

Record of Decision for the Medford District Resource Management Plan

INTRODUCTION

This Record of Decision adopts and approves for immediate implementation the Medford District Resource Management Plan (RMP). The RMP is based on a combination of this office's August 1992 Draft Resource Management Plan/Environmental Impact Statement (Draft RMP/EIS) and the October 1994 Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS). The RMP is a modification, in response to public comment and protest, of the Proposed RMP presented in the October 1994 document. It is supported by the February 1994 *Final Supplemental Environmental Impact Statement (FSEIS) on Management of Habitat of Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* and is consistent with its associated April 1994 interagency *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (ROD)*. The RMP addresses resource management on 866,278 (Master Title Plat) acres of BLM-administered land and 4,672 acres of reserved mineral estate administered by Bureau of Land Management in the Medford District, which is within Jackson, Josephine, Douglas, Curry, and Coos counties, Oregon.

The approved resource management plan responds to the need for a healthy forest and rangeland ecosystem with habitat that will contribute toward and support populations of native species, particularly those associated with late successional and old-growth forests. It also responds to the need for a sustainable supply of timber and other forest products that will help maintain the stability of local and regional economies, and contribute valuable resources to the national economy on a predictable and long term basis. As guided by the April 1994 interagency Record of Decision, BLM-managed lands are primarily allocated to Riparian Reserves, Late Successional Reserves, the Applegate Adaptive Management Area, Connectivity/Diversity Blocks and General Forest Management Areas. The Aquatic Conservation Strategy will be applied to all lands and waters under BLM administration. Major land and resource allocations of the approved Resource Management Plan are displayed in Table R-1, which may be found at the end of this Record of Decision.

ALTERNATIVES CONSIDERED AND

RATIONALE FOR DECISION

Seven alternatives for management of the Bureau administered lands and resources in the Medford District were analyzed in the PRMP/FEIS, and nine other alternatives in the FSEIS.

No Action: This alternative would not change the BLM management direction established in the current Jackson/Klamath and Josephine Management Framework Plans and associated timber management and 1984 Medford Grazing Management FEIS.

Alternative A: This alternative would emphasize a high production of timber and other economically important values on all lands to contribute to community stability.

Alternative B: This alternative would emphasize the contribution of timber production on Oregon and California Revested Railroad lands to community stability, consistent with a variety of other land uses. Public domain lands with non-timber values and uses of greater importance than timber production would be managed primarily for those values and uses.

Alternative C: This alternative would emphasize retention and improvement of biological diversity while providing a sustained yield of timber to contribute to economic stability.

Alternative D: This alternative would emphasize management for plant and animal habitat diversity, dispersed non-motorized recreation opportunities, and scenic resources. It would include a variety of other resource values or use including some timber production.

Alternative E: This alternative would emphasize protection of older forests, and management and enhancement of values or uses, such as dispersed, non-motorized recreation activities and scenic resources.

The Proposed Resource Management Plan: This alternative would emphasize ecosystem management. It would also respond to public comments, incorporate land use allocations and management direction from the interagency Record of Decision noted above and allow the BLM to manage the natural resources under its jurisdiction to maintain healthy, diverse and productive ecosystems while providing commodities in support of local, regional, and national economies.

The proposed action responds to multiple needs, the

two primary ones being the need for forest habitat and the need for forest products. As stated in the PRMP/FEIS, on p. 1-4:

The need for forest habitat is the need for a healthy forest ecosystem with habitat that will support populations of native species and includes protection for riparian areas and waters. This need was reflected by President Clinton at the April 2, 1993, Forest Conference in Portland, Oregon.

The need for forest products from forest ecosystems is the need for a sustainable supply of timber and other forest products that will help maintain the stability of local and regional economies, and contribute valuable resources to the national economy, on a predictable and long-term basis. This need also was reflected by President Clinton at the Forest Conference.

The Congressionally directed purposes for managing BLM-administered lands include both conserving the ecosystems upon which species depend and at the same time providing raw materials and other resources that are needed to sustain the health and economic well-being of the people of this country. To balance these sometimes conflicting purposes, we adopted the alternative that will both maintain the late-successional and old-growth forest ecosystem and provide a predictable and sustainable supply of timber, recreational opportunities, and other resources at the highest level possible. The Proposed Resource Management Plan (PRMP) best meets these criteria.

The PRMP, unlike all of the other action alternatives, applies the same criteria for management of habitat on both Forest Service and BLM lands. This was done in order to accomplish most efficiently the dual objectives discussed above -- that is, achieving the biological results required by law, while minimizing adverse impact on timber harvests and jobs.

We have reviewed the alternatives discussed in the PRMP/FEIS and their predicted environmental, economic, and social consequences, and the risks and safeguards inherent in them. The PRMP is the best alternative for providing a sustainable level of human use of BLM-administered resources while still meeting the need to maintain and restore the late-successional and old-growth forest ecosystem. We therefore selected the PRMP as the management direction that best responds to the purpose and need for the proposed action.

This conclusion is based on a number of factors. Although management under Alternatives A, B, or

the no-action alternative would provide higher levels of timber supply than the PRMP, those alternatives would not provide adequate assurance that the processes and functions of late-successional and old-growth forest ecosystems would be maintained and restored, and would not provide adequate assurance that the riparian habitat essential for many aquatic and terrestrial species would be maintained and restored. All alternatives except alternative E and the PRMP would have a negative long-term impact on the northern spotted owl. The PRMP would have a beneficial impact on more special status animal species than any other alternative. The PRMP provides the greatest protection of aquatic habitat, since it provides for wider riparian reserves and more protective measures for perennial and intermittent streams than other alternatives.

The no-action alternative is based on plans that existed prior to the listing of both the northern spotted owl and the marbled murrelet, and therefore makes no specific provision for the recovery of those species. In addition, it reflects a very low level of riparian habitat protection. In view of these factors, it is unlikely that alternatives A and B and the no-action alternative would be deemed to satisfy the requirements of the Endangered Species Act.

Alternative C would produce approximately the same level of timber supply as the PRMP but would provide somewhat less protection for riparian-dependent species and consequently less connectivity between reserves that aid in the dispersal of terrestrial species. According to PRMP/FEIS, p. 4-57: "Riparian zones also provide connectivity between blocks of suitable habitat when the uplands have been harvested. These links would be far less effective in alternatives A, B, C, and the NA than they would be under alternatives D, E, and the PRMP. In conclusion, the adverse effects of removing riparian zone habitat would be greatest under alternative A and slightly less under alternatives NA, B, and C. Of primary importance is the loss of riparian zones along first and second order streams...."

The impacts to many species, and groups of species, of fish, wildlife and plants are complex and difficult to summarize in this Record of Decision. They are described in detail in Chapter 4 of the PRMP/FEIS. Based upon the PRMP/FEIS and all of the information in the record, the PRMP will continue to meet the needs of species influenced by federal land management activities. It also meets the requirements of the Endangered Species Act for the conservation of listed species. Finally, it meets the requirements of laws directing the management of these lands for sustainable multiple uses including

the Federal Land Policy and Management Act and the Oregon and California Lands Act. Moreover, it meets the requirements of acts that protect the elements of the environment, and requirements for coordinated planning and consultation.

In addition, the PRMP offers advantages that the other alternatives do not -- its inclusion of adaptive management and an adaptive management area. Adaptive management involves experimentation, identifying new information, evaluating it, accounting for it in discretionary decisions, and determining whether to adjust plan direction. The object is to improve the implementation and achieve the goals of the selected alternative. The PRMP is the only one that specifically allocates an adaptive management area (the Applegate Adaptive Management Area) which may be used to develop and test new management approaches to achieve the desired ecological, economic, and other social objectives. The Applegate Adaptive Management Area offers the opportunity for creative, voluntary participation in forest management activities by willing participants. It is recognized that this will take time, effort, and a good-faith commitment to the goal of improved forest management. Many of the potentially participating communities and agencies have different capabilities for joining this effort. Our approach to implementing this initiative will recognize and reflect these differences as we seek to encourage and support the broadest possible participation.

Moreover, the PRMP allows silvicultural activities, such as thinning young stands in late-successional reserves when those activities will enhance late-successional conditions. Even when compared to Alternative E (which in the short-term protects more old growth than the PRMP, the PRMP will in the future provide a better connected network of old-growth forest. Furthermore, when compared to Alternative E, the PRMP provides nearly twice as much timber harvest to contribute to the long-term stability of the local and regional economies.

THE ENVIRONMENTALLY PREFERABLE ALTERNATIVE

Environmental preferability is judged using the criteria suggested in the National Environmental Policy Act

of 1969 (NEPA), which is guided by the Council on Environmental Quality (CEQ). The CEQ has stated that "The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Generally this means the alternative that causes the least damage to the biological and physical environment. It also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources." (Council on Environmental Quality, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" (40 CFR 1500-1598), Federal Register Vol. 46, No. 55, 18026-18038, March 23, 1981: Question 6a.)

NEPA's Section 101 establishes the following goals:

- Fulfills the responsibility of this generation as trustee of the environment for succeeding generations;
- Assures for all Americans productive and aesthetically and culturally pleasing surroundings;
- Attains the widest range of beneficial uses of the environment without degradation or other undesirable and unintended consequences;
- Preserves important natural aspects of our national heritage and maintains an environment which supports diversity and variety of individual choice;
- Achieves a balance between population and resource use, which permits high standards of living and a wide sharing of life's amenities; and
- Enhances the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Alternative E would allow for the smallest amount of directly human-induced effects on the physical environment. It would exclude timber management from most old-growth forest stands, preserving them from human management actions. It would set aside more existing older forest acres than any other alternative, 304, 500 acres. Alternative E would reserve for retention and development of older forest 593,500 acres of land, the most of any alternative. In the long-term, the percentage of acres in riparian zones in good condition on BLM-administered lands is expected to increase by 95% under both alternative E and the PRMP as compared to existing conditions. Based on the probably sale quantity estimates, BLM-administered lands in the planning area would produce about 5 million cubic feet (i.e. 31 MMBF) of timber annually under alternative E. Finally, alternative E provides for the highest possible designation of areas with amenity values such as potential wild and scenic rivers, potential areas of critical environmental concern, or areas with high scenic quality. Based on the above factors, we

conclude that alternative E is the “environmentally preferable alternative.”

