLPMA passed. New, temporary developments will need to satisfy the nonimpairment criteria and truly enhance wilderness values. New, permanent developments must satisfy the nonimpairment criteria, enhance wilderness values, and not require motorized access if the area were designated as wilderness. Because pre-FLPMA facilities such as waterholes, spring developments, guzzlers, and fences are considered grandfathered, they may be maintained periodically using motorized equipment, if through analysis, that method was found to be the minimum tool necessary for maintenance.

As a part of its litigation analysis in recent litigation (Utah vs. Norton), the Department reviewed its wilderness study policies in light of FLPMA Section 603. Based on this review, the Department of the Interior entered into a settlement agreement with the State of Utah that clarifies the authority to establish WSAs expired in 1993. The settlement agreement acknowledges BLM’s authority to inventory public lands for wilderness characteristics and to consider such information during land use planning. The BLM cannot, however, create new WSAs or additions to existing WSA’s to be managed under the IMP, as such authority has expired. The settlement agreement has been incorporated into Bureau policy in Instruction Memorandum Nos. 2003-274, and 2003-275.

The settlement agreement clarifies that BLM may specify protective measures in the land use plan for lands found to have wilderness characteristics. All lands acquired to date adjacent to or within WSA’s included in the planning area have been inventoried for wilderness characteristics. Approximately 1,194 acres of acquired lands were determined to have wilderness

**Table 11.—Wilderness study areas and instant study areas <sup>1</sup>**

Name of area (WSA number)	Total acres within WSA <sup>2</sup>	Acres recommended for wilderness designation <sup>3</sup>	Acres not recommended for wilderness designation <sup>3</sup>
Devils Garden Lava Bed (OR-1-2)	28,241	28,160	1,520
Squaw Ridge Lava Bed (OR-1-3)	28,684	21,010	7,330
Four Craters Lava Bed (OR-1-22)	12,472	9,100	3,500
Sand Dunes (OR-1-24)	16,495	0	16,440
Lost Forest ISA	9,047	0	8,000
Diablo Mountain (OR-1-58)	118,799	90,050	23,070
Orejana Canyon (OR-1-78)	24,210	14,800	9,800
Abert Rim (OR-1-101)	25,129	23,280	0
Fish Creek Rim (OR-1-117)	19,146	11,920	4,770
Guano Creek (OR-1-132)	10,591	10,350	0
Spaulding (OR-1-139)	68,589	0	69,530
Hawk Mountain (OR-1-146A)	45,604	45,604	0
Sage Hen Hills (OR-1-146B)	7,988	0	8,520
Basque Hills (OR-2-84) <sup>4</sup>	68,368	0	68,368
Rincon (OR-2-82) <sup>4</sup>	3,510	0	3,510
<b>Total</b>	<b>486,873</b>	<b>278,310</b>	<b>208,563</b>

<sup>1</sup> Acreages listed are only those located within the LRA.

<sup>2</sup> Acreage based on geographic information systems data (2001).

<sup>3</sup> Acres recommended and not recommended for wilderness designation are taken from the “Oregon Wilderness Final Environmental Impact Statement” (1989); these acres may not equal totals shown, since totals are based on more accurate geographic information system data (changes are not the result of any boundary changes).

<sup>4</sup> These WSA’s are managed by the Burns District.

characteristics and are located in or adjacent to the following WSA’s; Fish Creek Rim WSA—397 acres; Guano Creek WSA—604 acres; and Abert Rim WSA—193 acres. See Appendix J of the “Draft RMP/EIS” and Maps SMA-7,-13, and 16, for information on these acquired lands.

These acquired lands will be managed to protect the wilderness characteristics identified through the wilderness inventory and analyzed in the land use planning process. Future proposed actions in these areas will be evaluated through the NEPA process. Actions that would negatively impact these identified wilderness characteristics will be mitigated to protect those characteristics. Approximately 1,146 acres of these acquired lands are also located within ACEC’s, and will be managed in accordance with the manage-

ment prescriptions established for each ACEC (refer to the Special Management Areas – Areas of Critical Environmental Concern and Research Natural Areas section of this document). Any inholdings or lands adjacent to WSA’s acquired in the future that are determined to have wilderness characteristics may, at the discretion of the decision-maker, be managed to protect those characteristics by identifying protective management direction in future NEPA or planning analyses.

The BLM’s lack of authority to establish new WSA’s and to implement the wilderness IMP on such lands post-1993 results in the BLM not being able to manage approximately 1,194 acres of acquired lands with wilderness characteristics as proposed additions to three existing WSA’s. Furthermore, these proposed additions can not be managed under the wilderness

IMP. However, protective management will be accomplished for most of these same lands under ACEC management direction rather than the wilderness IMP. Furthermore, the environmental effects of managing these lands pursuant to the ACEC designation were considered and analyzed in the Preferred Alternative (Alternative D). Therefore, there is no significant, on-the-ground change in proposed management that would result in the need to prepare a supplemental EIS.

### Monitoring

Monitoring activities within all WSA's, would follow the direction within the existing wilderness IMP (USDI-BLM 1995b). This policy requires monitoring of all WSA's, at a minimum of once per month during the months the area is accessible by the public, or more frequently if necessary because of potential use activities or other resource conflicts. Methods of monitoring could include aerial surveillance, on-the-ground surveillance, visitor contact, and permit compliance.

## Special Management Areas — Wild and Scenic Rivers

**Management Goal—*Protect and enhance outstandingly remarkable values of rivers determined to be administratively suitable for potential inclusion in the national wild and scenic river (WSR) system until Congress acts.***

### Rationale

The “National Wild and Scenic Rivers Act” (Public Law 90-542 and amendments), section 1(b), states that “. . . certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations.” Section 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 national WSR 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 “National Wild and Scenic River Act”) in the suitability determination include: the current status of land ownership and use in the area; the reasonably foreseeable potential uses of the land and water which will be enhanced, foreclosed, or curtailed if the area were included in the national WSR system, and the values which will be foreclosed or diminished if the river is not protected as part of the national WSR system; other agencies, organizations or public interested in designation or nondesignation; administrative costs; ability of the agency to manage and/or protect the river area; historic or existing rights.

An inventory of rivers in the LRA determined that three rivers were eligible for further study: Guano Creek, Twelvemile Creek, and Honey Creek (see Appendix J2 of the “Draft RMP/ EIS” for the inventory assessment).

### Management Direction

Approximately 4.4 miles on Twelvemile Creek (854 acres) in Oregon is recommended to Congress as administratively suitable for designation as a wild and scenic river (Map R-9 and SMA-22) with a tentative classification as “recreational”. The interim management guidelines and standards for wild, scenic, and recreational classifications listed in Appendix J3 of the “Draft RMP/EIS” will be followed while awaiting a determination by Congress. The visual resources for Twelvemile Creek will be managed as VRM Class II.

An additional 2.2 miles (457 acres) in northern California and Nevada is recommended to the California State Director, BLM for consideration in future land use planning efforts for designation and management as wild and scenic river. Acquisition of any non-Federal lands within the river corridor boundary (Map SMA-22) will be with voluntary willing sellers or exchange proponents and will be automatically added to the suitable river corridor and managed in accordance with the interim guidelines.

### Monitoring

Annually monitor the administratively suitable river to ensure the outstandingly remarkable values are protected and the free-flowing condition of the river is maintained consistent with the “National Wild and Scenic River Act.” Monitoring methods could include field surveillance, user contacts, permit review, and photo documentation.

## Special Management Areas — Significant Caves

### Rationale

The “Federal Cave Resources Protection Act” of 1988 declared that significant caves are an invaluable and irreplaceable part of the Nation’s natural heritage, and directed Federal agencies to secure, protect, and preserve significant caves for the perpetual use, enjoyment, and benefit of all people. The Act also directed Federal agencies to prepare and maintain a list of significant caves and to establish criteria for the identification of significant caves on Federal lands. The resulting cave management regulations were published in the *Federal Register* (USDI-1993) in 1993. Until caves within the LRA are evaluated to determine significance, and management plans are prepared which provide specific management prescriptions, all caves are to be managed in accordance with “Oregon and Washington Interim Cave Management Policy” (USDI-BLM 1995i). This policy provides for specific protective management of all caves and cave resources until a specific management plan is prepared. Many of the known caves within the LRA are also located in WSA’s, and these caves are afforded added protection under the wilderness IMP (USDI-BLM 1995b).

For a cave on public lands to be nominated, it must possess one or more of the following values: biota, cultural, geologic/mineralogic/paleontologic, hydrologic, recreational, or educational. The listing of significant caves involves two separate processes. During 1995, the initial listing process was coordinated by a national interagency effort in consultation with individuals and organizations interested in cave resources. This process had three steps: (1) nomination, (2) evaluation, and (3) listing.

### Management Direction

There are presently seven known significant caves located within the LRA. As part of the evaluation process, interested individuals and organizations would be consulted as allowed within the parameters of the confidentiality provisions set in 43 CFR, Subpart B, Section 37.12. During the initial listing in 1995, nine caves were nominated by the Willamette Valley Grotto. Seven of these caves were found to be significant and are protected under interim management of the “Federal Cave Resources Protection Act.” A subsequent listing of 62 caves was received in late 1995. Seven-

teen of these were eliminated from further review because they were duplicates of the first list, were on private land, or did not meet the definition of a “cave.” Forty-five caves still need to be evaluated before a determination on listing can be made. Depending on funding and staffing levels, the inventory and evaluation process would be completed within 5 years after the completion of the RMP. After the inventory and evaluation process has been completed, a management plan for all new caves determined to be significant would be developed. This process would include public involvement.

## Cultural and Paleontological Resources

**Management Goal 1—*Preserve and protect cultural resources in accordance with existing laws, regulations, and Executive orders, in consultation with Native Americans.***

### Rationale

The BLM is required by law, regulations, and Executive orders to manage cultural resources in such a fashion that they will be preserved and protected from destruction, and that the appropriate uses will be made of such resources. Law, regulations, and Executive orders further require that such management be coordinated with the appropriate Native American Tribes and individuals.

### Management Direction

All management actions on public lands and private land projects that are federally funded, permitted, or assisted will require completion of section 106 of the “National Historic Preservation Act” regulations. This will consist of a literature review, a site survey on-the-ground to determine the presence or absence of sites, and site evaluation in consultation with Native Americans, as appropriate, and with the State Historic Preservation Officer, as appropriate. All sites which have currently been identified, as well as sites identified in the future will be evaluated for placement in one of four use categories, as specified in BLM Manual 8110 (USDI-BLM 1988c). These four uses are as follows:

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

- 2) Public use: Sites placed in this category will be used for recreation, public interpretation, education, etc.
- 3) Experimental use: Sites placed in this category will be used in scientific research. Such use may result in the complete consumption of the site in some cases. Site may be placed in public use as a result of the research which is conducted.
- 4) Discharged sites: These are sites which no longer exist or have been so damaged that they have no value of any kind. Sites may have been destroyed by erosion, consumption in research, or through destruction caused by humans.

To protect against illegal artifact or fossil collecting, site or fossil excavations, and site or fossil vandalism, the listed, eligible, or potential National Register of Historic Places known to contain large numbers of sites will be patrolled regularly. This includes the subbasins of Warner Valley, Abert Lake, Summer Lake, Christmas Valley, and Fort Rock. In addition, the surrounding uplands will also be patrolled.

The OHV closure at Fossil Lake will be enlarged to about 8,988 acres (Table 12) to protect existing fossils. Paleontological resource monitoring to determine damage to and collection of exposed fossils will be initiated.

Buildings and structures on the Shirk Ranch property located in Guano Valley will be stabilized.

A monitoring plan has been developed to evaluate cultural resource protection efforts and to provide a baseline for the present condition of sites and determine where stabilization and restoration is needed (Appendix R). Other uses will be limited as necessary to preserve and protect cultural resources.

A regular schedule of meetings with local and regional Native American Tribes for consultation on the preservation and protection of sites will be established.

**Management Goal 2—*Increase the public’s knowledge of, appreciation for, and sensitivity to cultural resources, Native American issues, and paleontological resources.***

### **Rationale**

The BLM is required by law to preserve and protect

cultural and paleontological resources. In order to do so, the public must be aware of their values and the impact which their activities have upon them. Cultural and paleontological resources are fragile and irreplaceable and can be damaged or destroyed by actions of the public. Through vandalism and natural erosion, these resources are disappearing. If the public understands the effects of their actions and feels it has equity in the Nation’s cultural and natural history heritage, the resources will be appreciated and better protected from vandalism.

### **Management Direction**

Public education programs, which will increase public awareness of the need to preserve and protect cultural resource sites, will be developed. All interpretation projects will be done in consultation with Native Americans, and implemented only if it will not impact the values at the site.

Cost-share programs with universities, museums, and researchers, and volunteers to inventory, analyze, and research the cultural resources within the resource area will be continued.

Regular consultation with Native American Tribes on all matters dealing with use, protection, and preservation of cultural resources within the resource area will continue.

**Management Goal 3—*In consultation with local Native American Tribes, take actions, including designating areas of critical environmental concern (ACEC’s), to protect traditional religious sites, landforms, burial sites, resources, and other areas of interest. Nominate areas that qualify as traditional cultural properties.***

### **Rationale**

The BLM is required by laws, regulations, and Executive orders to consult and coordinate activities with Native American Tribes, so that their rights and interests are taken into account when land use decisions are made. In addition, American Indian traditions and traditional uses must be considered. Specifically, the agency must comply with the “National Historic Preservation Act,” the “Native American Graves Protection and Repatriation Act,” the “American Indian Religious Freedom Act,” regulations 36 CFR 800, section 106 and 110, and Executive Order 13007 (Sacred Sites).

**Table 12.—Off-highway vehicle designations by area** <sup>1,2</sup>

Area	Designation	Acres
<b>Areas of critical environmental concern</b>		
Devils Garden	D	28,241
Lake Abert (overlap with Abert Rim WSA)	E/D	43,007/7,110
Lost Forest/Sand Dunes/Fossil Lake		
Fossil Lake	C	8,988
Lost Forest RNA/ISA	D	8,883
Sand Dunes WSA	O	9,910
Remainder of ACEC	D/O	7,344/1,418
Warner Wetlands	D	53,087
Black Hills RNA	D	3,049
Connley Hills RNA	D	3,599
Fish Creek RNA	D	8,725
Foley Lake RNA	D	2,230
Guano Creek/Sink Lakes RNA	D	11,119
Hawksie-Walksie RNA	D	17,339
High Lakes	D	38,985
Juniper Mountain RNA	D	6,335
Lake Abert ACEC addition	D	18,049
Rahilly-Gravelly RNA	E	19,648
Red Knoll	D	11,127
Spanish Lake RNA	D	4,699
Table Rock	D	5,139
<b>Wilderness study areas</b> <sup>3,6</sup>		
Wilderness study areas	E	343,778
Proposed WSA additions (acquired lands)	D	110,443
		1,194
<b>Wild and scenic rivers</b>		
Twelvemile Creek	D	1,311
<b>Other areas</b>		
Alkali Lake Dunes	E	6,813
Buck Creek	C	590
Cougar Mountain	D	0 <sup>7</sup>
Crane Mountain	C	1,030
Deer winter range <sup>4</sup>	D/E <sup>5</sup>	128,556
North Lake SRMA	E	550,392 <sup>8</sup>
Picture Rock Pass	E	491
South Green Mountain	C	14
West Side Cemetery	D	81
Remainder of LRA	O	1,756,799

<sup>1</sup> E = existing roads and trails; D = designated roads and trails; C = closed; and O = open.

<sup>2</sup> Acreage figures will not total correctly for the planning area (3,161,416 acres) due to overlap between areas (for example, Devils Garden ACEC equals the Devils Garden WSA, and acres appear in both designations).

<sup>3</sup> The acreage for the Sand Dunes WSA is found under ACEC's.

<sup>4</sup> Silver Lake and Fort Rock areas.

<sup>5</sup> Designated roads and trails from 12/1–3/31; existing roads and trails for the remainder of the year.

<sup>6</sup> OHV designations within WSA's are related to roads and ways; in the remainder of the LRA, they are referred to as roads and trails.

<sup>7</sup> Acreage is included in deer winter range.

<sup>8</sup> Total area within the special recreation management area (including non-BLM ownerships) is 1,117,007 acres. This acreage represents that portion of BLM lands in the special recreation management area not already included in some other area designation.

## Management Direction

All consultation with Native American Tribes will be documented.

Ownership of the West Goose Lake Reinternment Site (approximately 80 acres) and the Adel Paiute Cemetery (approximately 100 acres) will be transferred to the local Tribes or to the Bureau of Indian Affairs to be managed in trust for tribal reinternment purposes.

The areas listed below will be designated as ACEC's to protect cultural resource values and traditional use areas (Map SMA-4). Eligibility of these areas as traditional cultural properties will be determined in the future. The specific management direction for each of these areas is described in the preceding Special Management Area section.

Red Knoll  
Table Rock  
Abert Rim Addition  
High Lakes  
Rahilly-Gravelly  
Hawksie-Walksie  
Connely Hills  
Fish Creek

**Management Goal 4—*In order to fulfill trust responsibilities with Tribal peoples, manage public land to maintain, restore, or enhance plant community health and cultural plants. Identify traditional ecological knowledge with humans as part of the ecosystem, and maintain habitat integrity with sustainable yields at a landscape level.***

## Rationale

During the ICBEMP process, the concerns of American Indian peoples were analyzed—specifically their relationships with the natural environment and trends regarding agency relations with the project's affected Tribal peoples. The legal status of Tribal peoples, the sovereignty of Tribal governments, and the nature of reserved Tribes rights, merit separate attention from the general public's concerns over ecosystem management. The BLM management actions affect resources and areas of concern to Tribal peoples, and the Federal government holds certain trust responsibilities and obligations to Tribal groups based on various legal agreements described in BLM Manual 8100, Information Bulletin OR 2000-095, Executive Order 1307, the "American Indian Religious Freedom Act," the "Native American Graves Protection and Repatriation Act," 36 CFR 800 section 106, and the "National Historic

Preservation Act." There are four recognized Tribes that have interest in the planning area: Burns Paiute, Fort Bidwell Paiute, Warm Springs Confederated Tribes, and the Klamath Tribes. The rights retained by these Tribes are viewed by them as an assurance by the U.S. Government to allow for the continuation of traditional land uses. Thus, what is reserved supports a way of life for Indian communities, not just resource uses.