IMPLEMENTATION

Decisions in this plan will be implemented over a period of years. The rate of implementation is tied to the BLM’s budgeting process. General priorities for overall management will be developed through long-term budgeting processes and in consultation with other agencies, tribes and government units. Specific priorities for geographic sub-units or for individual programs or projects will be established after watershed analysis, late successional reserve assessments, adaptive management area plans and further environmental analysis is completed, as appropriate. Those priorities will be reviewed annually to help develop the work plan commitments for the coming years. The procedures to implement the RMP, called Management Actions/Direction, are shown in the approved plan on a decision-by-decision basis. Although the RMP implementing actions are described by individual resources, most activities will be consolidated and considered in inter-disciplinary, multi-resource activity plans and based on watershed analyses.

VALID EXISTING RIGHTS

This plan will not repeal valid existing rights on public lands. Valid existing rights are those rights or claims to rights that take precedence over the actions contained in this plan. Valid existing rights may be held by other Federal, State or local government agencies or by private individuals or companies. Valid existing rights may pertain to mining claims, mineral or energy leases, rights-of-way, reciprocal rights-of-way, leases, agreements, permits, and water rights.

ADMINISTRATIVE ACTIONS

Various types of administrative actions will require special attention beyond the scope of this plan. Administrative actions are the day-to-day transactions required to serve the public and to provide optimum use of the resources. These actions

are in conformance with the plan. They include, but are not limited to: permits or sales for traditional or special forest products; competitive and commercial recreation activities; lands and realty actions, including issuance of grants, leases, and permits and resolution of trespass; facility maintenance; law enforcement and hazardous material removal or mitigation; enforcement and monitoring of permit stipulations; cadastral surveys to determine legal land or mineral estate ownership; and engineering support to assist in mapping, designing and implementing projects. These and other administrative actions will be conducted at the resource area, district or State level, sometimes in partnership with other landowners or agencies or entities. The degree to which these actions are carried out depends upon BLM policies, available personnel, funding levels and further environmental analysis and decision making, as appropriate.

MITIGATION AND MONITORING

All protective measures and other management direction identified in the plan will be taken to avoid or mitigate adverse impacts. These measures will be taken throughout implementation. All practical means to avoid or reduce environmental harm will be adopted, monitored and evaluated, as appropriate.

Monitoring will be conducted, as identified in the approved plan. Monitoring and evaluations will be utilized to ensure that decisions and priorities conveyed by the plan are being implemented, that progress toward identified resource objectives is occurring, that mitigating measures and other management direction are effective in avoiding or reducing adverse environmental impacts, and that the plan is maintained and is consistent with the ongoing development of BLM State Office, Regional and National guidance.

PUBLIC INVOLVEMENT

A notice announcing the formal start of the Medford District RMP planning process was published in the Federal Register in September 1986, in the local news media, and through a mass mailer to all known interested parties. A long series of planning

brochures and documents was distributed over the entire planning period to provide public participation and response opportunities in the development of planning issues, goals, objectives and data needs for the Medford District planning effort.

In February 1991, copies of the Medford District Analysis of Management Situation (AMS) summary and preliminary alternatives were mailed to interested agencies, organizations and individuals. This document described a variety of alternatives, most of which had similar objectives to comparable alternatives in the other ongoing five BLM western Oregon RMP/EISs.

On August 28, 1992, a Notice of Availability of the Draft RMP/EIS was published in the Federal Register by the BLM. Newspapers and other media were also notified of the document availability, the length of the comment period, and the date, time and locations of public meetings. The Draft RMP/EIS was sent to approximately 1,200 individuals, organizations and agencies. A total of 176 persons attended the meetings. A total of 1,446 letters, form letters, or petitions was received by the end of the extended comment period.

A summary of public involvement associated with the July 1993 Draft and February 1994 Final Supplemental Environmental Impact Statement (FSEIS) on Management of Habitat of Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl is included on pages 58-73 of the April 1994 interagency Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl Record of Decision and is hereby incorporated by reference.

On November 25, 1994, a Notice of Availability of the Proposed RMP/FEIS was published in the Federal Register by the BLM. In addition, a notice by the Environmental Protection Agency initiated the official 30-day protest and public comment period. Newspapers and other media were also notified of the document availability, the length of the protest period and the dates, time and locations of two public meetings. The PRMP/FEIS was sent to over 1,400 individuals, organizations and agencies. A total of nine persons attended the two public meetings. A total of 203 letters and form letters were received by the District Manager. There were no objections or recommendations by the Governor on behalf of any State or local government entities. There are no known inconsistencies with officially approved or adopted natural resource related plans, policies or

programs of applicable State or local governments or Indian tribes.

The official period to protest the proposed plan closed on December 27, 1994. Ten valid protests on the proposed Medford RMP were received, reviewed, and resolved by the Director. As a result of the protests (and 203 comment letters received at the Medford District Office) a number of non-substantive changes have been made in the text of the approved plan to reflect typographical corrections, improve clarity or demonstrate consistency with various regulatory procedures or policies. These minor changes include: changes to the visual resource management class and rural interface area designation in the Cobleigh Road area; clarification of the timber harvest deferral in the Cascade/Siskiyou Ecological Emphasis Area; language revisions made to tighten the link between the approved RMP and the 1994 *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (or Northwest Forest Plan/ROD)*; and finally, revisions were made that incorporate guidelines issued by the Regional Ecosystem Office since the issuance of the 1994 Record of Decision named above. Such guidelines may clarify or interpret the 1994 Record of Decision.

RECOMMENDATION

With full knowledge of the commitment to resource and ecosystem management represented by the plan, I recommend the adoption of the Medford Resource Management Plan.

David A. Jones

Date

District Manager, Medford District, Oregon

APPROVAL

I approve the Medford Resource Management Plan as recommended and hereby declare that, effective October 1, 1994, the annual productive capacity (allowable harvest level) of the Jackson, Josephine, and that portion of the Klamath Master Unit in the Medford District is 9.7 MM cubic feet.

This document meets the requirements for a Record of Decision as provided in 40 CFR 1505.2.

Elaine Zielinski

Date

State Director, Oregon/Washington
Bureau of Land Management

Medford District Resource Management Plan

Introduction

The Medford District's Resource Management Plan will guide the Bureau's (BLM) management of approximately

Table R-1. Summary of Land Use Allocations and Management Actions/Direction
(detailed management direction is described in the Resource Management Plan)

Major Land Allocations	Acres ¹
Congressional Reserves	14,267
Late-Successional Reserves	178,467
Late-Successional Reserve within AMA	32,937
Marbled Murrelet Reserve	3,478
District Defined Reserves	1,290
Connectivity/Diversity Blocks	27,237
Applegate Adaptive Management Area	113,912
Reserved Habitat Area	16,732
General Forest Management Area	470,776

Total 859,096

¹Allocations do not have any overlapping designations.

Reserves	Acres
Riparian Reserves (estimated) ²	369,200

²Riparian Reserves occur across all land use allocations

Old-Growth and Mature Forest Habitat **Acres**

Management Decision:
Manage 25 percent of the land as Late-Successional Reserves and 3 percent as Connectivity/Diversity Blocks for old growth associated species.

Acres managed for retention and development of older forest. ³	497,500
Acres managed for maintenance of older forest characteristics ⁴	27,237
Existing Older Forest Retained ⁵	128,700

³Includes Late-Successional Reserves, Riparian Reserves, and other lands not available for timber harvest.

⁴Connectivity/Diversity Blocks

⁵Forest stands 100 years and older

Timber **Acres**

Forest Management Allocations (acres)	
Intensive	78,000
Restricted	113,000
Enhancement of Other Uses or Not Available	467,000
Total	668,100

Practices (assumed average annual acres for first decade)

Regeneration	
Harvest	1,040
Overstory Removal	100

Table R-1. Summary of Land Use Allocations and Management Actions/Direction (cont.)
(detailed management direction is described in the Resource Management Plan)

Recreation Resource

Recreation Sites	
Existing (# sites/acres)	11/950
New (# sites/acres)	29/850
Trails Maintained	
Existing (# trails/miles)	14/80
New (# trails/miles)	16/160
Special Recreation Management Areas	
Existing (#/acres)	3/43,000
New (#/acres)	2/13,000
Back Country Byways (#/miles)	11/352
Acres open to OHV use	391,400
Acres OHV limited to Designated Roads and Trails	441,700
Acres closed to OHV use	25,200

Wild and Scenic Rivers

River segments found suitable for designation as:	
Recreational (#/miles)	0/0
Scenic (#/miles)	0/0
Wild (#/miles)	4/20

Visual Resources

Management Decision:
Manage important scenic values such as SRMAs, I-5, Hwy 62, Rogue Wild & Scenic River, Butte Falls-Prospect Hwy as VRM II. Manage Northern GFMA as VRM IV and Southern GFMA and RIAs as VRM III.

Acres managed as VRM Class I (acres)	14,330
Acres managed as VRM Class II (acres)	113,880
Acres managed as VRM Class III (acres)	393,100
Acres managed as VRM Class IV (acres)	337,220

Land Tenure

Management Decision:
Make exchanges within zones 2 and 3 that would enhance management opportunities to benefit one or more resource values. In zone 3, sell lands other than O&C commercial forestland that meet criteria of FLPMA Section 203(a). Consider R&PP leases to provide public facilities or services, as appropriate.