The importance of native plants has received relatively little recognition compared to other native resources. Plants continue to be valued and their parts used for purification, ceremonial, subsistence, commercial, and medicinal purposes and for creating objects of personal use, trade, gift-giving, or sale. Cultural plant lists and plant community/habitats have been listed and given significance by Tribal peoples. Also, the aquatic/terrestrial world has cultural significance to Tribes beyond its value as a source of food, medicine, textiles and other material resources. Its cultural significance is much more complex, involving social values and meaning that intertwine traditional societal, political, religious, and economic areas of modern native cultures (USDI-BLM 1995g, 1996h). In order to more effectively protect Tribal interests, guidelines were developed under ICBEMP between the Tribal peoples and the Federal agencies concerning cultural plants and plant communities:

"Through treaties with the Federal government and regulatory acts signed over the past 30 years, Indian Nations have reserved rights and recognized interests to harvest a broad range of native plant and animal

species. Therefore, sustainable harvest levels of the various species should be a management goal. Availability of these species is considered by Indian governments a trust responsibility of the Federal government. Inadequate quantities can lead to substantial effects on community well-being because numerous social activities center on the harvest, preparation, and consumption of the resources. This involves both the occurrence and access to the relevant resources. Occurrence of culturally important plant species may be measured through linkage with existing dominant overstory categories or associated soil types. Degree of access is determined by judging the potential effects that a number of anticipated impediments may be posed by differing management actions."

Plant communities that have cultural importance and value were identified in the process of consultation between the ICBEMP planners and Tribal peoples; these plant communities are labeled "cultural plant

ethno-habitats.” These communities were rated for vulnerability and viability. In order that resources can be protected, the specific locations of these plants are not identified, except in broad areas where they are protected, such as in ACEC’s and in ethno-habitats (habitats defined by Tribal people as having human importance). There is great concern by Tribal peoples, anthropologists, botanists, and some land managers of Federal lands to protect the habitats where cultural plants are located. One conclusion from ICBEMP analysis also has importance in the Lakeview area: “Tribal plants occurring in nonforested habitats are most at risk for decreases in habitat that may influence continued harvestability.” Nonforested ethno-habitats of critical concern in the LRA include tall sagebrush, low sagebrush scablands, wet meadows, and riparian zones.

Cultural plants are defined as those plants important to Tribal groups, both past and present, for subsistence, economic, and ceremonial purposes. Various historical factors since European contact have affected the availability of these plants within the planning area. Noxious weeds; the exclusion of fire; and impacts from grazing, timber harvest, and road building, among other factors, have all contributed to declines and dislocations in many of the plant species important to Tribes in eastern Oregon (Hanes, R., personal communication).

## Management Direction

Plant resources, especially western juniper woodlands, will be managed for desired range of conditions by using a mix of protection, restoration, and enhancement measures. These measures may include prescribed fire and special considerations for wildland fire management. Old growth western juniper will be maintained or enhanced (see Forest and Woodlands section). Tribal resource people will be encouraged to contribute their concerns for management of all cultural plants.

## Monitoring

**Management Goals 1 and 3.** Develop procedures to track consultation and document all written, telephone, electronic, and in-person communications; and review yearly for adequacy related to cultural ACEC’s or other important cultural sites. Develop on-the-ground monitoring of identified sites to determine condition, impacts, deterioration, and use of such sites.

The following ACEC’s contain cultural resource values and will be visited periodically to determine whether any actions taking place in the area are causing detri-

mental changes to the cultural values. Any changes will be noted and recorded in the resource area cultural resources data base. Consultation with various Tribal groups with interests in the areas will be conducted periodically to determine if there are concerns from the Tribes or if they have observed changes to the condition of resource values in the area.

*High Lakes:* Visit monthly, April through October

*Lake Abert:* Visit quarterly

*Rahilly-Gravelly:* Visit quarterly

*Red Knoll:* Visit quarterly

*Table Rock:* Visit monthly, April through October

Visits to the ACEC’s will be made by the cultural resource specialist or designated representative. During consultation meetings with Tribal staffs, questions, concerns, or observations from specific ACEC’s will be recorded. All resulting information will be entered into the resource area cultural resource data base.

Periodic visitations to other cultural resource sites within all portions of the planning area will be made on a quarterly basis. A minimum of 200 sites per year will be visited. The purpose of the visits will be to monitor the condition of the site and document any disturbance or deterioration of the site. Visitation will be made by the cultural resource specialist or designated representative. The condition of the site and other data collected will be entered into the cultural data base. If the sites are listed on the NRHP or have been determined to be eligible for listing, consultation with the State Historic Preservation Officer will be made, when

necessary, to determine the appropriate action to stop the deterioration of the site, provide mitigation, or, in the case of criminal removal of site materials, determine the appropriate legal action to be taken.

**Management Goal 2.** Monitor the effectiveness of presentations to the public, educational brochures, interpretative materials, informational materials, scientific research collections and materials, and informational displays for the public and scientific communities.

**Management Goal 4.** Cultural plants and their respective plant communities (ethno-habitats) will be considered prior to initiating any ground-disturbing projects through the NEPA and botanical clearance processes. Develop plans with Tribal peoples for the collection and protection of cultural plants and continue discussions with Tribal users/communities to determine long-term sustainability. Monitoring meth-

ods could include photo plots, plant density quadrats, and ocular estimates and would follow USDA-FS and USDI-BLM (2000c).

## Human Uses and Values

**Management Goal—*Manage public lands to provide social and economic benefits to local residents, businesses, visitors, and future generations.***

### Rationale

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

Public lands also provide or contribute to numerous environmental amenities, such as clean water, scenic quality, and recreational opportunities. These amenities enhance local communities as places to live, work, or visit. Public lands also attract visitors to the area, many of whom purchase goods and services that generate local economic activity.

Business activities of Federal agencies also generate economic activity in the local, regional, and national economies as both an employer and purchaser of goods and services.

Federal lands also contribute to local governments where they are located. Many commodity programs include provisions to share collections with local governments. Payments-in-Lieu-of-Taxes are also made to compensate counties because Federal lands are exempt from local property taxes. Continuation of programs limits disruption of existing economic structures. Guidance within the plan defines the amount of economic opportunity in the future, especially related to mining and recreation.

### Management Direction

In resource management planning, the BLM must select a balance between current and future generations, local, regional, and national interests, commodity uses and natural values, and physical, biological, and social-economics.

The following objectives/management actions will contribute to achieving the management goal:

- Provide predictable and sustainable levels of commodity outputs.
- Meet subsistence needs of Tribes and Tribal communities to the greatest extent practicable.
- Provide natural resource amenities on public lands that enhance local communities as places to live, work, or visit (this could include water quality, scenic views, recreation sites, wildlife viewing, hunting, and fishing).
- Protect special areas with unique natural resource values for the enjoyment of future generations (this could include habitats of endangered species) (refer to Special Management Area section).
- Target government business activities associated with public land management to the local economies to the extent permitted by the existing authorities.

Commodity use will continue at existing levels to contribute to stability in the local livestock, mining, and tourism industries.

Natural resource amenities will continue to be provided at levels that meet or exceed existing legal requirements. Where needed, improve environmental quality to meet or exceed requirements using administrative or project-related solutions which minimize impacts to commodity production and public uses while protecting natural values.

Existing facilities (roads, recreation sites, interpretive sites, and range improvements) will continue to be managed to facilitate commodity uses and continued access and availability of natural resource amenities. Existing facilities which negatively impact natural values will be eliminated or mitigated.

Anticipated increases in demand for recreational opportunities will be addressed by designating the North Lake Special Recreation Management Area to emphasize undeveloped, dispersed recreation opportunities and protect natural values. Minimal facilities will be constructed and maintained. Implementation of improvements in the Warner Wetlands Special Recreation Management Area, as identified in the existing plan (USDI-BLM 1990i) will occur along with continued management of the Sunstone Collection Area for

recreational rock-hounding under existing guidelines (see Map R-9). Special recreation permits will be issued on an as-needed basis to meet demand while protecting other resource values.

New special areas will be designated and existing special areas protected (refer to Special Management Area section).

Business practices that will promote participation by local vendors and purchasers will be implemented. This includes offering contracts that are diverse in size, type, term, and season. Operate within existing legal, regulatory, and administrative authorities.

### **Monitoring**

Use BLM records to determine the amounts of commodity uses (i.e., AUM's, tons of minerals, board feet of special forest, etc.). Monitor employment in related industries using public information sources. Use BLM budget information to project spending to meet environmental quality. Determine amounts spent on new facility construction. Use the recreation management information system and other site-specific measures to determine visitor use levels. Track local versus nonlocal contracts and purchases using BLM procurement records. Track BLM employment levels using payroll records.

## **Air Quality**

**Management Goal**—*Meet the national ambient air quality standards as described in the “Clean Air Act” (CAA) and follow the direction and requirements of the Southcentral Oregon Fire Management Partnership.*

### **Rationale**

Out of all of the possible management activities considered, smoke produced from wild and prescribed fires is the main factor affecting air quality. Smoke may limit a land manager's ability to use larger and more frequent wildland fire for restoration and maintenance of fire-dependent ecosystems.

The CAA requires Federal agencies to comply with all Federal, state, and local air pollution requirements. The CAA also requires each state to develop a state implementation plan to ensure that the national ambient air quality standards are attained and maintained for the criteria pollutants. The Oregon Department of Envi-

ronmental Quality (ODEQ) is responsible for producing the state implementation plan, but delegates the smoke management portion to the Oregon Department of Forestry (ODF). As part of the state implementation plan, the ODF developed instructions and requirements for wildland and prescribed fire emissions in the smoke management plan. Federal agencies are required to ensure that their actions conform to state implementation plans.

The national ambient air quality standards are described in the CAA and have been established for six pollutants. Of these six criteria pollutants, natural resource management activities largely affect only one—the production of particulate matter. Most particulate matter produced from fire is less than 10 micrometers (PM10) in diameter, which is the size class that is regulated. Because fire and smoke are a natural part of forest and rangeland ecosystems, PM10 produced from fire does not seriously affect these ecosystems. At the current time, PM2.5 is being studied and ODEQ data is being collected to determine attainment status. This study should be completed within the next couple of years.

Land managers and the public must make choices regarding prescribed fire and wildland fire use emissions versus emissions from wildland fires. Land managers have little control over where, when, and how much smoke is put into the air during wildland fires. Through prescribed fire, smoke levels can be better managed. For example, air quality can be somewhat diminished in the short term so that the probability is decreased of violating air quality standards in the long term. Emissions will be mitigated to provide for public health and safety.

### **Management Direction**

Prescribed fire and wildland fire use will be limited to 480,000 acres per year. Over a 10-year period, prescribed fire and wildland fire use will be limited to 1,120,000 acres. Federal land managers will continue to complete smoke management reports and apply appropriate mitigation measures to reduce potential impacts on air quality (USEPA 1992).

### **Monitoring**

There is an air quality monitoring network developed for Oregon that will be used to determine whether the national ambient air quality standards are met; monitoring stations are located in Klamath Falls and Lakeview. This monitoring network will continue to be used to determine background pollution levels which can help

measure emissions increases during fire events.

## Fire Management

**Management Goal 1—*Provide an appropriate management response on all wildland fires with emphasis on firefighter and public safety. When assigning priorities, decisions will be based on relative values to be protected commensurate with fire management costs.***

### Rationale

Protection of human life (firefighter and public safety) is the highest priority during a wildland fire. Once firefighters have been assigned to a fire, their safety becomes the highest value to be protected. Property and natural and cultural resources are lower priorities.

The “Review Update of the 1995 Federal Wildland Fire Management Policy” ([http://www.nifc.gov/fire\\_policy/index.htm](http://www.nifc.gov/fire_policy/index.htm)) acknowledges that fire is a critical natural process and must be reintroduced into the ecosystem on a landscape scale. Wildland fire management decisions are based on approved fire management and activity level plans, this RMP, and the best available science. The policy further emphasizes that for natural ignitions (i.e., lightning caused), a manager must have the ability to choose from the full spectrum of fire management actions—from prompt suppression to allowing fire to function in its natural ecological role. The “Interior Columbia Basin Final Environmental Impact Statement” (USDA-FS and USDI-BLM 2000b) states that wildland fire management strategies and suppression activities should minimize damage to long-term ecosystem function, and should emphasize protection, restoration, or maintenance of key habitats.

### Management Direction

The Lakeview District fire management plan (USDI-BLM 1998e) will be revised periodically, will tier to the general fire management direction in this RMP, and prescribe the appropriate management response, including full suppression and modified suppression, throughout the planning area. It will also identify conditions and potential locations for wildland fire use and for prescribed fires, as well as, other factors pertaining to fire management in the planning area.

An appropriate management response of initial attack and full suppression on all wildland fires threatening other Federal, state, and private property, or other

sensitive areas such as threatened or endangered species and habitat, and cultural sites (Map FM-5) will be provided. However, where the fire can achieve resource benefits, consider confining wildland fire spread by employing direct and indirect actions and use of natural topographic features, human-created barriers (i.e., roads), fuel, and weather factors. Use of heavy equipment in ACEC’s, WSA’s, and RNA’s will be avoided and will require line officer approval. If used, heavy equipment will be restricted to existing roads and trails. Use of retardant will be allowed within these areas for initial attack. Retardant use during extended attack will be considered as a part of the wildland fire situation analysis, considering the resource values at risk and public and firefighter safety.

**Management Goal 2—*Rehabilitate burned areas to mitigate the adverse effects of wildland fire on soil and vegetation in a cost-effective manner and to minimize the possibility of wildland fire recurrence or invasion of weeds.***

### Rationale

The “Emergency Fire Rehabilitation Handbook, H-1742-1” (USDI-BLM 1998k) outlines the process for implementing emergency fire rehabilitation projects following wildland fires and wildland fire use. Emergency fire rehabilitation funds may be used to:

- protect life, property, and soil, water, and vegetation resources;
- prevent unacceptable onsite or offsite damage;
- facilitate meeting land use plan objectives and Federal laws; and
- reduce the invasion and establishment of undesirable or invasive vegetation species.

### Management Direction

Areas burned by wildland fire will be rested from livestock grazing for a minimum of two growing seasons. Rest for less than two growing seasons may be justified on a case-by-case basis. Other temporary use restrictions, such as no off-road travel, may be imposed as warranted.

Emergency fire rehabilitation activities will be implemented after wildland fire. Emergency fire rehabilitation funds may be available for rehabilitation after wildland fire use, depending on the situation. Direction for implementing emergency fire rehabilitation projects is found in Appendix L. Separate environmental analysis will only be completed for emergency fire rehabilitation projects that are outside the scope of

activities described in Appendix L.

**Management Goal 3—*Restore and maintain ecosystems consistent with land uses and historic fire regimes through wildland fire use, prescribed fire, and other methods. Reduce areas of high fuel loading resulting from years of fire suppression that may contribute to extreme fire behavior.***

### **Rationale**

Both the “Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin” (USDA-FS and USDI-BLM 1996c) and the “Review Update of the 1995 Federal Wildland Fire Management Policy and Program Review” ([http://www.nifc.gov/fire\\_policy/index.htm](http://www.nifc.gov/fire_policy/index.htm)) recognize fire’s essential role as an ecological process. The BLM is charged with clearly defining fire management goals, objectives, and actions in comprehensive fire management plans, which are tied to this RMP. Future fire management plans will include identification of areas for wildland fire use and prescribed fire.

The ICBEMP emphasized that strategic watershed-scale fuel management and fire use planning, integrating a variety of treatment methods, will cost-effectively reduce fuel hazards to acceptable levels and achieve both ecosystem health and resource benefits. Fire management programs and activities should be based upon protecting resources, minimizing costs, and achieving land management objectives. They must also be economically viable. The ICBEMP also stressed the use of fire to restore and sustain ecosystem health based on sound scientific principles and information. This must also be balanced with other societal goals, including public health and safety, air quality, and other specific environmental concerns. Finally, the ICBEMP concluded that prescribed fire should be considered in wilderness areas where it has been determined that wildland fire use for resource benefit will not achieve desired rates of ecosystem maintenance or restoration.

Sound risk management is a foundation for all fire management activities. Risks and uncertainties relating to fire management activities must be understood, analyzed, communicated, and managed as they relate to the cost or consequences of either doing or not doing an activity.

### **Management Direction**

An existing fire management plan (USDI-BLM 1998e) will be updated periodically, will tier to the management direction in this RMP, and identify conditions and

potential locations for wildland fire use and for prescribed fires, as well as other factors pertaining to fire management in planning area.

Prescribed fire, mechanical, chemical, and biological fuel treatment, and wildland fire use will be used to: protect, maintain, and enhance natural resources; restore degraded habitats; and protect other adjacent Federal, state and private land. Areas found appropriate for wildland fire use are shown on Map FM-5, but will be further analyzed in the fire management plan. The Fort Rock Fire Management Area will no longer be managed for appropriate suppression response, but will be managed for wildland fire use. No more than 15 percent of the resource area (480,000 acres) will be treated annually (by either prescribed fire, mechanical fuel treatment for hazard reduction, and/or wildland fire use). Less than 35 percent (1,120,000 acres) of the planning area will be treated in a 10-year period.

The term “treatment acres” refers to the total area analyzed in a future treatment project NEPA document; it does not assume that 100 percent of those acres undergo treatment. The intent is to treat approximately 40–70 percent of the analysis area, and keep 30–60 percent untreated. A goal of landscape-level treatment is to break up treated and untreated areas in a mosaic effect. The acres listed are upper limits used for analytical purposes, and not targets. Wildland fire use may cause the number of treated acres to vary widely from year to year, and in some years may accomplish a very large number of treated acres. Lightning-caused fires in excess of 100,000 acres have occurred periodically in the rangeland fuels in the planning area.

Areas treated by prescribed fire will be rested from livestock grazing for a minimum of two growing seasons. Rest for less than two growing seasons may be justified on a case-by-case basis. Other temporary use restrictions, such as no off-road travel, may be imposed as warranted.

### **Monitoring**

**Management Goal 1.** Monitoring will determine whether suppression strategies, practices, and activities are meeting resource management objectives and concerns.