Acres identified for retention (Zone 1)(acres)	292,100
Acres potentially eligible for exchange only (Zone 2)(acres)	558,600
Acres potentially eligible for sale or exchange (Zone 3)(acres)	7,600

Table R-1. Summary of Land Use Allocations and Management Actions/Direction (cont.)
(detailed management direction is described in the Resource Management Plan)

Rights-of-Way

Right-of-Way Avoidance Areas (acres)	179,800
Right-of-Way Exclusion Areas (acres)	43,300

Energy and Minerals Management

Acres available for oil and gas and geothermal leasing	772,200
Acres closed to oil and gas and geothermal leasing	22,000
Acres open to oil and gas and geothermal mineral leasing with no surface occupancy	73,300
Acres open to mining claim location and operation	829,900
Acres closed to mining location	37,600

Rural Interface Management

Acres considered for alternative management practices	136,000
Acres managed for VRM Class III objectives	136,000

Table R-2. Summary of Environmental Consequences - Comparison of Alternatives

Activity	NA	A	B	C	D	E	PRMP
Air Quality (1,000 lbs of PM10 emissions ¹ 5.0 by decade from prescribed fires, (Baseline 20.4 lbs (1,000))	10.8	9.6	9.7	6.5	7.0	3.4	
Biological Diversity							
After 10 years (1,000 acres)							
Mature forest	112	157	162	172	176	199	195
Old growth forest	87	77	86	115	107	124	107
After 100 years (1,000 acres)							
Mature forest	90	13	26	219	166	169	161
Old growth forest	99	62	88	288	176	339	275
Riparian Trend (200 years: +,-,0)	-	-	-	+	+	+	+
Dominant Woodpecker Populations (% of optimal, 10 years)	48	45	46	53	61	57	52
Elk Habitat (10 years) ²							
No. of habitat areas improving	0	0	0	0	0	3	6
No. of habitat areas unchanged	2	2	2	5	0	2	7
No. of habitat areas declining	13	13	13	10	15	10	2
Fish Production Potential (long term 200 years)	low	low	low	mod+	mod+	high	mod
Threatened and Endangered Species							
Suitable spotted owl habitat after 100 years (1,000 acres)	-	52	53	560	463	590	538
Existing and Potential bald eagle rest sites protected	4	4	4	4	4	4	4
Visual Resources (10 years: +,-,0)	0	-	-	+	+	+	+
Wild and Scenic Rivers (47 river segments studied) ⁴							
Number of outstandingly remarkable values beneficially affected (10 years)	0	0	0	34	35	37	6
Number of outstandingly remarkable values unaffected (10 years)	21	19	19	19	19	19	19
Number of outstandingly remarkable values adversely affected (10 years)	37	37	37	3	2	0	31
Recreation Use (capability to meet 10-year demand (Yes, No) ³							
Off-highway travel	yes	yes	yes	yes	no	no	no
Nonmotorized travel	no	no	no	yes	yes	yes	no

Camping	no	no	no	yes	yes	yes	no
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Table R-2. Summary of Environmental Consequences - Comparison of Alternatives

Activity	NA	A	B	C	D	E	PRMP
Picnicking, studying nature, etc.	no	no	no	yes	yes	yes	no
Boating	yes	yes	yes	yes	yes	yes	yes
Swimming, general waterplay	yes	no	no	yes	yes	yes	yes
Timber							
Percent change in timber supply (10 years) compared to baseline (1984-1988)	-24.2	-11.6	-16.1	-44.6	-42.9	-49.1	
-44.6							
Percent SCFL Available	80	96	87	72	62	13	34
Percent change in PSQ (cubic)	0	+42	+28	-69	-64	-86	-73
Socioeconomic Conditions (10 years) (Baseline 1984-1988)							
Total planning area jobs dependent on BLM activities (1,000s) (Baseline 2.2)	2.47	3.25	3.03	1.32	1.38	0.84	
1.10							
Total planning area annual income dependent on BLM activities (1,000s) (Baseline 45.5)	47.0	62.9	58.1	20.4	22.4	12.4	
17.7							
Average annual O&C receipts distributed to all western Oregon counties							

859,100 acres of public lands (public domain land and O&C land) for the next ten years or more, or until replaced by a revised plan. The resource management plan (RMP) is a modification, in response to public comment and protest, of the Proposed RMP presented in the October 1994 Medford District Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS). This RMP has been prepared in accordance with the BLM's planning regulations found in 43 CFR 1600. The FEIS has been prepared in accordance with the Council of Environmental Quality's (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) of 1969, found in 40 CFR 1500.

This document is organized differently and contains only parts of the PRMP/FEIS documents. It includes a description of the decisions made through the planning process plus appropriate materials relating to the

implementation of those decisions. Therefore, this document does not include alternatives not selected as the approved resource management plan (alternatives NA-E), the Affected Environment (Chapter 3), Environmental Consequences (Chapter 4), and associated materials or appendices. This document contains three major sections, an introduction, the Resource Management Plan, and other management direction. The Resource Management Plan (RMP) is organized in much the same way as the Proposed RMP was presented in the PRMP/FEIS documents, i.e. Vision, Strategy, information or allocations from the Record of Decision on the Northwest Forest Plan, and decisions relating to specific resource programs.

Description of the Planning Area

The Medford District's RMP covers approximately 859,100 (GIS-WODDB) acres of land located in southwestern Oregon administered by the U.S. Department of the Interior, Bureau of Land Management, Medford District. Within the planning area there are also 4,700 acres of nonfederal surface estate with Federal subsurface mineral estate administered by BLM (see Table 1).

The planning area, located in southwestern Oregon, includes portions of the Cascade and Siskiyou mountain ranges. The land is predominantly forested with Douglas-fir and other conifer stands, and drains into the Rogue, Klamath, and Umpqua river basins. Populations are centered in and near Grants Pass, Medford, and Ashland (See Maps 1 and 2 for locations and land status).

Portions of the Siskiyou, Rogue River, and Umpqua National Forests are other major Federal lands within the planning area.

Purpose and Need for the Action

The RMP focuses on the 11 key planning issues associated with management of BLM-administered land in the Medford District (see Issues and Concerns in this chapter). The issues were identified through public scoping that started in September 1987. These same 11 issues are addressed in the five (5) other

western Oregon District's RMPs.

This RMP establishes guidelines for the management of BLM-administered land in the Medford District. It will provide a comprehensive framework for allocating and managing BLM-administered resources in the planning area for the life of the plan, which is expected to be at least ten years, within the principles of multiple-use and sustained-yield. It will supersede and replace the management framework plans (MFPs) for the Josephine and Jackson/Klamath sustained-yield units (SYUs).

As discussed in the *Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-growth Forest Related Species within the Range of the Northern Spotted Owl* (hereafter referred to as the SEIS), the RMP responds to dual needs: the need for forest habitat and forest products.

The need for forest habitat is the need for a healthy forest ecosystem with habitat that will support populations of native species and includes protection for riparian areas and water bodies. This need was reflected by President Clinton at the April 2, 1993, Forest Conference in Portland, Oregon.

The need for forest products from forest ecosystems is the need for a sustainable supply of timber and other forest products that will help maintain the stability of local and regional economies and contribute valuable resources to the national economy on a predictable and long-term basis. This need also was reflected by President Clinton at the Forest Conference.

The resource management plan was developed after consideration of the following:

- public comments at open house meetings and in correspondence;
- comments from other government agencies;
- BLM staff analysis of the consequences of alternatives;
- legal mandates of Federal laws and executive orders;
- decisions made in the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* and its Attachment A (hereafter referred to as the SEIS ROD); and

Table 1. BLM-Administered Land Within the Planning Area

County	Acres				
	O&C ¹	Public Domain	RWSR ²	Total Surface	Reserved Minerals ³
Coos		1,840	0	0	18,400
Curry	33,020	40	2,260	35,320	0
Douglas	75,740	3,030	0	78,770	0
Jackson	393,960	55,638	0	449,598	4,352
Josephine	252,130	38,290	10,330	300,750	320
Total	756,690	96,998	12,590	866,278	4,672

¹Public lands granted to Oregon and California Company and subsequently vested to the United States.

²Rogue Wild and Scenic River Corridor, includes O&C and public domain lands.

³Subsurface mineral rights managed by BLM, surface managed by other owner.

SOURCE: Master Title Plats.

- requirements of Bureau policy.

The management of the O&C lands is governed by a variety of statutes, including the O&C Lands Act, Federal Land Policy and Management Act (FLPMA), the Endangered Species Act (ESA), and the Clean Water Act. The O&C Lands Act requires the Secretary of the Interior to manage O&C lands for permanent forest production, however, such management must also be in accord with sustained-yield principles. Further, that Act requires that management of O&C lands protect watersheds, regulate streamflow, provide for recreational facilities, and contribute to the economic stability of local communities and industries. The Act does not require the Secretary to harvest all old-growth timber or all commercial timber as rapidly as possible or according to any particular schedule. The Secretary has discretion to determine how to manage the forest on a sustained-yield basis that provides for permanency of timber production over a long-term period. The Secretary must necessarily make judgments, informed by as much information as possible, about what kind of management will lead to permanent forest production that satisfies the principle of sustained yield.

Lands administered under the O&C Lands Act must also be managed in accordance with other environmental laws such as the Endangered Species Act and the Clean Water Act. Some provisions of these laws take precedence over the O&C Lands Act. For instance, the Endangered Species Act (ESA) requires the Secretary to ensure that management

of O&C lands will not likely result in jeopardy to listed species or destruction or adverse modification of critical habitat. The ESA directs the Secretary and all Federal agencies to utilize their authorities to carry out programs for the conservation and recovery of listed species. Section 5(a) of the Act also directs: “the Secretary, and the Secretary of Agriculture with respect to the National Forest System, shall establish and implement a program to conserve fish, wildlife, and plants, including those that are listed as endangered species or threatened species pursuant to Section 4 of this Act.” 16 U.S.C. 1534(a). Although several northern spotted owl recovery plans have been proposed, the Secretary has not yet adopted final recovery plans for either the northern spotted owl or the marbled murrelet. The SEIS ROD’s late-successional and riparian reserve concepts are important building blocks in the development of recovery plans to achieve the conservation and recovery of those species.

One of the purposes of the Endangered Species Act is the preservation of ecosystems upon which endangered and threatened species depend. A forward-looking land management policy would require that Federal lands be managed in a way to minimize the need to list species under the ESA. Additional species listings could have the effect of further limiting the O&C Lands Act’s goal of achieving and maintaining permanent forest production. This would contribute to the economic instability of local communities and industries in contravention of a primary objective of Congress in enacting the O&C Lands Act. That Act does not limit the Secretary’s

ability to take steps now that would avoid future listings and additional disruptions.

Protection of watersheds and regulating streamflows are explicit purposes of forest production under the O&C Lands Act. Riparian reserves including those established on O&C lands under the RMP are designed to restore and maintain aquatic ecosystem functions. With other components of the Aquatic Conservation Strategy, riparian reserves will provide substantial watershed protection benefits. Riparian reserves will also help attain and maintain water quality standards, a fundamental aspect of watershed protection. Both riparian reserves and late-successional reserves will help regulate streamflows, thus moderating peak streamflows and attendant adverse impacts to watersheds.

Relationship of the RMP to BLM Policies, Programs, and Other Plans

Western Oregon BLM Districts are developing RMPs concurrently with this one, and together will cover all BLM-administered lands in western Oregon. Some lands administered by the Roseburg District to the north, the Ukiah, California District to the south, and the Lakeview District to the east, adjoin lands addressed in this plan. Lands administered by the Coos Bay District, but located within the Josephine SYU in the Illinois Valley, are included in the Medford District planning area. Cooperation is occurring in the planning process for management of these lands.

Portions of the Rogue River were designated components of the national wild and scenic rivers system by the original Wild and Scenic Rivers Act of 1968. The 20-mile wild section and the 27-mile recreational section are managed under separate river management plans. These river management plans are currently being updated. The allocation of BLM-administered lands, consistent with the Congressional

designation, would not be changed by this RMP.

The Draft RMP/EIS was supplemented by the SEIS. The SEIS Record of Decision (SEIS ROD), signed jointly by the Secretary of the Interior and the Secretary of Agriculture, requires the Bureau to incorporate the land-use allocations and standards and guidelines in that decision in the Bureau's RMPs for western Oregon. The RMP is intended to be consistent with the SEIS ROD; any apparent inconsistencies are oversights or misinterpretations of SEIS ROD language. The Final SEIS describes the environmental impacts that arise from those directions. Also, the Final EIS for the PRMP incorporated the analysis from the Final SEIS.

This RMP is also tiered to the 1993 EIS, Pacific Yew, prepared by the U.S. Forest Service, with BLM as a cooperating agency, regarding analysis of impacts of harvest of Pacific yew. A copy of the key elements of the ROD for that EIS is included in Appendix C of the PRMP/FEIS. The decisions made in that ROD are not readdressed.

Any finding made in the Record of Decision for this RMP, that certain river segments studied herein is suitable for designation under the Wild and Scenic Rivers Act is a preliminary administrative finding. It will receive further review and possible modification by the Director of BLM, Secretary of the Interior, or the President of the United States. To facilitate that review, after approval of this RMP and its record of decision, the BLM may elect or be required to prepare a study report to support recommendations to Congress for designation of specific rivers or river segments. Final decisions have been reserved by Congress unless the Governor nominates a river to the Secretary of the Interior, who may then decide to designate it.

In September 1984, BLM approved a ROD for the Medford Grazing Management Final EIS. The Rangeland Program Summary (RPS), which documents those decisions as well as subsequent revisions, is shown in Appendix B. This document is tiered to that Final EIS and the decisions shown in the Rangeland Program Summary.

Planning Process Overview

BLM's resource management planning process consists of nine steps as described below.

Step 1: Issue Identification

This planning step is designed to identify major problems, concerns, or opportunities associated with the management of public land in the planning area. Issues are identified by the public, the BLM, and other governmental entities. The planning process is focused on the identified planning issues.

Step 2: Planning Criteria

Planning criteria include policies, laws, regulations, and guidelines for resolving issues, developing alternatives, and choosing a proposed plan.

Step 3: Inventory and Data Collection

Certain kinds of biological, physical, social, or economic information needed to resolve the planning issues is collected and analyzed. Inventory information is also used to determine how BLM-administered resources would respond under each alternative.

Step 4: Analysis of the Management Situation

The analysis of the management situation (AMS) identifies the ways lands are currently managed in the planning area and identifies opportunities to manage these lands differently.

Step 5: Formulation of Alternatives

BLM formulates a range of alternatives for managing resources in the planning area. A range of alternatives is developed to resolve significant planning issues and address specific management concerns. Alternatives include a preferred plan, management direction common to all alternatives, alternative plans, and no action (current management).

Step 6: Estimation of Effects

This step involves estimating the environmental effects of implementing each of the alternatives. Effects are estimated in order to provide a comparative evaluation of impacts in compliance with CEQ regulations for implementing NEPA (40 CFR 1500).

Step 7: Selection of the Preferred Alternative

BLM identifies a Preferred Alternative (PA). The Draft RMP/EIS is then prepared and distributed for public review.

Step 8: Selection of Resource Management Plan

Following review and analysis of public comments on the Draft RMP/EIS, BLM selects a proposed resource management plan and publishes the Proposed RMP and Final EIS (PRMP/FEIS). Decisions become final after a 30-day protest period following publication of the PRMP/FEIS. BLM then publishes the Record of Decision (ROD) and prepares the Approved Resource Management Plan.

Step 9: Monitoring and Evaluation

This step involves the collection and analysis of resource condition and trend data to ensure the plan is achieving its objective of resolving the identified issues and achieving other desired results. Monitoring continues from the time the RMP is adopted until changing conditions require revision of the whole plan or any portion of the plan.

Publication of this document constitutes completion of Step 8. Public involvement has occurred at several steps in the process. Where BLM manages the subsurface mineral estate and the surface is nonfederal or administered by another Federal agency, the RMP addresses only the management of the BLM-administered mineral resources.

Planning Criteria

Planning criteria sets out the legal parameters and management goals that guide and direct the preparation of the RMP/EIS. The criteria were developed by BLM and reviewed by the public. One of the primary purposes of planning criteria is to assure that the planning process stays focused on the planning issues. The final approved planning criteria were shown in Appendix D of the PRMP/FEIS.

The Resource Management Plan

Introduction

The purpose of this section is to describe the Medford District Resource Management Plan (RMP). This section includes:

- a description of the objectives, major land use allocations, and management actions/directions for the resource management plan; and
- guidance for miscellaneous topics such as coordination and consultation, use of the completed plan, and monitoring.

Maps of the resource management plan land use allocations are located in the accompanying map packet.

The Resource Management Plan (RMP) was developed partially in response to public comments related to the Bureau of Land Management's August 1992 Draft Resource Management Plan for western Oregon and protests and comments on the 1994 PRMP/FEIS specific to the Medford District. In addition, the plan incorporates the land use allocations and management direction from the 1994 SEIS ROD.

The first part of this Resource Management Plan (RMP) essentially addresses or readdresses issues analyzed in the SEIS and decisions documented in the ROD/FEIS (see Appendix A). The second part of the RMP primarily addresses issues specific to the Medford District, but incorporates relevant guidance from the SEIS ROD. This has resulted in a substantial amount of duplication but should result in more consistent implementation.

There are a number of other discussions (e.g., use of the plan, watershed analysis, adaptive management, management assessments and plans, etc.) located near the end of this section that also have an important bearing on the implementation on the RMP. These sections should be reviewed to obtain a better understanding of the entire Resource Management Plan. While not required by the SEIS ROD or this document, it is assumed that watershed analysis will eventually be completed for the entire planning area. Watershed analysis will help guide implementation of

the RMP in many important aspects.

Vision

The Bureau of Land Management (BLM) will manage land and natural resources under its jurisdiction in western Oregon to help enhance and maintain the ecological health of the environment and the social well being of human populations.

There are several basic principles supporting this vision:

- natural resources can be managed to provide for human use and a healthy environment;
- resource management must be focused on ecological principles to reduce the need for single resource or single species management;
- stewardship, the involvement of people working with natural processes, is essential for successful implementation;
- the BLM cannot achieve this vision alone but can, by its management processes and through cooperation with others, be a significant contributor to its achievement; and
- a carefully designed program of monitoring, research and adaptation will be the change mechanism for achieving this vision.

Strategy

Lands administered by the BLM will be managed to maintain or restore healthy, functioning ecosystems from which a sustainable production of natural resources can be provided. This management strategy, titled ecosystem management, involves the use of ecological, economic, social, and managerial principles to achieve healthy and sustainable natural systems. Ecosystem management emphasizes the complete ecosystem instead of individual components and looks at sustainable systems and products that people want and need.

The building blocks for this strategy are comprised of several major land use allocations: riparian reserves; late-successional reserves; adaptive management areas; matrix, which includes general forest management areas and connectivity/diversity blocks; and a variety of special purpose management areas such as recreation sites, wild and scenic rivers,

and visual resource management areas. These land use allocations have differing management direction and are located and configured in the landscape to support overall ecosystem function and to meet the vision for management of Federal lands in western Oregon.

Each land use allocation will be managed according to specific objectives and management actions/direction. During initial implementation of the plan, the stated objectives and management actions/direction will provide the direction, and limits governing actions and the principles specifying the environmental conditions or levels to be achieved and maintained. As BLM gains experience in implementing the plan and applying the concepts of adaptive management, the stated objectives and management actions/direction will be refined for specific geographic areas.

Major Land Allocations¹	Acres
Congressional Reserves	14,267
Late-Successional Reserves	178,467
Late-Successional Reserve within AMA	32,937
Marbled Murrelet Reserve	3,478
District Defined Reserves	1,290
Connectivity/Diversity Blocks	27,237
Applegate Adaptive Management Area	113,912
Reserved Habitat Area	16,732
General Forest Management Area	470,776
Total	859,096

¹Allocations do not have any overlapping designations. There are approximately 369,200 acres of riparian reserves.

There are two major management concepts underlying the objectives and management actions/direction: ecological principles for management of late-successional forests and the Aquatic Conservation Strategy. These concepts are summarized below. See Appendix A for a more detailed description of these concepts.

Ecological Principles for Management of Late-Successional Forests

One goal of the plan is to maintain late-successional and old-growth species habitat and ecosystems on Federal lands. A second goal is to maintain

biological diversity associated with native species and ecosystems in accordance with laws and regulations.

All land use allocations described in this plan contributes to these two goals. For instance, late-successional reserves and many special management areas (e.g., areas of critical environmental concern) will be managed to enhance and/or maintain late-successional forest conditions. The general forest management area and connectivity/diversity blocks will be managed to retain late-successional forest legacies (e.g., coarse woody debris, green trees, snags, and late-successional forest patches). These and other land use allocations and resource programs are described in detail below.

See the SEIS ROD (appendix A) for additional information about ecological principles for management of late-successional forests.