**Management Goal 2.** Monitoring studies will be encouraged on all emergency fire rehabilitation projects to determine whether emergency fire rehabilitation objectives were met. Monitoring will be implemented on all projects that employ new techniques, seed mixes, or rehabilitation methods. Emergency fire

rehabilitation funds may be used to fund monitoring studies for up to three growing seasons following fire control.

**Management Goal 3.** Pre-fire condition and post-fire effects will be determined by monitoring plant community composition and trend in burn areas to determine natural recovery, responses from seed planting, and weed and cheatgrass invasion. Monitoring methods may include photo points, density, cover, frequency plots (pre- and post-burn), and ocular estimates.

FIREMON, a fire effects monitoring and inventory protocol, is being field tested in the sagebrush steppe vegetation types. This testing is expected to result in the development of an “Interagency Fire Effects Monitoring Handbook” that will be used in the future.

## Recreation Resources

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

### Rationale

The FLPMA provides for recreation use of public land as an integral part of multiple use management. Dispersed, unstructured activities typify the recreational uses occurring throughout the majority of the LRA. Policy guidelines in BLM Manual 8300 direct the BLM to designate special units known as special recreation management areas. Management within these special recreation management areas focuses on providing recreation opportunities that will not otherwise be available to the public, reducing conflicts among users, minimizing damage to resources, and reducing visitor health and safety problems. Major investments in recreation facilities and visitor assistance are appropriate in special recreation management areas when required to meet management objectives.

Public lands not designated as special recreation management areas, or other special designations, are managed as extensive recreation management areas. Management direction within extensive recreation management areas focuses on actions to facilitate recreation opportunities by providing basic information and access. Visitors in extensive recreation management areas are expected to rely heavily on their own equipment, knowledge, and skills while participating in recreation activities.

In accordance with FLPMA, the “BLM Recreation—A Strategic Plan” (USDI-BLM 1990l) sets recreation policy on the national level. The policy emphasizes resource-dependent recreation opportunities that typify the vast western landscapes; striving to meet the social and economic needs of present and future generations, providing for the health and safety of the visitor, and accomplishing these goals within the constraints of achieving and maintaining healthy ecosystems.

### Management Direction

**Recreation Areas.** Management of existing developed recreation use areas and their associated maintenance will be continued and improvements and expansion will be allowed, if needed, for protection of natural values, for public health and safety, or to address increases in demand. This could include such actions as replacing old toilets or picnic tables, installing barriers to contain vehicles, or adding a toilet, fire rings, or interpretive information to an existing site that is receiving heavier use. New recreation sites and areas will be established, if needed, to meet increased recreation demand, but only if other resource values can be protected. Examples of this may include providing toilets, parking areas, or interpretive displays. Tourism opportunities and development will be pursued only if they are consistent with meeting other resource objectives.

### Recreation Permits, Limits, and Prohibitions.

Throughout the planning area, occupancy and use for recreational camping is limited to 14 consecutive days. Camping within 300 feet of any water source is prohibited (USDI-BLM 1999h, 1999i). A water source is defined as any fenced spring enclosure, flowing spring, man-made metal or concrete water tank or trough, or dirt pond.

Special recreation permits will be issued on an as-needed basis to meet demand while protecting cultural and natural resource values and maintaining public health and safety.

Any recreational use within ACEC’s, including commercial and noncommercial uses authorized under special recreation permits, will be evaluated and permitted, modified, or prohibited as needed to protect ACEC values.

Camping will be prohibited in a few of the ACEC’s. Motorized vehicle uses will be restricted in a number of areas (refer to Special Management Area and Off-Highway Vehicle sections).

Rock and boulder climbing or rappelling will be prohibited in Table Rock, High Lakes, and Black Hills ACEC's and in the Crack-in-the-Ground (Four Craters WSA). The use of bolts or other permanent safety devices for these activities will require a permit within the remainder of the ACEC/RNA's. The use of bolts or other permanent safety devices will be prohibited within all WSA's, Lost Forest ISA, and significant caves. The remainder of the planning area will be open to rock and boulder climbing and rappelling.

**Scenic Byway Designations.** Designation of additional scenic byways or vehicle routes will be considered, provided they are consistent with OHV designations and resource concerns are addressed. Existing scenic byway designations will remain.

**Wilderness Therapy Schools.** Operations for all wilderness therapy groups authorized within the proposed North Lake Special Recreation Management Area will be limited to the following area: east of County Road 5-12 B and BLM Road 6121, and north of Lake County Road 5-14. Adjacent to the proposed North Lake Special Recreation Management Area there are a number of campsites associated with wilderness therapy operations located within the Prineville and Burns Districts that are addressed under this RMP process. Within the Prineville District campsites are located in Sections 4, 14, and 34, T.22S., R.19E.; Sections 1 and 3, T.23S., R.19E.; Sections 15 and 36, T.23S., R.20E.; Sections 19, 29, and 33, T.23S., R.12E.; and Sections 5, 8, and 23, T.24S., R.21E. Campsites within the Burns District are located in Sections 4, 13, 22, and 26, T.25S., R.22E., and Section 2, T.26S., R.22E.

Wilderness therapy schools will be authorized a maximum of 12,800 user days to operate on BLM-administered lands within the LRA. The 12,800 user days will be split between the North Lake Special Recreation Management Area (7,400) and the remainder of the LRA (5,400). Group size will be limited to nine students per group, plus staff. No school will be authorized to operate with more than two groups at any one time within the North Lake Special Recreation Management Area and no more than four groups will be authorized to operate concurrently. No more than two groups will be authorized to operate at any one time in the Burns and Prineville Districts. Throughout the remainder of the LRA, each school will be authorized to operate with no more than three groups at any one time. When possible, no permanent campsites will be authorized within 5 miles of any year-round residence.

**Sunstone Public Collection Area.** No commercial collection of stones and only hand tools will be allowed in the Sunstone Collection Area. Development of a designated, primitive campground in the vicinity of the Sunstone Collection Area will be considered within the next 10 to 15 years. Facilities could include fire rings, campsite pads, and a potable water source. There is currently a vault toilet on site. The area will be proposed as a fee site, if new facilities are constructed.

**Extensive Recreation Management Areas.** Existing extensive recreation management areas will be retained. The new extensive recreation management area designations (all areas within the planning area not covered under a special designation, such as WSA's, special recreation management areas, ACEC's, etc.) will become effective upon signature of this RMP/ROD. Recreation area management plans will not be prepared for the extensive recreation management areas. Specific management actions or projects in the extensive recreation management areas will be included in individual project or SMA plans.

**Special Recreation Management Areas.** Management of the two special recreation management areas (Warner Wetlands and North Lake Special Recreation Management Areas) will focus on providing quality recreation opportunities while protecting resource values.

*Warner Wetlands Special Recreation Management Area:* the Warner Wetlands Special Recreation Management Area is to be retained and managed in accordance with the "Warner Wetlands Recreation Management Plan" (USDI-BLM 1990i). Hunting and motorized boating is allowed. Personal motorized watercraft (jetskis and waverunners) is not allowed. Vehicles are required to stay on designated roads and trails (Map SMA-10). The following projects, previously approved to enhance and provide new recreation opportunities, will be considered:

- Upgrade roads and construct facilities such as trailheads and boat ramps, as necessary for resource protection.
- Close and rehabilitate roads, as necessary.
- Maintain present facilities, e.g., handicap accessible nature trails, view points, and interpretive sites.
- Develop and maintain foot and canoe trails and develop self-guiding interpretive literature in response to increased use.

- Pursue development of a joint USFWS and BLM campground along County Road 3-12.

*North Lake Special Recreation Management Area:* the new North Lake Special Recreation Management Area (Map R-9) designation will become effective upon signature of this approved RMP and record of decision. An individual recreation area management plan outlining specific management for the North Lake Special Recreation Management Area will be prepared following publication of the approved RMP. The North Lake Special Recreation Management Area will include four WSA's (Devils Garden, Squaw Ridge, Four Craters, and Sand Dunes), the Lost Forest/Sand Dunes/Fossil Lake ACEC, the Devils Garden ACEC, the Connley Hills ACEC/RNA, the Black Hills ACEC/RNA, the Table Rock ACEC, Duncan Reservoir Campground, West Fork Silver Creek, Buck Creek, and the Green Mountain primitive camping area (see Map R-9). The management emphasis for this special recreation management area will include, but not be limited to, OHV use, increased monitoring and patrols to curb vandalism, commercial uses (such as wilderness therapy schools, guided hunting, and nature tours, etc.), the protection of natural and cultural resource values, maintaining public health and safety, and meeting increased recreation demand.

No overnight camping will be allowed in the Black Hills ACEC or the Connley Hills ACEC. Collection of dead and down wood and the cutting of trees (firewood cutting) will be prohibited.

The main road through the Lost Forest/Sand Dunes/Fossil Lake ACEC will be minimally upgraded to prevent continued resource damage. Camping will only be allowed in six designated primitive campsites located along the outer boundary of the Lost Forest RNA/ISA. The campsites will be small, with parking for one or two vehicles. No new campsites or other facilities will be developed within the Lost Forest RNA/ISA (see Map SMA-9 for campsite locations). Camping at the base of Sand Rock will be prohibited and the sites rehabilitated. A small pull-off along the road for parking will be delineated for day-use access to the Sand Rock area.

There will be three camping/staging areas allowed in the Sand Dunes WSA. Use of these three camping/staging areas will be managed on a rotational basis, i.e., two of the camping/staging areas will be open and available to use and the other area will be closed for an indeterminate amount of time (2–6 years) to allow natural rehabilitation to occur. The length of the

closure will be based on the following criteria: (1) success of natural revegetation, (2) obliteration of human activities from the natural movement of sand, and (3) the public's adherence to the closure. Designation of specific travel routes from the camping/staging areas to the barren dunes which are open to OHV use will be established. Adaptive management activities which will allow the continued use of each of these camping/staging areas will be adopted as necessary to ensure the long-term use and protection of these areas. Collection of dead and down wood and the cutting of trees will continue to be prohibited throughout the ACEC (USDI-BLM 1999h). However, opportunities such as a concessionaire to provide firewood for high-use weekends will be explored. The BLM will also consider developing a campground on adjacent Federal or acquired land and charge use fees if no private campground is developed in the adjacent area.

Camping will be allowed in designated camping areas within the proposed Table Rock ACEC. Specific sites will be designated in the future North Lake Special Recreation Management Area plan.

Rock and boulder climbing and rappelling will be prohibited in Table Rock and Black Hills ACEC's and in Crack-in-the-Ground (Four Craters WSA). The use of bolts or other permanent safety devices for these activities will require a permit within the remainder of the ACEC/RNA's. The use of bolts or other permanent safety devices will be prohibited within all WSA's, Lost Forest ISA, and significant caves. The remainder of the special recreation management area will be open to rock and boulder climbing and rappelling.

Development of a picnic area along Highway 31 (at milepost 34.5 south) will be considered. Facilities will include picnic sites with tables, vault toilets, and kiosks for interpretation of resources and history.

## Monitoring

Monitoring will occur on an ongoing or annual basis. Monitoring will include periodic patrols to check boundaries, signing, and visitor use; to ensure visitor compliance with rules and regulations; to establish baseline data and observation points to determine current impacts from recreation use; and development of studies to help determine appropriate levels and patterns of recreational use and the influences of other resource uses. Monitoring will focus on visitation levels, compliance with rules, regulations, and permit stipulations for specific sites (developed sites), dispersed uses, and prescribed standards and guidelines as set in the respective recreation opportunity spectrum classes.

Methods of monitoring may include the use of traffic counters, surveillance at developed recreation sites, limits of acceptable change studies, user contacts, and photo documentation of the changes in resource conditions over time. Monitoring data will be used to manage visitor use, develop plans and projects to reduce visitor impacts, and meet visitor demand.

## Off-Highway Vehicles

**Management Goal—***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 vehicle (now termed off-highway vehicle or OHV) use. These designations are designed to help meet public demand for OHV activities, protect natural resources, ensure public safety, and minimize conflicts among users.

### Management Direction

**Definition and Exceptions.** Off-road vehicle is defined as any motorized vehicle designed for, or capable of, travel on or immediately over land, water, or other natural terrain, excluding: (1) any nonamphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) vehicles in official use; (4) any combat or combat support vehicle when used in times of national defense emergencies; and (5) any vehicle whose use is expressly authorized by the authorized officer, or is otherwise officially approved. The exceptions to OHV use described in case 1-4 above would automatically apply without further authorization required.

Under case 5, individuals authorized to use public lands under a license, lease, permit, contract, or other authorization may be allowed to use an OHV in a closed area or off-road in a limited use area on a case-by-case basis. This would have to be approved by the authorized officer as part of the appropriate authorization process. Approval would take into consideration the type of vehicle, frequency of trips, season of use, purpose, and existing resource values requiring protec-

tion (soils, vegetation, wildlife, cultural, paleontological, WSA, etc). The requester would have to demonstrate that the use was necessary to carry out the primary purpose(s) of the license, lease, permit, contract, or other authorization and no other practicable alternatives were available. The vehicle would have to be the least impacting type capable of performing the required task. Travel would be limited to frozen or dry soil conditions to minimize potential impacts to soil and avoid other protected resource values. The frequency of trips would be limited to the minimum necessary to complete the required task and would be controlled to prevent the development of new trails on the landscape.

**Designations.** Off-highway vehicle use will be managed with the focus on protection of natural values. Table 12 and Map R-7 show OHV designations for the planning area. Table 10 lists areas with specific road closures or limitations related to vehicle use. Organized OHV events will only be allowed on existing and/or designated roads and trails, and in the Sand Dunes WSA (subject to wilderness IMP guidelines).

**Scenic Byways.** Existing scenic byways or vehicle routes will be retained. Designation of new scenic byways or vehicle routes will be considered, provided they are consistent with OHV designations and resource concerns are addressed.

### Wilderness Study Areas and Areas of Critical Environmental Concern/Research Natural Areas.

All vehicle management actions for those portions of ACEC/RNA's within ISA's or WSA's will be governed by "Interim Management Policy for Lands Under Wilderness Review" (USDI-BLM 1995b) until such time as Congress makes a determination regarding wilderness designation. The OHV designations in WSA's will remain in effect until congressional release of the WSA's, or until such time that actual or unforeseeable use levels cause the nonimpairment criteria to be violated, in which case more restrictive designations may be made. Areas released from WSA status will be managed according to the designations of the surrounding area. Map R-9 shows the location of each WSA and Appendix J1 of the "Draft RMP/ EIS" contains a description of each area.

According to the wilderness IMP, the use in WSA's of "...mechanical transport, including all motorized devices, as well as trail and mountain bikes, may only be allowed on existing ways and within open areas that were designated prior to the passage of FLPMA (October 1976)." For the purposes of analysis, existing roads and ways within WSA's are those that existed on

the ground at the time the FLPMA was passed and were subsequently shown or described in the “Oregon Wilderness Final EIS” (USDI-BLM 1989a). Any new roads or ways that have been created or discovered since then have already been closed to vehicle use or should be closed to comply with the wilderness IMP. Existing roads and trails within the remainder of the planning area are defined as those roads or trails that exist on the ground at the time this RMP/ROD is approved. These will be verified by comparison with 2000–2001 USGS National High Altitude Photography program aerial photography which represents the best available source data on this topic.

Off-highway vehicle designations in the following WSA’s will be limited to designated roads and ways: Abert Rim WSA; Fish Creek Rim WSA; Guano Creek WSA; Hawk Mountain WSA; Devils Garden WSA; and Sage Hen Hills WSA. Off-highway vehicle designations in the following WSA’s will be limited to existing roads and ways: Basque Hills WSA; Diablo Mountain WSA; Four Craters Lava Bed WSA; Orejana Canyon WSA; Rincon WSA; Spaulding WSA; and Squaw Ridge Lava Bed WSA (Table 12). Map R-7 depicts the OHV designations for the above listed WSA’s.

OHV designations for the Lost Forest/Sand Dunes/Fossil Lake ACEC vary from open to limited to closed (Table 12 and Map SMA-9A). The existing Fossil Lake Vehicle Closure Area will be expanded by an additional 2,328 acres to total approximately 8,989 acres. Much of the Sand Dunes WSA will remain open to OHV use.

The OHV designation for the portion of the existing Lake Abert ACEC which lies on the east side of Highway 395 will be limited to designated roads and trails (ways); the remainder of the existing ACEC located on the west side of Highway 395 will be limited to existing roads and trails. The proposed Lake Abert ACEC addition lies entirely within the boundaries of the Abert Rim WSA and the OHV designation for the ACEC addition will be the same as for the WSA—limited to designated roads and trails (ways) (Map R-7).

The OHV designation for the Devils Garden ACEC/WSA (the ACEC and WSA boundaries are the same) will be a seasonal limitation. It is within the deer winter range closure area addition (Map SMA-24). Throughout most of the year, the Devils Garden WSA/ACEC will be limited to designated roads and trails. However, during the period December 1 through March 31, annually, all of the roads and ways within the

WSA/ACEC will be closed. Cougar Mountain, adjacent to the Devils Garden WSA/ACEC, will be limited to designated roads and trails (Maps SMA-5 and 24).

Off-highway designations for the following new ACEC’s will be limited to designated roads and trails (or ways if they overlap existing WSA’s): Black Hills ACEC; Connley Hills ACEC; Fish Creek Rim ACEC (which overlaps with the Fish Creek Rim WSA); Foley Lake ACEC; Guano Creek/Sink Lakes ACEC (which overlaps with the Guano Creek WSA); Hawksie-Walksie ACEC (which overlaps with the Sage Hen Hills WSA and the Hawk Mountain WSA); High Lakes ACEC; Juniper Mountain ACEC; Rahilly Gravelly ACEC; Red Knoll ACEC; Spanish Lake ACEC; and Table Rock ACEC (Table 8).

**Mule Deer Winter Range.** The existing Cabin Lake/Silver Lake Deer Winter Range Cooperative Road Closure area in north Lake County will be expanded by an additional 34,374 acres. During the period December 1 through March 31, annually, OHV uses within the expanded deer winter range area (totaling 100,834 acres) will be limited to designated roads and trails (Table 12). During the remainder of the year, the OHV designation for the deer winter range area will be limited to existing roads and trails, with the exception of the Devils Garden WSA/ACEC which will be under the designated roads and ways (trails) designation (Map SMA-5). Refer to Map SMA-24 which depicts the expanded Cabin Lake/Silver Lake Deer Winter Range Cooperative Road Closure area.