Aquatic Conservation Strategy

The Aquatic Conservation Strategy was developed to restore and maintain the ecological health of watersheds and aquatic ecosystems contained within them on public lands. The strategy would protect salmon and steelhead habitat on Federal lands managed by the Forest Service (FS) and Bureau of Land Management (BLM) within the range of the Pacific Ocean anadromy.

The Aquatic Conservation Strategy is designed to meet the following objectives:

- Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted;
- Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, up slope areas, headwater tributaries, and intact refugia. These lineages must provide chemically and physically unobstructed routes to areas crucial for fulfilling life history requirements of aquatic and riparian-dependent species;
- Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations;
- Maintain and restore water quality necessary to

support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities;

- Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport;
- Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing (i.e., movement of woody debris through the aquatic system). The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected;
- Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands;
- Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration, and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability; and
- Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.

The components of the Aquatic Conservation Strategy are riparian reserves, key watersheds, watershed analysis, and watershed restoration.

Riparian Reserves

See Riparian Reserves in the Land Use Allocation section.

Key Watersheds

A system of key watersheds that serve as refugia is crucial for maintaining and recovering habitat for at-risk stocks of anadromous salmonids and resident fish species. These refugia includes areas of high quality habitat and areas of degraded habitat. Key

watersheds with high quality conditions will serve as anchors for the potential recovery of depressed stocks. Those of lower quality habitat have high potential for restoration and will become future sources of high quality habitat with the implementation of a comprehensive restoration program.

There are two types of key watersheds: Tier 1 and Tier 2. Tier 1 watersheds contribute directly to conservation of at-risk anadromous salmonids, bull trout, and resident fish species. They also have a high potential of being restored as part of a watershed restoration program. Tier 2 watersheds may not contain at-risk fish stocks, but they are important sources of high quality water.

All or a portion of the following key watersheds are located within the planning area.

Key Watershed Name	BLM Acres
Beaver Creek	2,710
Cave/Grayback Creeks	40
Elk Creek	21,660
Indigo Creek	270
Jenny Creek	45,370
Little Applegate River	1,720
Middle Creek	190
Palmer Creek	430
S. Fork/N. Fork Little Butte Creek	26,900
South Fork Coquille River	140
South Umpqua River	190
Silver Creek	8,490
Taylor Creek	1,880
Upper Sucker Creek	1,330
West Fork Cow Creek	26,410
Yale Creek	1
Total	137,730

NOTE: All key watersheds in the Medford District are Tier 1.

See Map 3 for locations of key watersheds.

Key watersheds overlay portions of all land use allocations in the district and place additional management requirements or emphasis on activities in those areas.

The non-interchangeable component of the annual allowable sale quantity, attributable to key watersheds, is 1.5 million cubic feet (9.0 million board feet). Identification of this component was required by the SEIS ROD, pages E-18 and E-20.

Management Actions/Direction

- Prepare watershed analyses prior to further resource management activity, including timber harvest in key watersheds. ~~Until watershed analyses can be completed, proceed with minor activities, such as those categorically excluded under the National Environmental Policy Act (NEPA) regulations (except timber harvest), if they are consistent with Aquatic Conservation Strategy and riparian reserve objectives. Apply riparian reserve management actions/direction;~~
- Reduce existing system and nonsystem road mileage outside roadless areas. If funding is insufficient to implement reductions, there will be no net increase in the amount of roads in key watersheds; and
- Give highest priority to watershed restoration in key watersheds.

Watershed Analysis

See Watershed Analysis discussion (toward the end of this document) and Appendix A for requirements.

Watershed Restoration

Watershed restoration will be an integral part of a program to aid recovery of fish habitat, riparian habitat, and water quality. The most important components of a watershed restoration program are control and prevention of road-related runoff and sediment production, restoration of the condition of riparian vegetation, and restoration of in-stream habitat complexity. Other restoration opportunities include meadow and wetland restoration and mine reclamation.

Management Actions/Direction

- Prepare watershed analyses prior to restoration activities;
- Restore watershed processes to recover degraded habitat;
- Focus watershed restoration on removing and upgrading roads;
- Apply silvicultural treatments to restore large conifers in riparian reserves; and
- Restore stream channel complexity. In-stream structures will only be used in the short term and

not as a mitigation measure.

Additional information about the Aquatic Conservation Strategy and riparian reserve objectives are found in Appendix A.

Land Use Allocations and Resource Programs

Introduction

This section provides a description of objectives, land use allocations, and management actions/direction for the RMP. The term “land use allocations” is used in two ways. First, it pertains to the major land use allocation categories derived from the SEIS ROD (e.g., riparian reserves and late-successional reserves) and the other resource program allocations of this Resource Management Plan. The second use pertains to data and text describing specific allocations (e.g., acres, miles, and number of sites) under each land use allocation and resource program category.

The rest of this Land Use Allocations and Resource Programs description has three major parts:

- management actions/direction for all land use allocations and resource programs;
- specific land use allocations: objectives, allocations, and management actions/direction for each category; and
- resource programs: objectives, allocations, and management actions/direction for each category.

Although described separately, each of these elements contributes collectively and cumulatively to meeting the overall management strategy and must be considered together to accurately reflect the concept of ecosystem management. There is some duplication of objectives and management actions/direction for land use allocations and resource programs. A reader interested in either topic will find a basic package of related management guidance in

one location.

The hierarchy in the RMP for specific land use allocations and resource programs will generally emulate the following examples:

Riparian Reserve

Objective(s)

Land Use Allocation(s)

Management Actions/Direction

-

- (Varies by major heading)

-

Special Areas

Objective(s)

Land Use Allocation(s)

Management Actions/Direction

-

- (Varies by major heading)

-

Most resource programs have basic requirements for activities such as inventory, site-specific analysis, planning, and environmental assessment prior to project implementation and monitoring after project implementation. Inherent in the Resource Management Plan is a BLM commitment to continue these activities in the future. For the sake of simplifying text, these activities are generally not repeated in the management actions/direction sections that follow.

A summary of the land use allocations and management actions/direction for the resource management plan is found in Table R-1. Land use allocations are shown on the maps in the accompanying packet.

Management Actions/Direction for all Land Use Allocations and Resource Programs

All management actions/direction in this resource management plan are subject to refinement through planning based on watershed analysis and the adaptive management process. In some areas, land use allocations overlap. A hierarchy of allocations and related management actions/direction will be used to guide plan implementation (see Appendix A, Hierarchy of Standards and Guidelines).

Survey and Manage for Amphibians, Mammals, Bryophytes, Mollusks, Vascular Plants, Fungi, Lichens, and Arthropods

For species listed in Appendix C (see that portion abstracted from Table C-3, SEIS ROD), apply the survey and manage guidance within the range of the species and within the particular habitats that they are known to occupy. There are four survey strategies indicated. Application of these strategies and priorities varies by species.

Survey Strategy 1: Manage known sites (highest priority).

- Acquire information on these sites, make it available to all project planners, and use it to design or modify activities;
- Protect known sites. For some species, apply specific management treatments such as prescribed fire, to maintain habitat value; and
- For rare and endemic fungus species, temporarily withdraw 160 acres around known sites from ground-disturbing activities until the sites can be thoroughly surveyed and site-specific measures prescribed.

Survey Strategy 2: Survey prior to ground-disturbing activities and manage sites.

- Continue existing efforts to survey and manage rare and sensitive species habitat;
- For species without survey protocols, start immediately to design protocols and implement surveys;
- Within the known or suspected ranges and within the habitat types of vegetation communities associated with the species, survey for *Allotropa virgata*, *Bensoniella oregana*, *Cypripedium fasciculatum* and *Cypripedium montanum*. Survey for Del Norte salamanders, Siskiyou Mountain salamanders, and red tree voles. These surveys will precede the design of all ground-disturbing activities to be implemented in 1997 or later;
- For the other species listed in Appendix C, begin development of survey protocols promptly and proceed with surveys as soon as possible. These surveys will be completed prior to ground-disturbing activities that will be implemented in Fiscal Year 1999 or later. Work to establish habitat requirements and survey protocols may be prioritized relative to the estimated threats to the species as reflected in the FSEIS;
- Conduct surveys at a scale most appropriate to the

species;

- Develop management actions/direction to manage habitat for the species on sites where they are located; and
- Incorporate survey protocols and proposed site management in interagency conservation strategies developed as part of ongoing planning efforts coordinated by the Regional Ecosystem Office.

Survey Strategy 3: Conduct extensive surveys and manage sites.

- Conduct extensive surveys for the species to find high-priority sites for species management. Specific surveys prior to ground-disturbing activities are not a requirement;
- Conduct surveys according to a schedule that is most efficient and identify sites for protection at that time;
- Design these surveys for efficiency and develop standardized protocols; and
- Begin these surveys by 1996.

Survey Strategy 4: Conduct general regional surveys.

- Survey to acquire additional information and to determine necessary levels of protection for arthropods, bryophytes, lichens, and fungi species that were not classed as rare and endemic; and
- Initiate these surveys no later than Fiscal Year 1996 and complete them within 10 years.

Protection Buffer Species

Provide protection buffers for specific rare and locally endemic species and other species (See Appendix C). These species are likely to be assured viability if they occur within reserves. However, there might be occupied locations outside reserves that will be important to protect as well.

Apply the following management actions/direction:

- Develop survey protocols that will ensure a high likelihood of locating sites occupied by these species;
- Following development of survey protocols and prior to ground-disturbing activities, conduct

surveys within the known or suspected ranges of the species and within the habitat types or vegetation communities occupied by the species. See the previous Survey and Manage section for an implementation schedule; and

- When located, protect the occupied sites.

See Special Status and SEIS Special Attention Species section for additional details.

Specific Land Use Allocations

This section describes specific land use allocations developed for the SEIS ROD.

Riparian Reserves

The following material summarizes management direction for Riparian Reserves. Details regarding this direction are found in the SEIS ROD (appendix A).

Objectives

See Aquatic Conservation Strategy objectives.

Provide habitat for terrestrial species associated with late-successional forest habitat.

Provide dispersal habitat for northern spotted owls.

Implement strategies to achieve the goals established in the BLM's Riparian Wetland Initiative for the 1990s.

Land Use Allocations

There are approximately 369,200 acres of riparian reserves in the planning area. Calculation of these acres is based on prescribed widths and estimated miles of stream in the various land use categories described in the SEIS ROD.