**North Lake Special Recreation Management Area.** The OHV designation for most of the North Lake Special Recreation Management Area (encompassing approximately 552,558 acres) will be limited to existing roads and trails, unless an area within the special recreation management area is associated with another special management area and subsequently other OHV designations. Special management areas located within the North Lake Special Recreation Management Area include WSA’s, ACEC’s, deer winter range, etc., and other OHV designations will apply as addressed elsewhere. Refer to Maps R-7 and R-9 which depict the OHV designations and boundary for the proposed North Lake Special Recreation Management Area.

**Other Areas.** Off-highway vehicle designations for the Alkali Lake Sand Dunes (6,813 acres) and one area near Beaty Butte (59,206 acres) will be limited to existing roads and trails (Map R-7).

The following areas will remain closed to OHV use: Buck Creek (590 acres); Crane Mountain (1,030 acres);

and South Green Mountain (14 acres). Refer to Table 12 and Maps R-7, SMA-25, and -27.

**Emergency Vehicle Closures.** Future emergency vehicle or area closures may be implemented on a case-by-case basis if it is determined that OHV's are causing or will cause considerable adverse effects upon resources. Such emergency closures will be announced via a notice published in the Federal Register and in local newspapers. Any roads designated for closure may be signed, physically barricaded, and/or restored. Priority areas for restoration will be riparian conservation areas, damaged watersheds, and sensitive wildlife or plant habitat.

## Monitoring

Monitoring OHV uses within the planning area will focus on compliance with specific designations, as well as, determining whether these uses are causing adverse effects on various resources (i.e., soils, water, air, vegetation, fish and wildlife, etc.). Methods of monitoring may include visitor contacts, permit review, visual surveillance, traffic counters, periodic patrols to check boundaries, signing, and visitor use, limits of acceptable change, and/or aerial reconnaissance. Closures will be monitored to ensure public safety and protect affected roadbeds or areas. Baseline data will be established for sites where OHV use is occurring, and sites will be rehabilitated or closed as necessary.

## Visual Resources

**Management Goal—*Manage public land actions and activities 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” (USDI-BLM1986c). See Appendix M-3 of the “Draft RMP/

EIS” for a description of VRM classifications. The establishment of VRM classes on public land is based on an evaluation of the landscape's scenic qualities, public sensitivity toward certain areas (such as certain special recreation designations and WSA's), and the location of affected land from major travel corridors (distance zoning).

## Management Direction

WSA's will be managed under VRM Class I. Should a WSA not be designated by Congress, the area will return to the original inventoried VRM class unless it has been reclassified due to overlap with another SMA (such as an ACEC, RNA, or WSR).

Emphasis will be given to protecting and/or mitigating intrusions in all areas. All developments, land alterations, and vegetative manipulations within a 3-mile buffer (6 mile total corridor width) of all major travel routes and recreation use areas will be designed to minimize visual impacts (unseen areas within these zones will not be held to this standard). The travel routes included in these buffers are state and federal highways (140, 31, and 395) and designated scenic or byway routes (Christmas Valley and Lakeview-to-Steens National Back Country Byways). All projects will be designed to maximize scenic quality and minimize scenic intrusions.

Visual resources in ACEC's will be managed as displayed in Table 8. Management of one suitable WSR (Twelvemile Creek) will be under Class II. All other public land will be managed under the VRM classifications shown in Map VRM-3.

## Monitoring

Monitoring will be ongoing for all projects (including, but not limited to projects associated with any developments, land alterations, vegetation manipulation, etc.) which could potentially affect visual resources. These projects will be monitored to ensure compliance with established VRM classes. Monitoring will include the use of the visual contrast rating system, described in BLM Manual 8400 (USDI-BLM, 1984c), where appropriate, during project review.

## Energy and Mineral Resources

Within legal constraints, all Federal mineral estate locatable, leasable, and salable minerals will be available for exploration, development, and production

subject to existing regulations and standard requirements and stipulations. Locatable minerals will not be available in areas withdrawn from the operation of the mining laws. Where necessary to protect important lands and resources, mineral exploration and development will be subject to additional restrictions which could include no leasing, no disposal of mineral materials, no surface occupancy, no ground disturbance, wilderness IMP nonimpairment standard, special design requirements, requiring preparation of a plan of operations, and seasonal or other timing restrictions. Appendix N3 describes the types of standard mineral development stipulations and guidelines that apply to the planning area.

Energy derived from the burning of biomass generated by juniper treatment is covered in the Forest and Woodlands section.

**Management Goal 1—*Provide opportunity for the exploration, location, development, and production of locatable minerals in an environmentally-sound manner. Eliminate and rehabilitate abandoned mine hazards.***

### Rationale

The general mining laws give the public the right to locate and develop mining claims on public land. The “Mining and Minerals Policy Act” of 1970 declares that it is the continuing policy of the Federal government to foster and encourage private enterprise in the development of domestic mineral resources. Section 102 of 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 commodities from the public lands, while managing these lands in a manner that will protect scientific, scenic, historic, archeological, ecological, environmental, air and atmospheric, and hydrologic values. The Bureau’s mineral and national energy policy policies state that public lands shall remain open and available for mineral exploration and development unless withdrawal or other administrative action is justified in the national interest.

### Management Direction

**Wilderness Study Areas.** Locatable mineral exploration and development is regulated under 43 CFR 3802 for WSA’s, and 3809 (as amended) for other public lands. The wilderness IMP (USDI-BLM 1995b) states that locatable mineral development and exploration activities within WSA’s can occur in accordance with

the mining laws, but are currently limited to only those actions that do not require reclamation, unless the operation had established grandfathered uses or valid existing rights on October 21, 1976. This policy restriction effectively closes WSA’s to mining that requires reclamation or degrades wilderness values. However, should the wilderness IMP be revised or Congress take action to remove some areas from WSA status, some of these areas could eventually be made available for mineral development during the life of the plan. For WSA’s studied under section 202 of the FLPMA (Sage Hen Hills and part of Hawk Mountain), existing and new mining operations under the 1872 mining law will be regulated under 43 CFR 3802 only to prevent unnecessary or undue degradation of the lands, rather than prevent impairment of wilderness suitability.

**Areas of Critical Environmental Concern.** Locatable mineral exploration and development within ACEC’s will require the preparation and approval of a plan of operations prior to development.

**3809 Regulations.** The amended 3809 regulations became effective on January 20, 2001 (USDI-BLM 2000c, 2001i). Acknowledging a notice (exploration operations of 5 acres or less, outside of SMA’s) is not a Federal action that requires compliance with NEPA, so no environmental documentation must be prepared. The BLM does review notices to ensure that no unnecessary or undue degradation will occur, and that a plan of operations is not required. A plan of operations is required for all mining activity that is not casual use, regardless of the number of acres disturbed. A plan is also required for all exploration activities that disturb over 5 acres, bulk sampling which will remove 1,000 tons or more of presumed ore for testing, or for any surface-disturbing operations greater than casual use in certain SMA’s and lands/waters that contain federally proposed or listed threatened or endangered species or their proposed or designated critical habitat. The approval of plans of operations is a Federal action that requires further NEPA compliance. Mining claim use and occupancy under 43 CFR 3710 also requires further NEPA compliance.

**Commercial Sunstone Area.** As a result of the implementation of the amended 3809 regulations, it is anticipated that BLM will receive several plans of operations for commercial activities in the Rabbit Basin sunstone area annually. Descriptions of plan filing and processing requirements, anticipated activity, and resulting surface disturbance can be found in Appendix N2, Mineral Development Scenarios, Locatable Mineral Resources of the “Draft RMP/EIS”.

Standard mitigating measures can be found in Appendix N3. The Lakeview Proposed RMP/FEIS constitutes the NEPA analysis guiding the approval of future sunstone exploration and mining plans of operations in the Rabbit Basin sunstone area only (Map M-4 of the Draft RMP/EIS). It supplements the “Final Environmental Impact Statement for the Surface Management Regulations for Locatable Mineral Operations” (USDI-BLM 2000i). It also amends EA No. OR-010-98-05, “Mining Use and Occupancy—Sunstone Mining Area” (USDI-BLM 1998h). Any mining plans of operations or mining claim use and occupancy outside of the Rabbit Basin sunstone area will require a separate site-specific, NEPA documentation prior to approval.

**Restrictions.** Many areas within the planning area are subject to numerous overlapping types of mineral location restrictions or special stipulations (refer to Appendix N3; Map M-10). This makes determining the amount of area open, closed, or restricted to mineral development difficult. For instance, an ACEC (which requires a plan of operations) may partially overlap a WSA (which is subject to the no reclamation stipulation). For simplicity, such an area of overlap has been classified to reflect the most restrictive management measure in place, regardless of how many other types of restrictions may also apply. Any WSA’s that overlap with areas where other mineral restrictions apply, which are later removed from WSA status, will be managed in accordance with the remaining restrictions. In the example above, an area where a WSA overlaps an ACEC could change from “no reclamation” to “mineral development after approval of a plan of operations” if Congress removed WSA status during the life of the plan.

The planning area will be open to locatable mineral activity except for about 28,503 acres which will be closed. The area identified as closed represents existing, formal withdrawals from the operation of the mining laws (Map M-2 of the “Draft RMP/EIS” and Map M-10) and one area recommended to the Secretary of the Interior for withdrawal (northwestern portion of Red Knoll ACEC; about 4,600 acres; Map SMA-19). Existing public water reserve withdrawals will be retained (1,900 acres). The mineral segregation on the Public Sunstone Area (2,540 acres) will be retained, thereby keeping the area open to recreational collecting by the public.

An additional 457,104 acres will be subject to the no reclamation stipulation of the wilderness IMP. About 1,647,544 acres will be subject to a combination of other types of protective stipulations including: preparing a plan of operations, seasonal restrictions, and

special visual design measures. These other restrictions/stipulations apply primarily to areas of big game winter range, greater sage-grouse breeding habitat, raptor nesting habitat, one suitable WSR, and VRM Class I and II.

**Management Goal 2—Provide leasing opportunity for oil and gas, geothermal energy, and solid minerals in an environmentally-sound manner.**

### Rationale

The “Mineral Leasing Act” of 1920, as amended, and the “Geothermal Steam Act” of 1970, as amended, provide the opportunity for the public to explore for, develop, and produce publicly-owned leasable minerals. The “Mining and Minerals Policy Act” of 1970 declares that it is the continuing policy of the Federal government to foster and encourage private enterprise in the development of domestic mineral resources.

Section 102 of 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 commodities from the public lands, while managing these lands in a manner that will protect scientific, scenic, historic, archaeological, ecological, environmental, air and atmospheric, and hydrologic values. The Bureau’s mineral and national energy policy states that public lands shall remain open and available for mineral exploration and development unless withdrawal or other administrative action is justified in the national interest.

### Management Direction

Oil and gas leasing and development will be regulated under 43 CFR 3100, Geothermal Resources Leasing and Development, under 43 CFR 3200, and Solid Mineral Leasing, under 43 CFR 3500, to ensure that all operations are conducted with adequate consideration given to environmental and resource conservation concerns. In order to protect special resource values and special investments, leasing will be subject to lease stipulations shown in Appendix N3. Although the specific wording of the stipulations could be adjusted at the time of leasing, the protection standards described in the appendix will be maintained.

**Wilderness Study Areas.** All WSA’s will be closed to mineral leasing until such time as Congress makes a decision regarding designation of these areas as wilderness. Areas not designated wilderness could be reopened to mineral leasing during the life of this plan.

**Restrictions.** Many areas within the planning area are subject to numerous, overlapping types of mineral leasing restrictions or special stipulations (refer to Appendix N3; Map M-9). This makes determining the amount of area open, closed, or restricted to mineral development difficult. For instance, an ACEC (which may have a no-surface-occupancy stipulation) may partially overlap a WSA (which is closed to leasing). For simplicity, such an area of overlap has been reclassified as “closed” to reflect the most restrictive management measure in place, regardless of how many other types of restrictions may also apply. Any WSA’s which overlap with areas where other mineral restriction/stipulations apply, which are later removed from WSA status by Congress, will be managed in accordance with the remaining restrictions. In the example above, an area where a WSA overlaps an ACEC will change from “closed” to “open to mineral leasing with no surface occupancy”.

A total of about 1,305,124 acres will be open to mineral leasing. About 496,820 acres in WSA’s, one WSR and some ACEC’s will be closed to mineral leasing. Most ACEC’s will be open to mineral leasing with stipulations to protect relevant and important resources. Future leasing of lands eliminated from wilderness consideration will be allowed with necessary constraints to protect resource values. Another 817,789 acres will be subject to no-surface-occupancy restrictions, primarily in some ACEC’s and all greater sage-grouse breeding habitat. Other restrictions/stipulations will apply to approximately 791,253 acres of the planning area, primarily in big game winter range, VRM Class I and II, raptor nesting habitat, and part of the Warner Wetlands ACEC.

**Management Goal 3—*In an environmentally-sound manner, meet the demands of local, state, and Federal agencies, and the public, for mineral material from public lands.***

### **Rationale**

The “Materials Act” of 1947, as amended, authorized the disposal of mineral materials such as sand, gravel, stone, clay, and cinders. The “Mining and Minerals Policy Act” of 1970 declares that it is the continuing policy of the Federal government to foster and encourage private enterprise in the development of domestic mineral resources.

Section 102 of 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 commodities from the public lands, while managing

these lands in a manner that will protect scientific, scenic, historic, archeological, ecological, environmental, air and atmospheric, and hydrologic values. The Bureau’s mineral and energy policy states that public lands shall remain open and available for mineral exploration and development unless withdrawal or other administrative action is justified in the national interest.

### **Management Direction**

Mineral material exploration and development is regulated under 43 CFR 3600. Efforts will be made to work with the State and counties to rehabilitate exhausted rock sources and relinquish any material site rights-of-way and free use permits no longer needed. All surface disturbance will be reclaimed at the earliest feasible time. The standards that govern these activities are shown in Appendix N3.

**Wilderness Study Areas.** All WSA’s will be closed to mineral material disposal until Congress makes a decision regarding designation of these areas as wilderness. Areas not designated as wilderness could be made available for mineral disposal during the life of the plan. Many areas within the planning area are subject to numerous, overlapping types of mineral disposal restrictions or special stipulations (refer to Appendix N3; Map M-8). This makes determining the amount of area open, closed, or restricted to mineral development difficult. For instance, an ACEC (which may have a seasonal restriction) may partially overlap a WSA (which is closed to mineral disposal). For simplicity, such an area of overlap has been reclassified as closed to reflect the most restrictive management measure in place, regardless of how many other types of restrictions may also apply. Any WSA’s that overlap with areas where other mineral restriction/stipulations apply, which are later removed from WSA status by Congress, will be managed in accordance with the remaining restrictions. In the example above, an area where a WSA overlaps an ACEC will change from closed to mineral disposal to open.

**Restrictions.** The planning area will be open to mineral material disposal, except for about 524,930 acres identified as closed (see Map M-8). Areas closed to mineral sale involve mainly WSA’s, existing and proposed ACEC’s, and one proposed WSR. Mineral material disposal from lands eliminated from wilderness consideration by Congress in the future will be allowed on a case-by-case basis with consideration given to protecting sensitive resources.

About 676,150 acres of confirmed greater sage-grouse

breeding habitat will be included in the surface occupancy avoidance category. An additional 902,170 acres will have other types of restrictions apply, primarily associated with big game winter range, VRM Class I and II, raptor nesting habitat, and Lake Abert ACEC.

## Monitoring

**Management Goal 1.** Monitoring of mining operations or mining claims will be done to ensure compliance with 3803, 3809, and other regulations and conditions of approval, especially preventing “unnecessary or undue degradation” of disturbed areas in coordination with state regulating agencies. Monitoring activities will include periodic field inspections of mining claim activities. 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 will be inspected more often. Vegetation and soil attribute sampling will be conducted. Reclamation will be conducted in accordance with BLM Handbook H-3042-1 (USDI-BLM, 1992b).

**Management Goal 2.** Monitoring for leasable minerals will be done to ensure compliance with applicable laws, regulations, conditions of leases, and the requirements of approved exploration/development plans. On producing leases, ensure an accurate accounting of material removed, protection of the environment, public health and safety, and identification and resolution of mineral trespass. Monitoring activities will include:

1) Periodic field inspection of leasable mineral activities. Inspections will be conducted to determine compliance with applicable laws, regulations, conditions of leases, and the requirements of approved exploration and development plans.

2) Applicable resource attribute sampling.

**Management Goal 3.** Monitoring for salable minerals will be done to ensure compliance with applicable laws, regulations, BLM policy contained in BLM Manual Section 3600 and Handbook H-3600-1 (USDI-BLM 2002a, 2002b), and the requirements of approved mining plans. On producing operations, ensure an accurate accounting of material removed, reclamation, protection of the environment, public health and safety, and identification and resolution of salable mineral trespass. Operations in sensitive environmental areas or operations with a high potential for greater than

usual impacts will be inspected more often.

Monitoring activities will include:

1) Periodic field inspection of common use areas, and other salable mineral extraction operations. Inspections will be conducted to determine compliance with applicable laws, regulations, and the requirements of approved mining plans.

2) Applicable resource attribute sampling.

There are currently two active plans of operations on the planning area. Other plans of operations could be developed and approved during the life of the RMP. Each plan has or will have special stipulations covering the life of the plans of operations. These stipulations will be monitored by the compliance officer at a minimum of once per quarter for each plan of operation and documented in the mining case file. Any noncompliance items will be noted and 3809 procedures followed as directed by the BLM 3809 Manual and Handbook (USDI-BLM 1985c, 1985d).

## Lands and Realty

**Management Goal 1—***Retain public land with high public resource values. Consolidate public land inholdings and acquire land or interests in land with high public resource values to ensure effective administration and improve resource management. Acquired land will be managed for the purpose for which it was acquired. Make available for disposal public land within Zone 3 by State indemnity selection, private, or state exchange, “Recreation and Public Purpose Act” lease or sale, public sale, or other authorized method, as applicable.*

### 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.

### Management Direction

Newly acquired lands will be managed for the highest

potential purpose for which they are acquired. Acquired lands within ACEC's or other SMA's which have unique or fragile resources will be managed the same as the surrounding SMA. Lands acquired without special values or management goals will be managed in the same general manner as comparable surrounding public lands.

Land tenure will be based on three zones:

- 1) Zone 1 land is identified for retention in public ownership and includes high-value lands such as lands within WSA's and ACEC's;
- 2) Zone 2 land has been identified generally for retention and consolidation of ownership and includes BLM-administered lands outside of Zone 1 areas; and
- 3) Zone 3 land generally has low or unknown resource values and meets the disposal criteria of section 203 of FLPMA and is potentially suitable for disposal by a variety of means (see Appendix O1 for a complete explanation of land tenure).

Land tenure adjustments in any of the zones will generally occur under the authority of FLPMA; however, under certain circumstances, other authorities may be applicable as well. The disposition of Bankhead-Jones lands will be accomplished by FLPMA sale or exchange and not by "Recreation and Public Purpose Act" or by State In Lieu Selection.

All land tenure adjustments will be made in conformance with the "Interior Appropriations Act" of 1992 and the "Federal Land Ownership Plan for Lake and Harney Counties." These require no net increase in Federal ownership as of September 30, 1991.

Public land holdings in Zone 1 will be retained or increased with emphasis on acquiring land with high public resource values. Actions will be pursued to acquire lands from owners willing to dispose of private or state lands within or adjacent to WSA's, ACEC's, or WSR's. Under certain circumstances, disposal of small parcels of public land will be permitted in Zone 1 in order to achieve other resource objectives.

Public land holdings in Zone 2 will be retained or increased with special emphasis on acquiring land with high public resources values. Actions will be pursued to acquire lands from owners willing to dispose of private or state lands within or adjacent to WSA's, ACEC's, WSR's. Under certain circumstances, disposal of public land will be permitted in Zone 2 in order to achieve other resource objectives.

Approximately 8,750 acres of public land in Zone 3, as specifically identified on Map L-5 and as described in Appendix O2, will be available for disposal.

Approximately 200 acres are identified for disposal by direct sale to Lake County or other civic-related entity(s) with county approval for Fort Rock community expansion purposes only. An additional 200 acres is identified for direct sale to Native American Tribal entity(s) or transferred to the Bureau of Indian Affairs to be managed in trust for reinternment purposes.

Public access will be maintained or improved through all land tenure adjustment transactions.

All public lands sold or exchanged under 43 U.S.C. 682(b) ("Small Tracts Act"), 43 U.S.C. 869 ("Recreation and Public Purposes Act"), 43 U.S.C. (Sales), or 43 U.S.C. 1716 (Exchanges), where minerals are reserved to the United States, shall be opened to operation under the mining laws upon the publication of opening orders in the Federal Register informing the public of such action.

**Management Goal 2—*Meet public needs for land use authorizations such as rights-of-way, leases, and permits.***

### **Rationale**

Rights-of-way and other land uses are recognized as major uses of the public lands and are authorized pursuant to sections 302 and 501 of FLPMA.

Section 503 of FLPMA provides for the designation of rights-of-way corridors and encourages utilization of rights-of-way in-common to minimize environmental impacts and the proliferation of separate rights-of-way. Bureau policy is to encourage prospective applicants to locate their proposals within corridors. Designation of avoidance areas—those areas that will be avoided by new rights-of-way unless there are no other options—will provide early notice to potential applicants when they are planning rights-of-way or other land use projects. Only facilities and uses will be permitted in avoidance areas which are consistent with the special designation associated with that area. Designation of exclusion zones—those areas where no new rights-of-way will be allowed—will provide protection of lands and resources, which have values which are not compatible with rights-of-way or other land uses.

The United States' potential liability, under various hazardous materials statutes, will be limited if disposal

of waste, both hazardous and nonhazardous, are prohibited on public lands. Private lands are generally available for private waste disposal. If a bonafide public need for new waste disposal sites arise, land could be made available by sale or exchange. Currently, there are no authorized waste disposal sites on public lands in the planning area.

### **Management Direction**

Applications for rights-of-way, leases, permits, and other forms of land-use authorization, with the exception of rights-of-way corridors within WSA's and SMA's (which are addressed separately) will be processed in a timely manner, on a case-by-case basis, in compliance with the NEPA process. In accordance with current policy, land-use authorizations may not be issued for any use which will involve disposal or storage of materials which could contaminate the land (i.e., landfills, hazardous waste disposal sites, etc.).

Subject to further NEPA compliance, the upgrading/expansion of existing rights-of-way and issuance of new rights-of-way will be allowed within existing corridors crossing designated rights-of-way exclusion and avoidance areas. Parallel and/or perpendicular access roads across designated right-of-way exclusion and avoidance areas for construction and maintenance of facilities located within existing corridors will also be allowed.

Applicants for electrical transmission lines greater than 69 kilovolts, all mainline fiber optics facilities, and pipelines greater than 10 inches in diameter will be encouraged to locate their facilities within designated corridors. A width of 2,000 feet (1,000 feet each side of centerline) is considered an appropriate/reasonable width to provide engineering flexibility, system compatibility, and reliability factors, and will be used for purposes of this plan.

Realty-related unauthorized uses on public land will be detected, confirmed, and abated on all lands. Upon resolution, unauthorized uses on public land which do not conflict with other significant resource values will be authorized or terminated, as appropriate. Sites affected by unauthorized uses will be rehabilitated, as necessary.

All ACEC's, WSR's, the Buck Creek Watchable Wildlife Site, and greater sage-grouse breeding habitat will be designated right-of-way avoidance areas except for rights-of-way which will not conflict with management objectives for the area. WSA's and NRHP districts will be designated as exclusion areas (Map L-8

and Table 13).

**Management Goal 3—Acquire public and administrative access to public land where it does not currently exist.**

### **Rationale**

Due to the fragmented nature of public lands in some parts of the resource area, the need to acquire legal public and administrative access is required to ensure continued effective administration and public use of these lands. This need becomes more acute as public use of these lands increases and as landowners become more aware of the value of public and private land for recreation and other purposes. Land tenure adjustment actions (exchanges or fee purchases) can be a valuable tool for access acquisitions. However, without careful review, lands actions, particularly exchanges, can result in lost access. Other tools can also be utilized, such as constructing new roads around lands where access is restricted and the cost associated with acquisition excessive, or where such acquisition is not feasible.

### **Management Direction**

SMA's will receive first priority for both fee title and easement acquisition, with the North Lake Special Recreation Management Area receiving second priority. Shifts in priority may occur, depending upon the level of necessity.

Legal public or administrative access will be acquired on a case-by-case basis where public demand or an administrative need exists. Emphasis will be placed on providing access to areas containing high public values, when it supports the protection of natural values.

New roads will be constructed around private lands where easement acquisition is not feasible or desirable and access is needed.

**Management Goal 4—Utilize withdrawal actions with the least restrictive measures necessary to accomplish the required purposes.**

### **Rationale**

Section 204 of FLPMA gives the Secretary of the Interior the authority to make, modify, extend, or revoke withdrawals and mandates periodic review of existing withdrawals.

Interior Departmental Policy (DM 603) further requires that:

**Table 13.—Areas of rights-of-way exclusion or avoidance**

Rights-of-way restriction	
Avoid (acres)	828,332
<i>Reason for restriction</i>	<ul style="list-style-type: none"> <li>■ Greater sage-grouse breeding habitat <sup>1</sup></li> <li>■ Big game winter range</li> <li>■ 15 ACEC's</li> <li>■ 1 WSR</li> <li>■ 3 NRHP districts</li> <li>■ 1 Watchable Wildlife site</li> </ul>
Exclude (acres)	487,192
<i>Reason for restriction</i>	<ul style="list-style-type: none"> <li>■ 13 WSA's <sup>2</sup></li> <li>■ 1 ISA <sup>2</sup></li> </ul>

<sup>1</sup> "Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines" (Sagegrouse Planning Team 2000).  
<sup>2</sup> Wilderness IMP (USDI-BLM 1995b).

1) All withdrawals shall be kept to a minimum, consistent with the demonstrated needs of the agency requesting the withdrawals.

2) Lands shall be available for other public uses to the fullest extent possible, consistent with the purposes of the withdrawal.

3) A current and continuing review of existing withdrawals shall be instituted.

### Management Direction

Approximately 21,000 acres of existing withdrawals from the general land laws will be continued until no longer needed (Table 14). Withdrawal review continuations, modifications, and revocations will continue in the future, as the need arises. Other agency requests for new withdrawals, relinquishments, and modification will be considered on a case-by-case basis.

Approximately 4,600 acres of the Red Knoll ACEC will be recommended to the Secretary of Interior for withdrawal from the public land and mining laws (Map SMA-19).

### Monitoring

**Management Goal 1.** Progress on land tenure adjustment actions will be monitored through the BLM accomplishment tracking process. Periodic planning updates will be published, identifying acres transferred within the various land tenure zones.

**Management Goal 2.** This will be monitored as

proposals are evaluated through the NEPA process. Individual projects will be monitored to ensure compliance with the terms and conditions of the authorizing document and through the BLM accomplishment tracking process. Periodic planning updates will be published identifying land use authorizations issued during the life of the plan.

**Management Goal 3.** Public access needs will be reviewed periodically. Access acquisition will be monitored through the BLM accomplishment tracking process. Periodic planning updates will be published identifying access acquired during the life of the plan.

**Management Goal 4.** Actions will be monitored through the BLM accomplishment tracking process. Periodic planning updates will be published identifying areas withdrawn during the life of the plan.

## Roads/Transportation

**Management Goal** —*Maintain existing roads on the resource area transportation plan and other roads to provide administrative or public access to public land. Construct new roads using best management practices (BMP's) and appropriate mitigation to provide administrative, permitted, and recreational access as needed. Close roads that are not longer needed or that are causing resource damage.*

### Rationale

Access is necessary for BLM personnel to administer the various resource management programs on public

**Table 14.—Existing withdrawals**

Authority <sup>1</sup>	Location			Acres <sup>2</sup>	Purpose	Segre- gative effect <sup>3</sup>	Surface manage- ment agency
	Township	Range	Section				
E.O. 4/17/1926	30	23	25	40	Public Water Reserve 107	A	BLM
	32	23	14	40			
	36	22	7	40			
	38	24	31	10			
	40	23	28	30			
	40	29	6	29.63			
			7	80			
	40	28	1	20			
	41	24	21	2.5			
22			2.5				
		Subtotal	294.63				
E.O. 1/24/1914	31	27	7	80	Public Water Reserve 15	A	BLM
	38	25	29	260.32			
	23	19	10	160			
	26	18	29	39.31			
			32	4.82			
			33	96.02			
	26	19	8	120			
			17	40			
	26	20	6	60.29			
Subtotal			860.76				
E.O. 6/13/1925	38	23	29	40	Public Water Reserve 91	A	BLM
	40	23	7	14.45			
			18	64.97			
		Subtotal	119.42				
E.O. 5/8/1930	38	23	29	80	Public Water Reserve 131	A	BLM
			32	120			
			Subtotal	200			
E.O. 2/25/1919	40	22	10	100	Public Water Reserve 61	A	BLM
			25	40			
			Subtotal	140			
E.O. 4/29/1912	40	22	8	40	Power Site Res. 265	C	BLM
			9	40			
			Subtotal	80			
E.O. 4/3/1914	39	22	25	80	Power Site Res. 429	C	BLM
	39	23	19	129.27			
			30	135.63			
			Subtotal	344.90			

Authority <sup>1</sup>	Location			Acres <sup>2</sup>	Purpose	Segre- gative effect <sup>3</sup>	Surface manage- ment agency
	Township	Range	Section				
SO 9/8/1910	28	14	21	80	Administrative site	B	USFS
			28	80			
			Subtotal	160			
PLO-5235 7/14/72	25	20	20	8,960	Research natural area	B	BLM
			21				
			22				
			23				
			24				
			25				
			26				
			27				
			28				
			29				
			30				
			31				
			32				
			33				
			34				
			35				
36							
			Subtotal	8,960			
PLO-6745 8/28/89	26	20	19	2,622	Radar site	B	USAF
			30				
			31				
			32				
		27	20	5			
	6						
					Subtotal	2,622	

Authority <sup>1</sup>	Location			Acres <sup>2</sup>	Purpose	Segre- gative effect <sup>3</sup>	Surface manage- ment agency
	Township	Range	Section				
PLO 300 10/25/1945	30	16	13	7,127.65	Wildlife reserve	B	BLM
			24				
			25				
			36				
			17				
	30	17	17				
			18				
			19				
			21				
			28				
			29				
			30				
			31				
			32				
	33						
31	16	1					
31	17	4					
5							
6							
7							
8							
9							
Subtotal			7,127.65				
PLO 7446 5/18/00	33	18	11	80	Seed orchard	B	USFS
Resource area total			20,989.36				

<sup>1</sup> Authority abbreviations: E.O. = Executive order; S.O. = Secretarial order; PLO = Public land order.

<sup>2</sup> Table does not include lands that have been transferred out of Federal ownership subsequent to withdrawal.

<sup>3</sup> Segregative effect: A = withdrawn from operation of the general land laws and closed to nonmetalliferous mining (cement quality limestone, diatomite etc.), but open to metal mining (gold, silver, and mercury etc.). B = withdrawn from operation of the general land laws and the mining laws. C = withdrawn from the general land laws.

land including livestock grazing, mining, wildlife habitat management, watershed management, recreation management, and numerous other programs. Access is also an important factor in fire suppression and fire management. Roads on BLM-administered lands are used by permitted users such as miners and livestock operators. Roads are also heavily used by recreationists for dispersed recreation activities such as hunting, fishing, camping, rock-hounding, OHV driving, and sightseeing. Providing and maintaining access to the public lands is an important public service provided by BLM.

### Management Direction

The draft “Washington and Eastern Oregon Districts Transportation Management Plan” (USDI-BLM 2000e)

will serve as the LRA transportation management plan when that document is finalized and approved. A supplemental transportation management plan specific to the planning area and tiered to the broader plan may be prepared, if necessary.

Approximately 246 miles of existing roads and trails in SMA’s will be closed permanently. Another 288 miles will be seasonally closed (Table 4-4). During the life of the plan, additional roads on the transportation plan, as well as roads or trails not on the plan, which are no longer needed for administrative or public access or which may be causing resource damage such as erosion, will be noted and actions will be taken to close and rehabilitate or correct the cause of the damage. Any road or trail(s) proposed to be closed will be reviewed by an interdisciplinary team to determine

need for the road/trail, resource damage being caused, appropriate closure means, alternative access available, etc. Appropriate documentation will be completed if it is determined the road/trail should be closed. Closures will consist of signing and physically blocking access if needed. Rehabilitation could consist of simply closing a road and allowing natural regrowth of vegetation to occur, or it could consist of plowing or ripping the road and seeding with an appropriate seed mix.

Approximately 100 miles of roads will be maintained annually based on priority determinations and the amount of annual road maintenance budget. The emphasis of road maintenance will be to protect and maintain resources. New construction will be considered on a case-by-case basis and will incorporate BMP's for road construction, as outlined in Appendix D. New roads will be allowed for major projects such as mineral development, power generating plants, and transmission lines, etc., if such projects are permitted. Roads could be constructed around private property to provide access to public land. For analysis purposes, it is estimated that no more than 20 miles of new roads will be constructed by the BLM over the life of the plan.

### **Monitoring**

Roads conditions will typically be monitored in conjunction with the conduct of other resource programs. Roads will also be monitored, usually on an annual basis, to determine maintenance needs.

Monitoring of any closed roads will be done in conjunction with monitoring other resource uses such as watershed condition or OHV use. The purpose of this monitoring will be to ensure that closed roads are not being used and that resource damage such as erosion is not occurring.

## **Hazardous Materials**

All hazardous material (HAZMAT) incidences or contaminant releases on public lands will be cleaned up and administered in compliance with all state and Federal laws and regulations. Such incidences will continue to be handled as outlined in the Lakeview District's contingency plan (USDI-BLM 2001f). All actions related to land disposals, exchanges, or right-of-way authorization and mineral developments will be reviewed both internally and externally (if appropriate) for compliance with Federal and state hazardous materials regulations before the action occurs. Special stipulations will also be developed as part of the

authorization process to safeguard human health, prevent environmental damage, and limit BLM liability.

Two known hazardous material sites exist in the planning area and will continue to be managed to safeguard public health and limit further environmental degradation. These are described below.

### **Alkali Lake Chemical Waste Disposal Area**

The 10.3-acre storage site is owned and operated by the ODEQ. During studies done in the 1970s and 1980s, hazardous substances such as chlorophenoxyphenols, chlorinated phenols, chlorinated dibenzodioxins, and chlorinated dibenzofurans were found in the soil and groundwater near the disposal area. Lands surrounding the disposal area are public lands administered by the BLM. In 1990, the BLM and ODEQ took additional steps to protect the public by fencing the area of known groundwater contamination in West Alkali Lake. As of spring 1998, a groundwater contamination plume was detected on public land 1,500 feet west of the fenced disposal area. The BLM will continue to work with the ODEQ in resolving this contaminant issue.

### **Unexploded Ordnance**

Central Oregon was a major military training area during World War II. As a result, unexploded ordnance have been found in a parts of the planning area. Military training continues in portions of the planning area today. Other forms of hazards can and do occur within these training areas. These include hazardous and toxic substances, radioactivity, and unexploded ordinance from downed aircraft and other sources. Alkali Lake aerial targets are located north of the Chemical Waste Disposal Area. These mounds are known to have been used as aerial live-fire targets. The targets were constructed of native sand pushed up into mounds 30 to 40 feet high. Aircraft would live-fire 50 and 20 millimeter rounds and practice bombs into the mounds. In most cases, practice munitions were armed and dangerous.

The U.S. Army Corps of Engineers is tasked with the responsibility under the Defense Environmental Restoration Program to remediate formerly used defense sites. The BLM will work with them in the future to address this issue. Any unexploded ordinance found as a result of such efforts will be disposed of in coordination with Explosive Ordnance Disposal/Army Team at Fort Lewis, Washington, or other appropriate authority.

## Monitoring

Site clean-ups will be monitored to protect and safeguard human health, prevent/restore environmental damage, and to limit the BLM's liability. The BLM HAZMAT Coordinator will monitor the performance of the clean-up contractor for all release on public lands to ensure full compliance and damaged land restoration. HAZMAT monitoring data will be kept in monitoring files and in the BLM's site clean-up data base. All data will be collected at the time and place of the incident or until the cleanup is completed and there is no future threat to human health or the environment.