Riparian reserves are used to maintain and restore riparian structures and functions of intermittent streams, confer benefits to riparian dependent and associated species other than fish, enhance habitat conservation for organisms that are dependent on the transition zone between upslope and riparian areas, improve travel and corridors for many terrestrial animals and plants, and provide for greater connectivity of the watershed. The riparian reserves will also serve as connectivity corridors among late-successional reserves.

Interim widths for riparian reserves necessary to meet Aquatic Conservation Strategy objectives for

different water bodies are established on ecologic and geomorphic factors. These widths are designed to provide a high level of fish habitat and riparian protection until watershed and site analysis can be completed. Riparian reserves are delineated during watershed analysis or implementation of site specific projects based on analysis of the critical hillslope, riparian, and channel processes and features. Although riparian reserve boundaries may be adjusted on permanently flowing streams, the prescribed widths are considered to approximate those necessary for attaining Aquatic Conservation Strategy and riparian reserve objectives. Post-watershed analysis riparian reserve boundaries for permanently flowing streams will approximate the boundaries described below. However, post watershed analysis riparian reserve boundaries for intermittent streams may be different from the existing boundaries. The reason for the difference is the high variability of hydrologic, geomorphic, and ecologic processes in a watershed affecting intermittent streams. At the same time, any analysis or riparian reserve widths must also consider the contribution of these reserves to other, including terrestrial species. Watershed analysis should also take into account all species that were intended to be benefitted by the prescribed riparian reserve widths, including fish, mollusks, amphibians, lichens, fungi, bryophytes, vascular plants, American martens, red tree voles, bats, marbled murrelets, and northern spotted owls. The specific issue for spotted owls is retention of adequate habitat conditions for dispersal.

The prescribed widths of riparian reserves apply to all watersheds until watershed analysis is completed, a site-specific analysis is conducted and described, and the rationale for final riparian reserve boundaries is presented through the appropriate NEPA decision-making process.

The interim riparian reserve widths are as follows:

Fish-bearing streams. Riparian reserves consist of the stream and the area on each side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance (600 feet total, including both sides of the stream channel), whichever is greatest.

Permanently flowing nonfish-bearing streams. Riparian reserves consist of the stream and the area on each side of the stream extending from the edges of the active stream

channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance (300 feet total, including both sides of the stream channel), whichever is greatest.

Seasonally flowing or intermittent streams, wetlands less than one acre, and unstable and potentially unstable areas. This category applies to features with high variability in size and site-specific characteristics. At a minimum the riparian reserves will include:

- The extent of unstable and potentially unstable areas;
- The stream channel and the area extending to the top of the inner gorge;
- The stream channel or wetland and the area from the edges of the stream channel or wetland to the outer edges of the riparian vegetation;
- The area extending from the edges of the stream channel to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest.

Constructed ponds and reservoirs, and wetlands greater than one acre. Riparian reserves consist of the body of water or wetland and the area to the outer edges of the riparian vegetation, or to the extent of seasonally saturated soil, or to the extent of unstable and potentially unstable areas, or to a distance equal to the height of one site-potential tree, or to 150 feet slope distance from the edge of a wetland greater than one acre or the maximum pool elevation of constructed ponds and reservoirs, whichever is greatest.

Lakes and natural ponds. Riparian reserves consist of the body of water and the area to the outer edges of the riparian vegetation, or to the extent of seasonally saturated soil, or to the extent of unstable and potentially unstable areas, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance, whichever is greatest.

A site-potential tree height is the average maximum height of the tallest dominant trees (200 years or older) for a given site class.

Intermittent streams are defined as any nonpermanent flowing drainage feature having a definable channel and evidence of annual scour or deposition. This includes what are sometimes referred to as ephemeral streams if they meet these two criteria.

Management Actions/Direction

As a general rule, management actions/direction for riparian reserves prohibits or regulates activities that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. Watershed analysis and appropriate NEPA compliance will be required to change riparian reserve boundaries in all watersheds.

Implement the following management actions/direction in riparian reserves. (Management actions/direction in this section are supplemented by Best Management Practices in Appendix D.)

Management Actions/Direction - General

Apply the management actions/direction in the Special Status and SEIS Special Attention Species section.

Management Actions/Direction - Timber Management

Prohibit timber harvest including fuelwood cutting in riparian reserves, with the following exceptions:

- Allow salvage and fuelwood cutting if required to attain Aquatic Conservation Strategy and riparian reserve objectives where catastrophic events such as fire, flooding, volcanic, wind, or insect damage results in degraded riparian conditions, ;
- Remove salvage trees only when watershed analysis determines that present and future woody debris needs are met and other Aquatic Conservation Strategy and riparian reserve objectives are not adversely affected; and
- Apply silvicultural practices for riparian reserves to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy and riparian reserve objectives (see Appendix E).

Riparian reserve acres are not included in calculations of the allowable sale quantity.

Management Actions/Direction - Roads Management

Cooperate with Federal, State, and county agencies and work with private parties with road use agreements to achieve consistency in road design, operation, and maintenance necessary to attain Aquatic Conservation Strategy and riparian reserve objectives.

For each existing or planned road, meet Aquatic Conservation Strategy and riparian reserve objectives by:

- completing watershed analyses including appropriate geotechnical analyses (i.e., examining soil and rock conditions in riparian areas at proposed stream crossings) prior to construction of new roads or landings in riparian reserves;
- minimizing road and landing locations in riparian reserves;
- preparing road design criteria, elements, and standards that govern construction and reconstruction;
- preparing operation and maintenance criteria that govern road operation, maintenance, and management;
- minimizing disruption of natural hydrologic flow paths, including diversion of streamflow and interception of surface and subsurface flow;
- restricting sidecasting as necessary to prevent the introduction of sediment to streams; and
- avoiding wetlands entirely when constructing new roads.

Determine the influence of each road on the Aquatic Conservation Strategy and riparian reserve objectives through watershed analysis. Meet Aquatic Conservation Strategy and riparian reserve objectives by:

- reconstructing roads and associated drainage features that pose a substantial risk;
- prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected; and
- closing and stabilizing, or obliterating and stabilizing roads based on the ongoing and potential effects to Aquatic Conservation Strategy and riparian reserve objectives and considering short-term and long-term transportation needs.

New culverts, bridges and other stream crossings shall be constructed, and existing culverts, bridges, and other stream crossings determined to pose a substantial risk to riparian conditions will be improved to accommodate at least the 100-year flood, including associated bedload and debris. Priority for upgrading will be based on the potential impact and the ecological value of the riparian resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.

Minimize sediment delivery to streams from roads. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe. Route road drainage away from potentially unstable channels, fills, and hill slopes.

Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams (e.g., streams that can be made available to anadromous fish by removing obstacles to passage).

Develop and implement a road management plan or a transportation management plan that will meet the Aquatic Conservation Strategy and riparian reserve objectives. As a minimum, this plan will include provisions for the following activities:

- inspections and maintenance during storm events;
- inspections and maintenance after storm events;
- road operation and maintenance giving high priority to identifying and correcting road drainage problems that contribute to degrading riparian resources;
- traffic regulation during wet periods to prevent damage to riparian resources; and
- establishing the purpose of each road by developing the road management objectives.

Management Actions/Direction - Grazing Management

Through a planning and environmental analysis process appropriate to the action, adjust or eliminate grazing practices that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Locate new livestock handling and/or management facilities outside riparian reserves. For existing

livestock handling facilities inside riparian reserves, ensure that Aquatic Conservation Strategy and riparian reserve objectives are met. Where these objectives cannot be met, require relocation or removal of such facilities.

Limit livestock trailing, bedding, watering, loading, and other handling efforts to those areas and times that will ensure Aquatic Conservation Strategy and riparian reserve objectives are met.

Management Actions/Direction - Recreation Management

Design new recreational facilities within riparian reserves, including trails and dispersed sites, so as not to prevent meeting Aquatic Conservation Strategy and riparian reserve objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within riparian reserves, evaluate and mitigate impacts to ensure that these do not prevent, and to the practicable extent contribute to, attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective, eliminate the practice or occupancy.

Address attainment of Aquatic Conservation Strategy and riparian reserve objectives in wild and scenic river and wilderness management plans.

Management Actions/Direction - Energy and Minerals Management

NOTE: The standards and guidelines for minerals management in riparian reserves presented on page C-34/35 of the SEIS ROD are not consistent with BLM regulations. Until regulations are modified, management of locatable minerals within riparian reserves will be governed by regulations found in 43 CFR 3809. The following guidelines consistent with 43 CFR 3809, are modifications of the standards and guidelines presented in the SEIS ROD and apply to any locatable mineral operations requiring a plan of operations, and to leasable and saleable mineral operations where appropriate.

- Require a Plan of Operations, including a reclamation plan and reclamation bond for all mining operations in riparian reserves. Such plans

and bonds will address the costs of removing facilities, equipment, and materials; recontouring of disturbed areas to an approved topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvaging and replacing topsoil; and revegetating to meet Aquatic Conservation Strategy and riparian reserve objectives.

- Locate structures, support facilities, and roads outside riparian reserves. If no alternative to siting facilities in riparian reserves exists, locate in a way compatible with Aquatic Conservation Strategy and riparian reserve objectives. Road construction will be kept to the minimum necessary for the approved mineral activity. Roads will be constructed and maintained to meet road management standards and to minimize damage to resources in riparian reserves. When a road is no longer required for mineral or land management activities, it will be reclaimed. In any case, access roads will be constructed consistent with 43 CFR 3809 and acceptable road construction standards and will minimize damage to resources in riparian reserves.
- Avoid locating solid and sanitary waste facilities in riparian reserves. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in riparian reserves exist, if releases can be prevented and stability can be ensured, then:
 - Analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics.
 - Locate and design waste facilities using best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in riparian reserves.
 - Reclaim waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy and riparian reserve objectives.
 - Monitor waste and waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy and riparian reserve objectives.
 - Require reclamation bonds adequate to ensure chemical and physical stability of mine waste facilities and to meet Aquatic Conservation

Strategy and riparian reserve objectives.