**Alkali Lake.** The ODEQ's Alkali Lake chemical waste disposal area will continue to be monitored by BLM and ODEQ in accordance with the existing memorandum of understanding between both agencies. The additional steps taken in 1990 to protect public lands that are threatened by chemical release will continue to be monitored by ODEQ. This monitoring includes conducting periodic well and soil sampling inventories of the area in and around the disposal site. The existing fencing will be maintained by ODEQ. The perimeter warning signs will be replaced, as needed. Other monitoring will be done by periodic visits to the site to check boundaries, signing, and visitor use of the area. The number of site visits will be determined by funding levels, with a minimum of one visit annually. These visits will be logged in BLM central files.

## Operation and Maintenance Actions

Maintenance of existing and newly constructed facilities or projects will occur over time; however, the level of maintenance could vary from year to year based on annual funding. Normally, routine operation and maintenance actions are categorically excluded from NEPA analysis (with the exception of actions conducted within WSA's or ISA's). Such activities could include, but are not limited to, routine maintenance of existing roads, ditches, culverts, water control structures, recreation facilities, reservoirs, wells, pipelines, waterholes, fences, cattleguards, seedings, fish and wildlife structures, signs, and other similar facilities/projects. These types of actions are considered to be part of the implementation of this plan and should not require any further analysis to implement on the ground. Maintenance of existing facilities in WSA's or ISA's will be considered on a case-by-case basis (refer to the Wilderness section for more detail) and will

likely require additional NEPA analysis.

## Plan Implementation Process

The RMP will be implemented over a 15-20 year timeframe, as funding allows. Most of the land use plan decisions are effective upon approval of this document. However, many decisions will take a number of years to implement on the ground. Plan monitoring, as described earlier, will show which decisions have been implemented and when. Effectiveness monitoring will show which decisions or actions are achieving management goals and which ones are not. Adaptive management, as described below, will be used to make changes to those decisions which are not achieving management goals.

### Public Involvement in Plan Implementation

Some of the decisions contained in this document will require the preparation of detailed, project-level NEPA analyses prior to implementation. Tribal consultation and public involvement opportunities, including further protest or appeal opportunities, may be provided at that time. Other decisions have been addressed to a sufficient level of detail to be implemented over time without further NEPA analysis or public involvement opportunities.

In addition, the Lakeview District may pilot the development of an implementation strategy or "business plan", that would allow further opportunities for public involvement in determining what portions of the Lakeview RMP should be highest priority for future implementation. The extent of public involvement in this effort has not been determined at this point in time. Further details may become available in the near future.

### Plan Maintenance

Minor changes, refinements, or clarifications in the RMP, including incorporating new data, are called plan maintenance actions. Plan maintenance actions do not expand the scope of resource uses or restrictions or change the terms, conditions, or decisions of the approved Lakeview RMP. Maintenance actions are not considered plan amendments or revisions and do not require formal public involvement and interagency coordination. However, these types of actions will be reported in periodic planning updates.

## Plan Evaluations

The BLM planning regulations (43 CFR 1610.4-9) call for the monitoring of resource management plans on a continual basis with a formal plan evaluation done at regular intervals. Proposed future activity plan decisions would be evaluated to ensure consistency with RMP objectives.

As part of the evaluation process, other government agencies may be asked to review the implementation of the RMP and advise the BLM of consistency with their current plans, programs, and policies. Upon completion of periodic evaluations, the Lakeview District Manager will determine what, if any, changes are necessary to ensure that management actions are consistent with management goals. This could be accomplished through adaptive management principles. It is also possible that the need to consider monitoring findings, new data, new or revised policy, or a new proposed action that may result in a change in the terms, conditions, or decisions of the RMP, could lead to changes so great that a plan amendment or revision must be initiated.

Formal plan evaluation will occur at about 5-year intervals and evaluate:

- 1) Whether management actions are resulting in satisfactory progress toward objectives;
- 2) Whether actions are consistent with current policy;
- 3) Whether original assumptions were correctly applied and impacts correctly predicted;
- 4) Whether mitigation measures are satisfactory;
- 5) Whether the RMP is consistent with the plans and policies of state and local government, other Federal agencies and Indian Tribes; and
- 6) Whether new data are available that would require alteration of the plan.
- 7) Whether the RMP is still valid or needs to be amended or revised.

## New Information and Adaptive Management

*New Information:* In developing the RMP, the BLM used the best science available, including the scientific assessment from the ICBEMP (USDA-FS and USDI-BLM 1996a). The staff also collaborated with other Federal, state, local, and Tribal government agencies,

and involved the public. However, the agency's knowledge will change as local environmental conditions change, as new management techniques are learned, and as advances in science and technology are better understood. As a result, it is inevitable that in the future some of the management direction in the RMP will be found to be inadequate or in need of update.

To rectify such situations, implementation of the RMP decisions will use an adaptive management approach to modify management actions to incorporate new knowledge gained over time. New information could also cause a plan amendment or revision to be prepared.

*Adaptive Management:* Is a procedure in which decisions and changes in management are made as part of an ongoing process. It is a continuous process of planning, implementing, monitoring, evaluating, and incorporating new information into strategies to meet the goals and objectives of the management described in the RMP. This strategy is described further at the end of this document. This process builds on current knowledge, observation, experimentation, and learning from experience. A continuous feedback loop allows for mid-course corrections in management to meet goals and objectives. It also provides a model for adjusting goals and objectives as new information develops and public desires change.

The complex interrelationships of physical, biological, and social components of the ecosystem and how they react to land management practices are often not fully understood when a land-use management plan is developed. To be successful, plans must have the flexibility to adapt and respond to new knowledge or conditions.

The following briefly describes the four parts of adaptive management:

1) *Planning/Decision*—plan development (or revision) is the process leading to 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 is to develop alternative management strategies to address issues and meet the management goals, analyze the consequences of the alternatives, and choose a preferred alternative for implementation.

2) *Implementation*—the process of putting a plan or decision into effect. Implementation includes short- and long-term actions.

3) *Monitoring*—collecting data to detect change in the condition and trend of the ecosystem and to determine if plan objectives are being met.

4) *Evaluation/Assessment*—this is the point where plan implementation is reviewed and monitoring data are analyzed to judge the success of the plan in meeting goals and objectives. This may lead to making recommendations for changes in management actions. The understanding gained through evaluations is critical to managing sustainable, healthy, and productive ecosystems. Evaluations are a key component of the adaptive management process.

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# Glossary

**Active preference** ~ That portion of the total grazing preference for which grazing use may be authorized.

**Activity planning** ~ Site-specific planning which precedes actual development. This is the most detailed level of BLM planning. (See also Implementation Plan).

**Actual use** ~ The amount of animal unit months (AUM's) consumed by livestock based on the numbers of livestock and grazing dates submitted by the livestock operator and confirmed by periodic field checks by the BLM.

**Adjustments** ~ Changes in animal numbers, periods of use, kinds or class of animals or management practices as warranted by specific conditions.

**Allotment** ~ An area of land where one or more livestock operators graze their livestock. Allotments generally consist of BLM lands but may also include other federally managed, state owned, and private lands. An allotment may include one or more separate pastures. Livestock numbers and periods of use are specified for each allotment.

**Allotment categorization** ~ Grazing allotments and rangeland areas used for livestock grazing are assigned to an allotment category during resource management planning. Allotment categorization is used to establish priorities for distributing available funds and personnel during plan implementation to achieve cost-effective improvement of rangeland resources. Categorization is also used to organize allotments into similar groups for purposes of developing multiple use prescriptions, analyzing site-specific and cumulative impacts, and determining trade-offs. (See Selective Management Categories).

**Allotment management plan** ~ A written program of livestock grazing management, including supportive measures if required, designed to attain specific management goals in a grazing allotment.

**Allowable sale quantity** ~ Formerly "allowable cut"; the volume that a sustained yield unit can produce annually under an approved land use plan.

**Amendment (plan amendment)** ~ The process for considering or making changes in the terms, conditions, and decisions of approved RMP's or management framework plans using the prescribed provisions for

resource management planning appropriate to the proposed action or circumstances. Usually only one or two issues are considered that involve only a portion of the planning area.

**Analysis of the management situation** ~ Step 4 of the BLM's land use planning process; it is a comprehensive documentation of the present conditions of the resources, current management guidance, and opportunities for change.

**Animal unit month (AUM)** ~ A standardized measurement of the amount of forage necessary for the sustenance of one cow or cow/calf pair for 1 month (approximately 800 pounds of forage). Equivalents are: one bull, steer, heifer, horse, burro, mule; or five sheep or goats over the age of 6 months.

**Appropriate management level** ~ The optimum number of wild horses and burros, expressed as a range from low end to top end, that contributes to a thriving natural ecological balance on public lands and protects the range from deterioration.

**Appropriate management response** ~ Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

**Aquatic** ~ Living or growing in or on the water.

**Area of critical environmental concern (ACEC)** ~ Type of special land use designation specified within the Federal Land Policy and Management Act. Used to protect areas with important resource values in need of special management.

**Assessment** ~ The act of evaluating and interpreting data and information for a defined purpose.

**Avoidance areas** ~ Areas with sensitive resource values where rights-of-way and Section 302 permits, leases, and easements would be strongly discouraged. Authorizations made in avoidance areas would have to be compatible with the purpose for which the area was designated and not be otherwise feasible on lands outside the avoidance area.

**Back country byways** ~ Vehicle routes that traverse scenic corridors utilizing secondary or back country road systems. National back country byways are designated by the type of road and vehicle needed to travel the byway.

**Base metal** ~ A metal inferior in value to platinum, gold, and silver, generally applied to commercial

metals such as copper, lead and zinc.

**Beneficial uses** ~ The primary beneficial uses of surface water are domestic water supply, salmonid and resident fish habitat, irrigation, livestock watering, wildlife and hunting, fishing, water contact recreation, and aesthetic quality.

**Best forest management practices** ~ General forest management practices which are consistent for all timber harvest and treatment activities.

**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 evaluations and represent the most effective and practical means to achieve management goals for a given site.

**Biomass** ~ Vegetative material leftover from stand treatments. This term usually refers to such material that can be gathered and transported to cogeneration plants, and there utilized for production of electricity.

**Board feet** ~ A unit of solid wood one foot square and one inch thick.

**Broad scale** ~ A large, regional area, such as a river basin; typically a multi-state area.

**Browse** ~ To browse (verb) is to graze a plant; also, browse (noun) is the tender shoots, twigs and leaves of trees and shrubs often used as food by livestock and wildlife.

**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.

**Bunchgrass** ~ Individual grasses that have the characteristic growth habit of forming a "bunch" as opposed to having stolens or rhizomes or single annual habit.

**Bureau of Land Management (BLM)** ~ Government agency with the mandate to manage Federal lands under its jurisdiction for multiple uses.

**Bureau sensitive species** ~ Species eligible as federally listed or candidate, state listed, or state candidate (plant) status, or on List 1 in the Oregon Natural Heritage Database, or otherwise approved for this category by the State Director.

**Candidate species** ~ Any species included in the Federal Register notice of review that are being considered for listing as threatened or endangered under the Endangered Species Act by the U.S. Fish and Wildlife Service.

**Carrying capacity** ~ The maximum stocking rate possible without damaging vegetation or related resources.

**C Category** ~ Custodial management (see Selective management categories).

**Channel** ~ An open conduit either naturally or artificially created which periodically or continuously contains moving water or forms a connecting link between two bodies of water.

**Channel stability** ~ A relative term describing erosion or movement of the channel walls or bottom due to waterflow.

**Cherrystem road** ~ A road that extends into a wilderness study area (WSA) but is excluded from the WSA by means of drawing the WSA boundary around the road.

**Cinnabar** ~ The mineral mercuric sulfide; an ore of mercury.

**Class I cultural inventory** ~ An inventory of the existing literature and a profile of the current data base for cultural resources; frequently utilized to guide field inventories.

**Class II cultural inventory** ~ A sample-oriented field inventory which is representative of the range of cultural resources within a finite study area.

**Class III cultural inventory** ~ An intensive field inventory designed to locate and record, from surface and exposed profile, all cultural resources within a specified area.

**Climax** ~ The culminating stage in plant succession for a given site where vegetation has reached a highly stable condition.

**Closed** ~ Generally denotes that an area is not available for a particular use or uses; refer to specific definitions found in law, regulations, or policy guidance for application to individual programs. For example, 43 CFR 8340.0-5 sets forth the specific meaning of closed as it relates to OHV use, and 43 CFR 8364 defines closed as it relates to closure and

restriction orders.

**Closed area designation** ~ An area where off-highway vehicle (OHV) use is prohibited. Use of OHV's in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the authorized officer.

**Commercial (productive) forest land** ~ Forest land which is producing, or has a site capable of producing, at least 20 cubic feet/acre/year of a commercial tree species.

**Commercial tree species** ~ Tree species whose yields are reflected in the allowable cut: pines, firs, spruce, Douglas-fir, and larch.

**Competitive forage** ~ Those forage species utilized by two or more animal species.

**Conditional suppression** ~ Suppression actions based on predetermined, stringent conditions, i.e., fire location, weather condition, forces available, and fire size. Monitoring must be done throughout the fire's duration and direct suppression will be taken if any one condition is exceeded.

**Conformance** ~ Means that a proposed action shall be specifically provided for in the land use plan or, if not specifically mentioned, shall be clearly consistent with the goals, objectives, or standards of the approved land use plan.

**Conservation agreement** ~ A formal signed agreement between the USFWS or National Marine Fisheries Service and other parties that implements specific actions, activities, or programs designed to conserve the species by reducing threats to the species, stabilizing the species' populations, and maintaining its ecosystem. The primary purpose of the agreement is to conserve this species through interim conservation measures under the 1973 "Endangered Species Act", as amended. These agreements can be developed at a State, regional, or national level and generally include multiple agencies, as well as Tribes.

**Conservation strategy** ~ A strategy outlining current activities or threats that are contributing to the decline of a species, along with the actions or strategies needed to reverse or eliminate such a decline or threats. Conservation strategies are generally developed for species of plants and animals that are designated as BLM sensitive species or that have been determined by the USFWS or National Marine Fisheries Service to be Federal candidates under the "Endangered Species Act."

**Consistency** ~ Means that the proposed land use plan does not conflict with officially approved plans, programs, and policies of Tribes, other Federal agencies, and state, and local governments to the extent practical within Federal law, regulation, and policy.

**Critical growth period** ~ A specified period of time in which plants need to develop sufficient carbohydrate reserves and produce seed (approximately the months of May and June for bluebunch wheatgrass).

**Critical habitat** ~ The area of land, water, and airspace required for the normal needs and survival of species.

**Cultural plants** ~ Plants traditionally used by Native Americans for subsistence, economic, or ceremonial purposes.

**Cultural resources** ~ Fragile and nonrenewable elements of the physical and human environment including archaeological remains (evidence of prehistoric or historic human activities) and sociocultural values traditionally held by ethnic groups (sacred places, traditionally utilized raw materials, etc.).

**Cultural site** ~ Any location that includes prehistoric and/or historic evidence of human use, or that has important sociocultural value.

**Cultural values** ~ These include archeological sites, historic sites, structures or features, and Native American traditional cultural properties.

**Dacite** ~ A fine-grained extrusive rock with the same composition as its intrusive equivalent, granodiorite.

**Deferment** ~ The withholding of livestock grazing until a certain stage of plant growth is reached.

**Deferred grazing** ~ Discontinuance of livestock grazing on an area for specified period of time during the growing season to promote plant reproduction, establishment of new plants, or restoration of the vigor by old plants.

**Deferred rotation grazing** ~ Discontinuance of livestock grazing on various parts of a range in succeeding years, allowing each part to rest successively during the growing season. This permits seed production, establishment of new seedlings, or restoration of plant vigor. Two, but more commonly three or more, separate pastures are required.

**Diatomite** ~ A sedimentary, siliceous rock made from an accumulation of microscopic siliceous skeletons of

aquatic plants (diatoms) mixed with shell; also known as diatomaceous earth. The material can be used as a filter, absorbent, abrasive, filler, and insulation.

**Director (BLM Director)** ~ The national director of the BLM.

**Discretionary closures** ~ Areas where the BLM has determined that energy and/or mineral leasing, entry or disposal, even with the most restrictive stipulations or conditions would not be in the public interest.

**Dispersed/extensive recreation** ~ Recreation activities of an unstructured type which are not confined to specific locations such as recreation sites. Example of these activities may be hunting, fishing, off-road vehicle use, hiking, and sightseeing. Minimal management actions related to the Bureau's stewardship responsibilities are considered adequate in the areas where extensive recreation takes place and explicit recreation management is not required.

**Disposal** ~ Any BLM authority which transfers title of lands or minerals out of public ownership.

**Distribution** ~ The uniformity of livestock grazing over a range area. Distribution is affected by the availability of water, topography, and type and palatability of vegetation as well as other factors.

**Drainage (internal soil)** ~ The property of a soil that permits the downward flow of excess water. Drainage is reflected in the frequency and duration of soil saturation.

**Ecological site inventory** ~ The basic inventory of present and potential vegetation on BLM rangelands. Ecological sites are differentiated on the basis of significant differences in kind, proportion, or amount of plant species present in the plant community. Ecological site inventory utilizes soils, the existing plant community, and ecological site data to determine the appropriate ecological site for a specific area of rangeland and to assign the appropriate ecological status.

**Ecological status** ~ Ecological status is the present state of vegetation of a range site in relation to the potential natural community for that site. It is an expression of the relative degree to which the kinds, proportions and amounts of plants in a plant community resemble that of the potential natural plant community for the site. Four classes are used to express the degree to which the production or composition of the present plant community reflects that of the potential

natural community (climax). Departures from climax can enhance or depreciate the value of the resultant plant community for various uses.

**Ecological status (seral stage)** ~ Percentage of present plant community that is climax for the range site:

Potential natural community	76–100
Late seral	51–75
Mid seral	26–50
Early seral	0–25

**Ecosystem** ~ A complete, interacting system of living organisms and the land and water that make up their environment; the home places of all living things, including humans.

**Ecosystem management** ~ The use of a "whole-landscape" approach to achieve multiple use management of public lands by blending the needs of people and environmental values in such a way that these lands represent diverse, healthy, productive, and sustainable ecosystems.

**Endangered species** ~ A plant or animal species whose prospects for survival and reproduction are in immediate jeopardy, as designated by the Secretary of the Interior, and as is further defined by the Endangered Species Act.

**Environmental assessment** ~ One type of document prepared by Federal agencies in compliance with the National Environmental Policy Act (NEPA) which portrays the environmental consequences of proposed Federal actions which are not expected to have significant impacts on the human environment.

**Environmental impact statement (EIS)** ~ One type of document prepared by Federal agencies in compliance with NEPA which portrays the environmental consequences of proposed major Federal actions which are expected to have significant impacts on the human environment.

**Ephemeral stream** ~ A stream that flows only after rains or during snowmelt.

**Erosion** ~ The wearing away of the land surface by running water, wind, ice, or other geological agents.

**Evaluation (plan evaluation)** ~ The process of reviewing the land use plan and the periodic plan monitoring reports to determine whether the land use plan decisions and NEPA analysis are still valid and

whether the plan is being implemented.

**Evaporite** ~ A sedimentary rock composed primarily of minerals produced from a saline solution as a result of extensive or total evaporation of seawater or inland lakes.

**Exchange of use** ~ Grazing authorization issued to a permittee free of charge for unfenced, intermingled private lands within an allotment.

**Exclosure (livestock)** ~ An area closed to livestock grazing and intended to remain closed to grazing in the long term. In some cases livestock may be authorized to trail through an exclosure, especially if there is no alternative route to move cattle from one place to another.

**Exclusion area (rights-of-way)** ~ Areas with sensitive resource values where rights-of-way and 302 permits, leases, and easements would not be authorized.

**Existing management situation** ~ A component of the analysis of the management situation; a description of the existing management direction governing resource management programs of a planning area.

**Extensive recreation management area** ~ Areas where significant recreation opportunities and problems are limited and explicit recreation management is not required. Minimal management actions related to the Bureau's stewardship responsibilities are adequate in these areas.

**Extirpated** ~ Population destroyed in that geographical location.

**Federal candidate species** ~ See Special status species.

**Federal Land Policy and Management Act of 1976 (FLPMA)** ~ Public Law 94-579, October 21, 1976, often referred to as the BLM's "Organic Act," which provides the majority of the BLM's legislated authority, direction, policy, and basic management guidance.

**Fine scale** ~ A single landscape, such as a watershed or subwatershed.

**Fire management plan** ~ A strategic plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan; the plan is supplemented by operational procedures such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and

prevention plans.

**Fire preparedness** ~ Activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination.

**Floodplain** ~ The relatively flat area or lowlands adjoining a body of standing or flowing water which has been or might be covered by floodwater.

**Forb** ~ Annual or perennial plant other than a grass or shrub.

**Forest land** ~ Land that is now, or has the potential of being, at least 10 percent stocked by forest trees (based on crown closure) or 16.7 percent stocked (based on tree stocking).

**Fossil** ~ Mineralized or petrified form from a past geologic age, especially from previously living things.

**Geographic information system** ~ A computer system capable of storing, analyzing, and displaying data and describing places on the Earth's surface.

**Geothermal energy** ~ The use of steam and hot water generated by heat from the Earth to do work.

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

**Grazing system** ~ The manipulation of livestock grazing to accomplish a desired result.

**Greenstripping** ~ The practice of establishing or using patterns of fire resilient vegetation and/or material to reduce wildland fire occurrence and size. This practice also breaks up monocultures such as cheatgrass areas, and creates some biodiversity.

**Ground cover** ~ Vegetation, mulch, litter, rock, etc.

**Groundwater** ~ Water contained in pore spaces of consolidated and unconsolidated subsurface material.

**Guidelines** ~ Actions or management practices that may be used to achieve desired outcomes, sometimes expressed as best management practices. Guidelines may be identified during the land use planning process, but they are not considered a land use plan decision unless the plan specifies that they are mandatory. Guidelines for grazing administration must conform to 43 CFR 4180.2.

**Habitat** ~ A specific set of physical conditions that surround a species, group of species, or a large community. In wildlife management, the major constituents of habitat are considered to be food, water, cover, and living space.

**Herd area** ~ The geographic area identified as having been used by wild horse or burro herds as their habitat in 1971.

**Herd management area** ~ Public land under the jurisdiction of the BLM that has been designated for special management emphasizing the maintenance of an established wild horse herd.

**Herd management area plan** ~ An action plan that prescribes measures for the protection, management, and control of wild horses and burros and their habitat on one or more herd management areas, in conformance with decisions made in approved management framework or resource management plans.

**Historic** ~ Refers to period wherein nonnative cultural activities took place, based primarily upon European roots, having no origin in the traditional Native American culture(s).

**Hydrothermal waters** ~ Hot waters deep within the Earth's crust, that quickly ascends to the Earth's surface, losing little heat at hot temperatures (hot springs, and geysers are examples).

**I Category** ~ Improve management (see Selective management categories).

**IMP** ~ (Wilderness) interim management policy for lands under wilderness review.

**Implementation decisions** ~ Decisions that lead to on-the-ground actions to implement land use plans. They are generally appealable to IBLA under 43 CFR 4.40.

**Implementation plan** ~ A site-specific plan written to implement decisions made in a land use plan. An implementation plan usually selects and applies best management practices to meet land use plan objectives. Implementation plans are synonymous with "activity" plans. Examples of implementation plans include interdisciplinary management plans, habitat management plans, and allotment management plans. (See also Activity Plan).

**Indian Tribe (or Tribe)** ~ Any Indian group in the conterminous United States that the Secretary of the Interior recognizes as possessing Tribal status (listed

periodically in the Federal Register).

**Interior Columbia River Basin Ecosystem Management Project (ICBEMP)** ~ A planning effort that examined the large-scale or regional effects of past and present land use activities in the Interior Columbia River Basin ecosystem and a small part of the Great Basin ecosystem.

**Intermittent stream** ~ A stream which flows most of the time but occasionally is dry or reduced to pool stage.

**Initial (fire) attack** ~ An aggressive fire suppression action consistent with firefighter and public safety and values to be protected.

**Instant study area** ~ A BLM primitive or natural area designated before November 1, 1975, subject to wilderness review under section 603(a) of FLPMA.

**Interdisciplinary** ~ Involving more than one discipline or resource management program; promotes resource management at a plant community, landscape, or ecosystem level.

**Intermediate** ~ Said of an igneous rock that is transitional between basic and silicic; an intermediate rock generally has a silica (silicon dioxide) content of 54 to 65 percent.

**Invasive juniper** ~ Juniper stands less than 130 years old, which have expanded to other vegetative sites due mainly to human-induced exclusion of natural fire.

**Issue** ~ A subject or question of widespread public discussion or interest regarding resource area management, identified through public participation.

**Known geothermal resource area** ~ A specific area identified where geothermal resources are known to occur.

**Lacustrine** ~ Wetland and deep water habitats exceeding 2 meters at low water and lacking trees, shrubs, and persistent emergent vegetation (see Palustrine).

**Land classification** ~ A process required by law for determining the suitability of public lands for certain types of disposal or lease under the public land laws or for retention under multiple use management.

**Land treatment** ~ All methods of range improvement and soil stabilization such as reseeding, brush control (burning and mechanical), pitting, furrowing, water

spreading, etc.

**Land use allocation** ~ The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions.

**Land use authorization** ~ Those realty-related authorizations such as leases, permits, and easements authorized under section 302(b) of FLPMA and the “Recreation and Public Purpose Act.”

**Land use plan** ~ A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land use plan-level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed.

**Land use plan decision** ~ Establishes desired outcomes and actions needed to achieve them. Decisions are reached using the planning process in 43 CFR 1600. When they are presented to the public as proposed decisions, they can be protested to the BLM Director. They are not appealable to IBLA.

**Leasable minerals** ~ Minerals that may be leased to private interests by the Federal government; includes oil, gas, geothermal, coal, and sodium compounds.

**Limited area designation** ~ An area restricted at certain times, in certain areas, and/or to certain vehicular use. These restrictions may be of any type, but can generally be accommodated within the following categories: number of vehicles, types of vehicles, time or season of vehicle use, permitted for licensed use only, use on existing roads and trails, use on designated roads and trails, and other restrictions.

**Livestock forage condition** ~ Based on percent of desirable forage in the composition for livestock and the existing erosion condition of a site. Condition of the range must include consideration of vegetation quality and quantity and soil erosion characteristics.

**Livestock operation** ~ The management of a ranch or farm so that a significant portion of the income is derived from the continuing production of livestock.

**Locatable minerals** ~ Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the “Mining Law of 1872,” as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

**Management concern** ~ Procedures or land-use allocations that do not constitute issues but, through the resource management plan/EIS preparation process, are recognized as needing to be modified or needing decisions made regarding management direction.

**Management framework plan** ~ Older generation of land use plans developed by the BLM; this generation of planning has been replaced by the RMP.

**Management opportunities** ~ A component of the analysis of the management situation; actions or management directions that could be taken to resolve issues or management concerns.

**Marlaceous** ~ Containing calcareous clay or mixture of clay and particles of calcite or dolomite, usually contains fragments of shells.

**M Category** ~ Maintain management (see Selective management categories).

**Microbiotic crusts** ~ Lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing on or just below the surface of soils.

**Mineral entry** ~ The location of mining claims by an individual to protect his right to a valuable mineral.

**Mineral estate** ~ Refers to the ownership of minerals at or beneath the surface of the land.

**Mitigation measures** ~ Methods or procedures committed to by BLM for the purpose of reducing or lessening the impacts of an action.

**Monitoring and evaluation** ~ The collection and analysis of data to evaluate the progress and effectiveness of on-the-ground actions in meeting resource management goals and objectives.

**Motorized equipment** ~ Any machine activated by nonliving power source except small battery-powered, hand-carried devices such as flashlights, shavers, Geiger counters, and cameras.

**Motor vehicle** ~ Any vehicle which is self-propelled or any vehicle which is propelled by electric power obtained from batteries.

**Multiple use** ~ The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or

all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.

**National Environmental Policy Act (NEPA)** ~ 1969 law requiring all Federal agencies to evaluate the impacts of proposed major Federal actions with respect to their significance on the human environment.

**National Register of Historic Places** ~ A register of districts, sites, buildings, structures, and objects, significant in American history, architecture, archaeology and culture, established by the "Historic Preservation Act" of 1966 and maintained by the Secretary of the Interior.

**National register potential** ~ Status of a cultural resource which is deemed qualified for the National Register of Historic Places, prior to formal documentation and consultation; managed as if it were actually listed.

**National wildlife refuge** ~ An area administered by the U.S. Fish and Wildlife Service (USFWS) for the purpose of managing certain fish or wildlife species.

**Natural heritage cell** ~ A unique ecosystem type used by the Natural Heritage Plan to inventory, classify, and evaluate natural areas. Cells must contain one or more ecosystem elements such as plant communities or ecosystems (terrestrial, aquatic, or wetland), special species (species of conservation interest because of their rarity, risk of extirpation or extinction, or under representation in the statewide natural area system), or unique geologic features (landforms, outcrops, and other geologic units) (Oregon Natural Heritage Advisory Council 1998).

**Naturalness** ~ Refers to an area which "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially

unnoticeable" (from section 2[c], "Wilderness Act").

**Nephelometer** ~ An instrument that determines light scattering, usually measured hour to hour and directed into a computer analysis system. Light scattering is useful as it roughly correlates to the amount of fine particulate matter in the air.

**Noncommercial forestland** ~ Forestland which is not capable of producing 20 cubic feet per acre of wood per year of commercial tree species.

**Noncommercial tree species** ~ Species whose yields are not reflected in the allowable cut, regardless of their salability. Includes all hardwoods, juniper and mountain mahogany.

**Nondiscretionary closures** ~ Areas specifically closed to energy and/or mineral leasing, entry or disposal by law, regulation, Secretarial decision, or Executive order.

**Nonoperable** ~ Forestlands unsuitable for any type of timber harvest activity due to their (1) physical features; for example, extremely rocky, boulder fields, rim rocks, rock outcrops and unsafe for logging operations and/or (2) forestlands on which logging activity will result in the loss of the site's potential for producing commercial tree species; for example loss of soil through erosion, slope failure and/or the inability to reforest the site within acceptable time limits (usually 5 to 15 years) even with special reforestation techniques.

**Nonproblem site** ~ A subclass of commercial forestland which requires no special harvesting, reforestation or other restrictive measures in order to be managed on a sustained yield basis.

**Nonrestricted forestland** ~ Nonproblem sites in the timber base on which no special techniques are required for harvest, reforestation, and other management practices.

**Nonuse** ~ Available grazing capacity in AUM's which is not permitted during a given time period.

**Noxious weed** ~ According to the "Federal Noxious Weed Act" (Public Law 93-629), a weed that causes disease or has other adverse effects on man or his environment and, therefore, is detrimental to the agriculture and commerce of the United States and to the public health.

**Objective** ~ A description of a desired condition for a resource. Objectives can be quantified and measured

and, where possible, have established time frames for achievement.

**Off-highway vehicle** ~ Any motorized vehicle capable of, or designed for, travel on or immediately over land, water or other natural terrain, excluding (1) any nonamphibious registered motorboat, (2) emergency vehicles, and (3) vehicles in official use.

**Old growth** ~ Forested stands meeting, or with the capability to meet, the following criteria:

- Be at least 40 contiguous acres.
- Contain mature trees with at least 15 trees per acre greater than 20 inches in diameter.
- Having a multilayered canopy with two or more age classes.
- Contain snags and down woody material.
- Contain understory plants.

**Open** ~ Generally denotes that an area is available for a particular use or uses. Refer to specific program definitions found in law, regulations, or policy guidance for application to individual programs. For example, 43 CFR 8340.0-5 defines the specific meaning of open as it relates to OHV use.

**Open area designation** ~ Any area where all types of vehicle use are permitted at all times, anywhere in the area subject to the operating regulations and vehicle standards set forth in 43 CFR 8341 and 8342.

**Paleontology** ~ A science dealing with the life forms of past geological periods as known from fossil remains.

**Palustrine** ~ All nontidal wetlands dominated by trees, shrubs, and persistent emergent vegetation and water depth in the deepest part of the basin less than 2 meters at low water.

**Percentage of use** ~ Grazing use of current vegetation growth, usually expressed as a percentage of volume removed.

**Perennial (permanent) stream** ~ A stream that ordinarily has running water on a year-round basis.

**Period of use** ~ The time of livestock grazing on a range area based on type of vegetation or stage of vegetative growth.

**Perlite** ~ A siliceous volcanic glass having numerous concentric spherical cracks that give rise to an onion-skin structure. The material can be heated and expanded to form a solid, foam-like material used in

ceiling tiles, potting soil, and other applications.

**Permit/leases (grazing)** ~ Under section 3 of the "Taylor Grazing Act," a permit is a document authorizing use of public lands within grazing districts for the purpose of grazing livestock. Under section 15 of the "Taylor Grazing Act," a lease is a document authorizing livestock grazing use of public lands outside grazing districts.

**Permitted use** ~ The forage (expressed in animal unit months) allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease.

**Permit value** ~ The market value of a BLM grazing permit which is often included in the overall market value of the ranch.

**Petroglyph** ~ A figure, design, or indentation carved, abraded, or pecked into a rock.

**Pictograph** ~ A figure or design painted onto a rock.

**Plan maintenance** ~ 43 CFR Part 1610.5-4 requires that resource management plans be maintained, as necessary, to reflect minor changes in data. In addition, 50 CFR Part 1502.9(c) requires Federal agencies to consider new information that becomes available after a NEPA analysis has been completed to determine if it is relevant to the ongoing action and/or would substantially alter the impact analysis or lead to the need to alter an existing decision. This is accomplished through the plan review and maintenance process. Examples of new information include new research or monitoring studies that are conducted during the life of the plan. Plan maintenance actions are limited to refining or documenting a previously approved decision from the plan. Maintenance actions can not expand the scope of the resource uses or restrictions, or alter the terms, conditions, or approved decisions in the plan. Maintenance actions do not require public or agency involvement, but must be documented. In contrast, new information that is significant enough to lead to revising an existing decision would require the preparation of a publicly-reviewed plan revision or amendment and associated NEPA document. Plan maintenance is documented in periodic Planning Update publications which are mailed to interested parties.

**Planning criteria** ~ The standards, rules, and other factors developed by managers and interdisciplinary teams for their use in forming judgments about decision making, analysis, and data collection during

planning. Planning criteria streamline and simplify the resource management planning actions.

**Playa lake** ~ A shallow lake that is seasonally dry; soils on the lake bottom are usually quite alkaline.

**PM2.5** ~ Particulate matter with a diameter of 2.5 microns or less.

**PM10** ~ Particulate matter with a diameter of 10 microns or less.

**Potential natural community** ~ The biotic community (living organisms) that would become established if all successional sequences were completed without interferences by man under the present environmental conditions.

**Precious metal** ~ A metal superior in value to commercial metals such as copper, lead, and zinc; generally applied to the precious metals such as gold, platinum, and silver.

**Preferred alternative** ~ The alternative in the RMP/EIS which the agency has selected that best fulfills the agency's statutory mission and responsibilities and offers the most acceptable resolution of the planning issues and management concerns.

**Prehistoric** ~ Refers to the period wherein Native American cultural activities took place which were not yet influenced by contact with historic nonnative culture(s).

**Prescribed fire** ~ The introduction of fire to an area under regulated conditions for specific management purposes (usually vegetation manipulation).

**Presuppression** ~ All actions involved in the location or allocation of suppression resources in order to be prepared to suppress wildland fires.

**Proper use** ~ The degree and time of use of the current year's plant growth which, if continued, will either maintain or improve the range condition consistent with conservation of other natural resources.

**Proper use factor** ~ The degree of use a kind of grazing animal will make of a particular plant when the range is properly grazed.

**Public lands** ~ Land or interest in land owned by the United States and administered by the Secretary of the Interior through the BLM, except lands located on the outer continental shelf, and land held for the benefit of

Indians, Aleuts, and Eskimos.

**Range betterment fund** ~ A fund established by Congress in FLPMA comprised of 50 percent of the grazing fees collected by the U.S. Treasury. This fund is to be used for on-the-ground rehabilitation, protection, and improvement of the public lands that will arrest rangeland deterioration and improve forage conditions with resulting benefits to wildlife, watershed protection, and livestock production.