- Where an existing operator is in noncompliance at the notice level (i.e., causing unnecessary or undue degradation), require actions similar to those stated above to meet the intent of 43 CFR 3809.
- Develop inspection and monitoring requirements, and include such requirements in exploration and mining plans, and in leases or permits, consistent with existing laws and regulations. Evaluate the results of inspection and monitoring to determine if modification of plans, leases and permits is needed to eliminate impacts that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.
- For leasable mineral activity in Riparian Reserves, prohibit surface occupancy for oil, gas, and geothermal exploration and development activities where leases do not exist. Where possible, modify the stipulations in existing leases to eliminate impacts that retard or prevent the attainment of Aquatic Conservation Strategy and riparian reserve objectives, consistent with existing lease terms and stipulations.
- Allow development of saleable minerals, such as sand and gravel, within riparian reserves only if Aquatic Conservation Strategy and riparian reserve objectives can be met.

Management Actions/Direction - Fire Management

Design fuel treatment, fire suppression strategies, practices, and activities to meet Aquatic Conservation Strategy and riparian reserve objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies will recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management activities could be damaging to long-term ecosystem function.

Locate incident bases, camps, helibases, staging areas, helispots and other centers for incident activities outside of riparian reserves. If the only suitable location for such activities is within the riparian reserve, an exemption may be granted following a review and recommendation by a resource advisor. The advisor will prescribe the location, use conditions, and rehabilitation requirements. Utilize an interdisciplinary team to predetermine suitable incident base and helibase locations.

Minimize delivery of chemical retardant, foam, or

other additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exists, or following a review and recommendation by a resource advisor when an escape would cause more long-term damage.

Design prescribed burn projects and prescriptions to contribute to attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Immediately establish an emergency team to develop a rehabilitation treatment plan needed to attain Aquatic Conservation Strategy and riparian reserve objectives whenever riparian reserves are significantly damaged by a wildfire or a prescribed fire burning outside prescribed parameters.

Consider allowing some natural fires to burn under prescribed conditions. This decision will be based on watershed analysis and planning. Until watershed analysis is completed suppress wildfires to avoid loss of habitat and to maintain future management options.

Consider rapidly extinguishing smoldering coarse woody debris and duff.

Locate and manage water drafting sites (e.g., sites where water is pumped to control or suppress fires) to minimize adverse effects on riparian habitat and water quality as consistent with Aquatic Conservation Strategy and riparian reserve objectives.

Management Actions/Direction - Lands Management

Identify instream flows needed to maintain riparian resources, channel conditions, and fish passage.

Issue leases, permits, rights-of-way, and easements to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. Where legally possible, adjust existing leases, permits, rights-of-way, and easements to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy and riparian reserve objectives. If adjustments are not effective and where legally possible, eliminate the activity. Priority for modifying existing leases, permits, rights-of-way and easements will be based on the actual or potential impact and the ecological value of the riparian resources affected.

Use land acquisition, exchange, and conservation easements to meet Aquatic Conservation Strategy and riparian reserve objectives and facilitate restoration of fish stocks and other species at risk of extinction.

For proposed hydroelectric projects and other surface water development proposals under the jurisdiction of the Federal Energy Regulatory Commission (the Commission), provide timely, written comments regarding maintenance of instream flows and habitat conditions and maintenance/restoration of riparian resources and stream channel integrity. Request the Commission to locate proposed support facilities outside of riparian reserves. For existing support facilities inside riparian reserves that are essential to proper management, provide recommendations to the Commission that ensure Aquatic Conservation Strategy and riparian reserve objectives are met. Where these objectives cannot be met, provide recommendations to the Commission that such support facilities should be relocated. Existing support facilities that must be located in the riparian reserves should be located, operated, and maintained with an emphasis to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.

For hydroelectric and other surface water development proposals in Tier One key watersheds, require instream flows and habitat conditions that maintain or restore riparian resources, favorable channel conditions, and fish passage. Coordinate this process with the appropriate State agencies. For other hydroelectric and surface water development proposals in all other watersheds, give priority emphasis to instream flows and habitat conditions that maintain or restore riparian resources, favorable channel conditions, and fish passage. Coordinate this process with the appropriate State agencies.

Management Actions/Direction - General Riparian Area Management

Identify and attempt to secure instream flows needed to maintain riparian resources, channel conditions, and aquatic habitat.

Fell trees in riparian reserves when they pose a safety risk. Keep felled trees on site when needed to meet coarse woody debris objectives.

Apply herbicides, insecticides, other toxicants, and other chemicals only in a way that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Locate water drafting sites to minimize adverse effects on stream channel stability, sedimentation, and instream flows needed to maintain riparian resources, channel conditions, and fish habitat.

Management Actions/Direction - Watershed and Habitat Restoration

Design and implement watershed restoration projects in a manner that promotes long-term ecological integrity of ecosystems, conserves the genetic integrity of native species, and attains Aquatic Conservation Strategy and riparian reserve objectives.

Cooperate with Federal, State, local, and Tribal agencies, and private landowners to develop watershed-based coordinated resource management plans or other cooperative agreements to meet Aquatic Conservation Strategy and riparian reserve objectives.

Prevent watershed and habitat degradation rather than relying on mitigation measures or planned restoration.

Management Actions/Direction - Fish and Wildlife Management

Design and implement fish and wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Design, construct and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. For existing fish and wildlife interpretive and other user-enhancement facilities inside riparian reserves, ensure that Aquatic Conservation Strategy and riparian reserve objectives are met. Where Aquatic Conservation Strategy and riparian reserve objectives cannot be met, relocate or close such facilities.

Cooperate with Federal, Tribal, and State wildlife management agencies to identify and eliminate wild ungulate impacts that are inconsistent with attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Cooperate with Federal, Tribal, and State fish management agencies to identify and eliminate impacts associated with habitat manipulation, fish stocking, harvest and poaching that threaten the continued existence and distribution of native fish stocks occurring on Federal lands.

Late-Successional Reserves (LSRs)

The following material summarizes management direction for Late-Successional Reserves. Details

regarding this direction are found in the SEIS ROD (appendix A).

Objectives

Protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth forest-related species including the northern spotted owl and marbled murrelet.

Maintain a functional, interacting, late-successional and old-growth forest ecosystem.

Land Use Allocations

There are 211,404 acres of late-successional reserves in the district. The five components of this reserve system are:

1. Mapped late-successional reserves:

Area	Acres
Elk Creek LSR	21,594
Azalea LSR	26,394
Galice Block LSR	92,648
Munger Butte LSR/AMR	36,214
Jenny Creek LSR	34,554

Some or parts of the most ecologically significant late-successional forests identified by the Scientific Panel on Late-Successional Forest Ecosystems; and some or parts of the Designated Conservation Areas from the Final Draft Spotted Owl Recovery Plan. These reserves incorporate key watersheds to the extent practicable.

2. Late-successional/old-growth 1 and 2 areas within marbled murrelet Zone 1, as mapped by the Scientific Panel on Late-Successional Forest Ecosystems.

3. Occupied marbled murrelet sites (see Special Status and SEIS Special Attention Species section).

4. Known northern spotted owl activity centers. One-hundred acres of the best northern spotted owl habitat as close as possible to a nest site or owl activity center for all known (as of January 1, 1994) northern spotted owl activity centers.

5. Protection buffers (see Special Status and SEIS Special Attention Species section).

See Map 3 for locations of late-successional reserves.

Known northern spotted owl activity centers and protection buffers are unmapped. There are no occupied marbled murrelet sites within the planning area. Six (6) isolated late-successional old-growth one and two (LSOG 1 and 2) areas are located in the extreme western part of the planning area (3,478 acres).

Management Actions/Direction

Management Actions/Direction - General

Apply the management actions/direction in the Special Status and SEIS Special Attention Species section (see Appendix C).

Develop late-successional reserve assessments prior to habitat manipulation (see Appendix A).

A management assessment will be prepared for each large late-successional reserve (or group of smaller late-successional reserves) before habitat manipulation activities are designed and implemented. These assessments may be developed as part of province-level planning or as stand-alone assessments. If developed to stand alone, the assessments will be closely coordinated with subsequent watershed analysis and province-level planning. SEIS ROD standards and guidelines should be refined at the province level prior to development of late-successional reserve assessments. Late-successional reserve assessments will generally include:

- a history and inventory of overall vegetative conditions within the reserve;
- a list of identified late-successional associated species known to exist within the late-successional reserve and information on their locations;
- a history and description of current land uses within the reserve;
- a fire management plan;
- criteria for developing appropriate treatments;
- identification of specific areas that could be treated under those criteria;
- a proposed implementation schedule tiered to higher order (i.e., larger scale) plans; and
- proposed monitoring and evaluation components to help evaluate if future activities are carried out as intended and achieve desired results.

Silvicultural treatments for the establishment and maintenance of desired conifer and non-conifer species on units harvested prior to LSR designation may precede completed management assessments (see C-12 of SEIS ROD). Only in unusual circumstances will other silvicultural treatments, including prescribed fire, precede preparation of this management assessment. Late-successional reserve assessments are subject to review by the Regional Ecosystem Office. Until late-successional reserve assessments are completed, fire suppression activities should be guided by land allocation objectives in coordination with local resource management specialists.

Projects and activities within late-successional reserves (including restoration, recreation, projects for public safety, thinning and salvage) may proceed in fiscal years 1995-96 using initial late-successional reserve assessments done at a level of detail sufficient to assess whether the activities are consistent with the objectives of the late-successional reserves.

Plan and implement nonsilvicultural activities inside late-successional reserves that are neutral or beneficial to the creation and maintenance of late-successional habitat.

Using interdisciplinary teams, evaluate other activities not described below and document appropriate guidelines.

Request review by the Regional Ecosystem Office of all activities deemed to have potential adverse effects on late-successional reserve objectives. The Regional Ecosystem Office may develop additional criteria for exempting some additional activities from review.

Management Actions/Direction - Silviculture

Plan and implement silvicultural treatments inside late-successional reserves that are beneficial to the creation of late-successional habitat (see Appendix E).

If needed to create and maintain late-successional forest conditions, conduct thinning operations in forest stands less than 80 years of age. This will be accomplished by precommercial or commercial thinning of stands regardless of origin (e.g., planted after logging or naturally regenerated after fire or blowdown).

LSRs would be managed to reduce the risk of large scale disturbance such as from wildfire, and the subsequent loss of habitat for old-growth associated

species.