**Range improvement** ~ A structure, excavation, treatment or development to rehabilitate, protect, or improve public lands to advance range betterment; synonymous with range improvement.

**Range seeding** ~ The process of establishing vegetation by mechanical dissemination of seed.

**Range trend** ~ The direction of change in range condition and soil.

**Raptor** ~ Bird of prey with sharp talons and strongly curved beaks (such as hawks, owls, vultures, and eagles).

**Recreation and Public Purposes Act** ~ This act authorized the Secretary of the Interior to lease or convey public lands for recreational and public purposes under specified conditions of states or their political subdivisions, and to nonprofit corporations and associations.

**Recreational opportunity** ~ Those outdoor recreation activities which offer satisfaction in a particular physical, social, and management setting in the EIS areas; these activities are primarily hunting, fishing, wildlife viewing, photography, boating, and camping.

**Recreation opportunity spectrum** ~ A framework for defining and stratifying classes of outdoor recreation environment, activities, and experience opportunities. These are defined along a continuum or spectrum divided into seven classes: primitive, semiprimitive nonmotorized, semiprimitive motorized, roaded modified, roaded natural, rural, and urban.

**Recreational rivers** ~ Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

**Research natural area (RNA)** ~ An area where natural processes predominate and which is preserved

for research and education; under current BLM policy, these areas must meet the relevance and importance criteria of ACEC's and are designated as ACEC's.

**Residual ground cover** ~ That portion of the total vegetative ground cover that remains after the livestock grazing season.

**Resiliency, economic or social** ~ The ability of a community to respond to externally induced changes such as larger economic or social forces.

**Resource advisory council (RAC)** ~ A council established by the Secretary of the Interior to provide advice or recommendations to BLM management. In some states, provincial advisory councils (PAC's) are functional equivalents of RAC's.

**Resource area** ~ The on-the-ground management unit of the BLM comprised of BLM-administered land within a specific geographic area.

**Resource management plan (RMP)** ~ Current generation of land use plans developed by BLM under the FLPMA; replaces the older generation management framework plans; provides long-term (up to 20 years) direction for the management of a particular area of land, usually corresponding to a BLM resource area, and its resources.

**Retort** ~ A vessel used for the distillation of volatile materials.

**Revision (plan revision)** ~ The process of completely rewriting the land use plan due to changes in the planning area affecting major portions of the plan or the entire plan.

**Rhyolite** ~ A group of extrusive igneous rocks with the same composition as its intrusive equivalent, granite.

**Right-of-way** ~ A permit or an easement which authorizes the use of public lands for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, reservoirs, etc.; also, the lands covered by such an easement or permit.

**Right-of-way corridor** ~ A parcel of land that has been identified by law, Secretarial order, through a land use plan or by other management decision as being the preferred location for existing and future right-of-way grants and suitable to accommodate one type of right-of-way or one or more rights-of-way which are similar, identical, or compatible.

**Riparian conservation area (RCA)** ~ An area delineated on the ground that encompasses a riparian ecosystem.

**Riparian habitat** ~ Riparian habitat is defined as a specialized form of wetland restricted to areas along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams; also, periodically, flooded lake and reservoir shore areas, as well as lakes with stable water levels with characteristic vegetation.

**Rock art sites** ~ Petroglyphs or pictographs.

**Rockshelter** ~ Naturally-formed recess in a rock formation which provided shelter to prehistoric occupants.

**Road** ~ A vehicle route which has been improved and maintained by mechanical means to endure relatively regular and continuous use.

**Roadless** ~ For the purpose of the wilderness review program, this refers to the absence of roads which have been improved and maintained by mechanical means to ensure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road. Words and phrases used in the above definition of roadless are defined as follows:

**Improved and maintained** ~ Actions taken physically by man to keep the road open to vehicular traffic. "Improved" does not necessarily mean formal construction. "Maintained" does not necessarily mean annual maintenance.

**Mechanical means** ~ Use of hand or power machinery or tools.

**Relatively regular and continuous use** ~ Vehicular use which has occurred and will continue to occur on a relatively regular basis. Examples are access roads for equipment to maintain a stock water tank or other established water sources, access roads to maintained recreation sites or facilities, or access roads to mining claims.

**Runoff** ~ The water that flows on the land surface from an area in response to rainfall or snowmelt. As used in this RMP/EIS, runoff from an area becomes streamflow when it reaches a channel.

**Salinity** ~ A measure of the mineral substances dissolved in water.

**Salable minerals** ~ High volume, low value mineral

resources including common varieties of rock, clay, decorative stone, sand, gravel, and cinder.

**Scablands** ~ Areas with low sagebrush and other forb communities on extremely shallow, stoney soils usually subtended by basalt or clay.

**Scale** ~ Refers to the geographic area and data resolution under examination in an assessment or planning effort.

**Scenic byways** ~ Highway routes which have road-sides or corridors of special aesthetic, cultural, or historic value. An essential part of the highway is its scenic corridor. The corridor may contain outstanding scenic vistas, unusual geologic features, or other natural elements.

**Scenic quality** ~ The degree of harmony, contrast and variety within a landscape.

**Scenic river** ~ A river or section of a river that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.

**Scoping** ~ The process of identifying the range of consideration, issues, management concerns, preliminary alternatives, and other components of an environmental impact statement or land-use planning document. It involves both internal and external, or public, involvement.

**Seasonal (season long) grazing** ~ Grazing use throughout a specific season.

**Sediment** ~ Soil, rock particles and organic or other debris carried from one place to another by wind, water, or gravity.

**Selective management categories** ~ Three categories broadly defining rangeland characteristics, potential, opportunities, and needs. The three categories are maintain, improve and custodial. The criteria for each category are:

*Maintain category criteria:*

- Present range condition is satisfactory.
- Allotments have moderate or high resource production potential, and are producing near their potential (or trend is moving in that direction).
- No serious resource-use conflicts/controversies exist.
- Opportunities may exist for positive economic

return from public investments.

- Present management appears satisfactory.
- Other criteria appropriate to EIS area.

*Improve category criteria:*

- Present range condition is unsatisfactory.
- Allotments have moderate to high resource production potential and are producing at low to moderate levels.
- Serious resource-use conflicts/controversy exist.
- Opportunities exist for positive economic return from public investments.
- Present management appears unsatisfactory.
- Other criteria appropriate to EIS area.

*Custodial category criteria:*

- Present range condition is not a factor.
- Allotments have low resource production potential, and are producing near their potential.
- Limited resource-use conflicts/controversy exist.
- Opportunities for positive economic return on public investment do not exist or are constrained by technological or economic factors.
- Present management appears satisfactory or is the only logical practice under existing resource conditions.
- Other criteria appropriate to EIS area.

**Seral community** ~ A successional plant community that differs in species composition from the climax or potential natural community.

**Seral stage** ~ See Ecological status.

**Shrub** ~ A low, woody plant, usually with several stems, that may provide food and/or cover for animals.

**Siliceous** ~ Containing silica (silicon dioxide).

**Silicic** ~ Containing silica in dominant amount.

**Silviculture** ~ The science and art of producing and tending a forest.

**Slash** ~ The branches, bark, tops, cull logs and broken or uprooted trees left on the ground after logging has been completed.

**Social resiliency** ~ See Resiliency.

**Social science** ~ The study of society and of individual relationships in and to society, generally including one or more of the academic disciplines of sociology, economics, political science, geography, history, anthropology, and psychology.

**Solitude** ~ The state of being alone or remote from habitations; isolation; a lonely, unfrequented, or secluded place.

**Special recreation management area** ~ Areas which require explicit recreation management to achieve the Bureau's recreation objectives and provide specific recreation opportunities. Special management areas are identified in the RMP, which also defines the management objectives for the area. Major Bureau recreation investments are concentrated in these areas.

**Special status species** ~ Includes the following:

- (1) Threatened and endangered (T&E) species are those officially listed as threatened or endangered by the Secretary of the Interior under the provisions of the "Endangered Species Act." A final rule for the listing has been published in the Federal Register.
- (2) Proposed species are species that have been officially proposed for listing as threatened or endangered by the Secretary of the Interior. A proposed rule has been published in the Federal Register.
- (3) Candidate species are those species designated as candidates (Categories 1 and 2) for listing as threatened or endangered by the USFWS/National Marine Fisheries Service (NMFS). A list has been published in the Federal Register.
- (4) State listed species are those proposed for listing or listed by a state in a category implying potential endangerment or extinction. Listing is either by legislation or regulation.
- (5) Bureau sensitive species are those designated by a State Director, usually in cooperation with the state agency responsible for managing the species, as sensitive. They are those species that are either:
  - (1) under status review by the FWS/NMFS;
  - (2) whose numbers are declining so rapidly that Federal listing may become necessary;
  - (3) with typically small and widely dispersed populations;
  - or (4) those inhabiting ecological refugia or other specialized or unique habitats.

(6) Assessment species are species which are not presently eligible for official Federal or state status but are of concern in Oregon and may need protection or mitigation in BLM actions (special status is defined in IM-OR-91-57, "Oregon-Washington Special Status Species Policy").

**Species diversity** ~ The number, different kinds of, and relative abundances of species present in a given area.

**Standard** ~ A description of the physical and biological conditions or degree of function required for healthy, sustainable lands (e.g., land health standards).

**State implementation plan (SIP)** ~ A strategic document, prepared by a state (or other authorized air quality regulatory agency) and approved by the U.S. Environmental Protection Agency, that thoroughly describes how requirements of the "Clean Air Act" will be implemented (including standards to be achieved, control measures to be applied, enforcement actions in case of violation, etc.).

**State listed species** ~ Any plant or animal species listed by the State of Oregon as threatened or endangered within the State under Oregon Revised Statutes 496.004, 498.026, or 564.040.

**Step-down** ~ The process of applying broad-scale science findings and land use decisions to site-specific areas using a hierarchical approach (subbasin review) of understanding current resource conditions, risks, and opportunities.

**Stocking rate** ~ The amount of animal units on a specified area at a specific time, usually expressed in acres/AUM.

**Streambank (and channel) erosion** ~ This is the removal, transport, deposition, recutting and bedload movement of material by concentrated flows.

**Subbasin review** ~ An interagency, collaborative consideration of resources, resource management issues, and management recommendations for one or more subbasins or watershed drainages approximately 800,000 to 1,000,000 acres in size.

**Suitable for preservation as wilderness** ~ Refers to a recommendation that certain Federal lands satisfy the definition of wilderness in the "Wilderness Act" and have been found appropriate for designation as wilderness on the basis of an analysis of the existing and potential uses of the land.

**Sunstone** ~ A semiprecious gemstone; a feldspar crystal found in basalt.

**Suspended nonuse** ~ Temporary withholding of a grazing preference from active use.

**Sustainable annual harvest** ~ The yield that a forest can produce continuously from a given level of management.

**Sustained yield** ~ Maintenance of an annual or regular periodic output of a renewable resource from public land consistent with the principles of multiple use.

**Temporary nonrenewable (TNR) grazing use** ~ Livestock grazing use authorized when forage is temporarily available due to nonuse, climatic conditions, range improvements, or other factors. When the amount of forage for livestock grazing increases temporarily, a nonrenewable permit may be issued if the increased use is consistent with multiple use objectives and does not interfere with existing livestock operations. Examples of the suitable or normal uses of TNR grazing are:

- to test carrying capacity of an area;
- to authorize use by a nonpermittee;
- for a vegetation treatment, such as a wolf plant problem;
- for better livestock management, such as shifting use between allotments, when one allotment may have excess forage and another needs rest.

**The Nature Conservancy (TNC)** ~ Private national organization dedicated to the preservation of biological diversity.

**Thermal cover** ~ Vegetation or topography that prevents radiational heat loss, reduces wind chill during cold weather, and intercepts solar radiation during warm weather.

**Threatened species** ~ Any plant or animal species defined under the "Endangered Species Act" as likely to become endangered within the foreseeable future throughout all or a significant portion of its range; listings are published in the Federal Register.

**Thriving natural ecological balance** ~ The condition of the public range that exists when management objectives have been achieved that will: (1) sustain healthy populations of wild horses and burros, wildlife, and livestock on public land, and (2) protect the desired plant community from deterioration.

**Timber base** ~ Commercial forestland judged to be environmentally and economically suitable and available for the continuous production of timber; the land from which the allowable cut is calculated and harvested.

**Timber production capability classification** ~ The process of partitioning forestland into major classes indicating relative suitability to produce timber on a sustained yield basis.

**Total dissolved solids** ~ The dry weight of dissolved material, organic and inorganic, contained in water.

**Total maximum daily load (TMDL)** ~ An estimate of the total quantity of pollutants (from all sources: point, nonpoint, and natural) that may be allowed into waters without exceeding applicable water quality criteria.

**Total preference** ~ The total number of animal unit months of livestock grazing on public lands, apportioned and attached to base property owned or controlled by a permittee or lessee. The active preference and suspended preference are combined to make up the total grazing preference.

**Tradition** ~ Longstanding, socially conveyed, customary patterns of thought, cultural expression, and behavior, such as religious beliefs and practices, social customs and land or resource uses (e.g., root gathering). Traditions are shared generally within a social and/or cultural group and span generations.

**Traditional cultural property** ~ Cultural site eligible for inclusion in the National Register of Historic Places because of association with cultural practices or beliefs of a living community that are (1) rooted in the community's history, and (2) important to maintaining the continuing cultural identity of the community.

**Tribe** ~ See Indian Tribe.

**Turbidity** ~ An interference to the passage of light through water due to insoluble particles of soil, organics, microorganisms and other materials.

**Unallotted lands** ~ Public lands open to grazing which currently have no livestock grazing authorized.

**U.S. Department of Interior (USDI)** ~ Government department which oversees the BLM and many other agencies.

**User day** ~ Any calendar day, or portion thereof, for each individual accompanied or serviced by an operator.

**U.S. Fish and Wildlife Service (USFWS)** ~ Government agency responsible for managing fish and wildlife and their habitats.

**Utilization** ~ The proportion of the current year's forage production that is consumed or destroyed by grazing animals. This may refer either to a single species or to a whole vegetative complex. Utilization is expressed as a percent by weight, height, or numbers within reach of the grazing animals.

**Value-at-risk classes** ~ Six value classes (1–6, low to high) derived through interdisciplinary team evaluation of resource values for an area. Point values given an area by individual disciplines are combined to determine general values-at-risk classification for an area.

**Vandalism** ~ Willful or malicious destruction or defacement of public or private property. As used here, this includes damages done for personal gain, particularly unauthorized destructive activities that damage archaeological sites.

**Vegetation manipulation** ~ Alteration of present vegetation by using fire, plowing, or other means to manipulate natural successional fields.

**Visitor-day** ~ Twelve visitor-hours, which may be aggregated continuously, intermittently, or simultaneously by one or more persons. Visitor-days may occur either as recreation visitor-days or as nonrecreation visitor-days.

**Visual resource(s)** ~ The land, water, vegetation, animals, and other features that are visible on all public lands.

**Visual resource management classes (VRM)** ~ The degree of alteration that is acceptable within the characteristic landscape. It is based upon the physical and sociological characteristics of any given homogeneous area.

*VRM Class I* (preservation) provides for natural ecological changes only. This class includes primitive areas, some natural areas, some wild and scenic rivers and other similar sites where landscape modification activities should be restricted.

*VRM Class II* (retention of the landscape character) includes areas where changes in any of the basic elements (form, line, color, or texture) caused by management activity should not be evident in the characteristic landscape.

*VRM Class III* (partial retention of the landscape character) includes areas where changes in the basic elements (form, line, color, or texture) may be evident in the characteristic landscape. However, the changes should remain subordinate to the visual strength of the existing character.

*VRM Class IV* (modification of the landscape character) includes areas where changes may subordinate the original composition and character; however, they should reflect what could be a natural occurrence within the characteristic landscape.

**Volcanic maar** ~ A volcanic landform resulting from explosive ash eruptions.

**Water quality** ~ The chemical, physical, and biological characteristics of water with respect to its suitability for a particular use.

**Watershed** ~ All lands which are enclosed by a continuous hydrologic drainage divide and lie upslope from a specified point on a stream.

**Watershed cover** ~ The material (vegetation, litter, and rock) covering the soil and providing protection from, or resistance to, the impact of raindrops and the energy of overland flow, and expressed in percent of the area covered.

**Way** ~ A vehicle route which has not been improved and maintained by mechanical means to ensure relatively regular and continuous use. These vehicle routes are associated with WSA's.

**Wetlands** ~ Permanently wet or intermittently flooded areas where the water table (fresh, saline, or brackish) is at, near, or above that soil surface for extended intervals; where hydric wet soil conditions are normally exhibited and where water depths generally do not exceed 2 meters (see Lacustrine and Palustrine).

**Wilderness** ~ An area that is essentially natural in character that has been designated by congressional action in order to preserve that naturalness.

**Wilderness characteristics** ~ Key characteristics of a wilderness listed in section 2(c) of the "Wilderness Act" of 1964 and used by BLM in its wilderness inventory. These characteristics include size, naturalness, outstanding opportunities for solitude, outstanding opportunities for primitive or unconfined recreation, and special features.

**Wilderness study area (WSA)** ~ Public land under the jurisdiction of the BLM which has been studied for wilderness character and is currently in an interim management status awaiting official wilderness designation or release from WSA study by Congress.

**Wildfire** ~ Any unwanted wildland fire.

**Wildland fire** ~ Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

**Wildland fire situation analysis** ~ A decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economical, political, and resource management objectives as selection criteria.

**Wildland fire use** ~ The management of naturally-ignited wildland fires to accomplish specific pre-stated resource management objectives in predefined geographic areas outlined in fire management plans. Wildland fire use replaces the obsolete term prescribed natural fire (for example a lightning fire might be designated for wildland fire use).

**Wild rivers** ~ Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

**Withdrawal** ~ Withholding of an area of Federal land from settlement, sale, location, or entry under some or all of the general land laws, for the purpose of limiting those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of Federal land from one department, bureau, or agency to another.

**Woodland** ~ A forest community occupied primarily by noncommercial species such as juniper, mountain mahogany, or quaking aspen groves; all western juniper forest lands are classified as woodlands, since juniper is classified as a noncommercial species.