Management Actions/Direction - Salvage

Limit salvage of dead trees in late-successional reserves to areas where stand-replacing events exceed ten acres in size and canopy closure has been reduced to less than 40 percent.

Retain all standing live trees including those injured (e.g., scorched) but likely to survive.

Retain snags that are likely to persist until late-successional forest conditions have developed and a new stand is again producing large snags.

Retain adequate coarse woody debris quantities in a new stand so that in the future it will still contain amounts similar to naturally regenerated stands. Watershed-level or province-level plans will establish appropriate levels of coarse woody debris to be used. Levels will be typical and will not require retention of all material where it is highly concentrated or too small to contribute to coarse woody debris over the long term.

If an LSR assessment indicates it is essential to reduce future risk of fire or insect damage, conduct salvage that does not meet the preceding management actions/direction. Focus on those areas where there is high risk of large scale disturbance.

Remove snags and logs to reduce hazards to humans along roads and trails and in or adjacent to recreation sites. Leave some material where coarse woody debris is inadequate.

After disturbance in younger stands, develop diameter and biomass retention direction consistent with the intention of achieving late-successional forest conditions. Where green trees, snags, and logs are present following disturbance, the green-tree and snag direction will be applied first and completely satisfied where possible. The biomass left in snags can be credited toward the amount of coarse woody debris biomass needed to achieve management objectives.

Retain logs present on the forest floor before a disturbance event.

Retain coarse woody debris to approximate the species composition of the original stand to help replicate preexisting suitable habitat conditions.

Deviate from these management actions/direction only to provide reasonable access to salvage sites and feasible logging operations. Limit deviations to as small an area as possible.

Management Actions/Direction - Road Construction and Maintenance

Construct roads in late-successional reserves if the potential benefits of silviculture, salvage, and other activities exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines, they will be kept to a minimum, be routed through unsuitable habitat where possible, and be designed to minimize adverse impacts. Alternate access methods, such as aerial logging, will be considered to provide access for activities in reserves.

Remove trees along rights-of-way if they are a hazard to public safety. Consider leaving material on site if available coarse woody debris is inadequate. Consider topping of trees as an alternative to felling.

Management Actions/Direction - Fuelwood Gathering

Permit fuelwood gathering only in existing cull decks, in areas where green trees are marked by silviculturists for thinning, in areas where blowdown is blocking roads, and in recently harvested timber sale units where down material will impede scheduled post-sale activities or pose an unacceptable risk of future large scale disturbance from high intensity wildfire. In all cases these activities will comply with management actions/direction for salvage and silvicultural activities.

Management Actions/Direction - Energy and Minerals

Assess the impacts of ongoing and proposed mining activities in late-successional reserves.

Include stipulations in mineral leases and, when legally possible, require operational constraints for locatable mineral activities to minimize detrimental effects to late-successional habitat.

Management Actions/Direction - Developments

Neither construct nor authorize new facilities that may adversely affect late-successional reserves.

Review on a case-by-case basis new development proposals that address public needs or provide significant public benefits. They may be approved when adverse effects can be minimized and mitigated. They will be planned to have the least possible adverse impacts on late-successional reserves.

Locate new developments to avoid degradation of habitat and adverse effects on identified late-successional species.

Retain and maintain existing developments, such as campgrounds, utility corridors, and electronic sites consistent with other management actions/direction for late-successional reserves.

Remove hazard trees along utility rights-of-way and trails and in other developed areas.

Management Actions/Direction - Land Exchanges

Consider land exchanges in late-successional reserves if they provide benefits equal to or better than current conditions.

Consider land exchanges especially to improve area, distribution, and quality (e.g., connectivity, shape, and contribution to biological diversity) of late-successional reserves, especially where public and private lands are intermingled.

Management Actions/Direction - Habitat Improvement Projects

Design projects to improve conditions for fish, wildlife, special status species, SEIS special attention species, and watersheds if they provide late-successional habitat benefits or if their adverse effect on late-successional associated species is negligible.

Consider projects required for recovery of threatened or endangered species even if they result in some reduction of habitat quality for other late-successional species.

Design and implement watershed restoration projects consistent with late-successional reserve objectives.

Management Actions/Direction - Livestock Grazing

Through an interdisciplinary process, implement range-related management activities that do not adversely affect late-successional habitat.

Through a planning and environmental analysis process appropriate to the action, adjust or eliminate

grazing practices that retard or prevent attainment of late-successional reserve objectives.

Evaluate effects of existing and proposed livestock management and handling facilities in late-successional reserves to determine if reserve objectives are met. Where objectives cannot be met, relocate livestock management and/or handling facilities.

Management Actions/Direction - Fire Suppression and Prevention

As part of watershed analysis or late-successional reserve assessments, plan fire management for each late-successional reserve.

Emphasize maintaining late-successional habitat in wildfire suppression plans.

Use minimum impact suppression methods for fuel management in accordance with guidelines for reducing risks of large-scale disturbances.

During actual fire suppression activities, consult an interdisciplinary team or environmental specialist to assure that habitat damage is minimized.

Until a fire management plan is completed for a late-successional reserve or group of reserves, suppress wildfire to avoid loss of habitat and to maintain future management options.

Prepare a specific fire management plan prior to any habitat manipulation activities in late-successional reserves. Specify how hazard reduction and other prescribed fire applications meet the objectives of the late-successional reserve. Until the plan is approved, proposed activities will be subject to review by the Regional Ecosystem Office.

Apply prescribed fire in a manner that retains the amount of coarse woody debris determined through watershed analysis.

Limit the size of all fires until assessment or activity plans are completed.

Consider allowing some natural fires to burn under prescribed conditions. This decision will be based on additional analysis and planning.

Consider rapidly extinguishing smoldering coarse woody debris and duff.

Management Actions/Direction - Special Forest Products

Evaluate whether special forest product harvest activities have adverse effects on late-successional reserve objectives.

Prior to selling special forest products, ensure resource sustainability and protection of other resource values such as special status plant or animal species.

Where special forest product activities are extensive, evaluate whether they have significant effects on late-successional habitat. Restrictions may be appropriate in some cases.

Management Actions/Direction - Recreational Uses

Use adjustment measures, such as education, use limitations, traffic control devices, or increased maintenance, when dispersed and developed recreation practices retard or prevent attainment of late-successional reserve objectives.

Management Actions/Direction - Rights-of-Way, Contracted Rights, Easements, and Special/Temporary Use Permits

Consider as valid uses access to nonfederal lands through late-successional reserves and existing rights-of-way agreements, contracted rights, easements and special/temporary use permits in late-successional reserves.

For all new rights-of-way proposals, design mitigation measures to reduce adverse effects on late-successional reserves. Consider alternate routes that avoid late-successional reserves. If rights-of-way must be routed through a reserve, design and locate them to have the least impact on late-successional habitat.

Review all special/temporary use permits. When objectives of late-successional reserves are not being met, reduce impacts through education or modification of existing permits.

Management Actions/Direction - Nonnative Species

If introduction of a nonnative species is proposed, complete an assessment of impacts and avoid any introduction that would retard or prevent achievement of late-successional objectives.

Evaluate impacts of non-native species (plant and animal) existing within reserves.

Develop plans and recommendations for eliminating or controlling nonnative species that are inconsistent with late-successional reserve objectives. Include an analysis of effects of implementing such programs on other species or habitats within late-successional reserves.

Management Actions/Direction - Protection Buffers - see the Special Status and SEIS Special Attention Species section

Establish a 1/4 mile protection zone around known great gray owl nest sites and provide a 300-foot no-harvest buffer around meadows and natural openings. Develop a standardized protocol for surveys within one year.

Applegate Adaptive Management Area

The following material summarizes Adaptive Management Area (AMA) direction that is an extract from the SEIS ROD.

Objectives

Develop and test new management approaches to integrate and achieve ecological and economic health and other social objectives.

Contribute substantially to the achievement of SEIS ROD objectives including provision of well-distributed late-successional habitat outside reserves, retention of key structural elements of late-successional forests on lands subjected to regeneration harvest, restoration and protection of riparian zones, and provision of a stable timber supply.

Specific emphasis for the Applegate AMA includes “development and testing of forest management practices including partial cutting, prescribed burning, and low impact approaches to forest harvest (e.g., aerial systems) that provide for a broad range of forest values, including late-successional forest and high quality riparian habitat” (see appendices A and E).

Land Use Allocations

The Applegate AMA includes lands managed by BLM (150,752 acres) and the Forest Service (127,409 acres).

Management Actions/Direction

A management plan will be prepared for the Applegate Adaptive Management Area. A single public-interagency approach to planning will be

developed for the Adaptive Management Area. The plan should address or provide:

- A shared vision of the Adaptive Management Area (e.g., the kind of knowledge the participants hope to gain). Identification of the desired future conditions may be developed in collaboration with communities;
- Learning that includes social and political knowledge, not just biological and physical information;
- A strategy to guide implementation, restoration, monitoring and experimental activities;
- A short-term (3 to 5 year) timber sale plan and long-term yield projections;
- A list of communities influenced by the AMA projects and outputs;
- An inventory of community strategies, and resources and partners being used;
- Coordination with overall activities within the province;
- A funding strategy; and
- Integration of the community strategies and technical objectives.

Seek innovative approaches to achieve technical and social objectives. Develop localized, idiosyncratic methods that will best reflect the needs of the land and communities. These approaches rely on the experience and ingenuity of resource managers and communities rather than traditionally derived and tightly prescriptive approaches that are generally applied in management of forests.

The AMAs are intended to be opportunities for learning. They provide a geographic focus for innovation and experimentation with the intent that such experience will be widely shared. Research and monitoring in the AMAs will further clarify standards and guidelines to meet intended objectives. Opportunities exist for education and technical training across agencies and communities.

Proceed with management activities in the adaptive management area while the plan is being developed. Initiation of activities will not be delayed by requirements for comprehensive plans or consensus documents beyond those needed to meet existing legal requirements for activities.

Apply the management actions/direction in the Special Status and SEIS Special Attention Species section.

Manage coarse woody debris, green trees and snags in a manner that meets the intent of the management actions/direction for the Matrix. There are no specific management actions/direction for these forest components in the AMA. More site-specific direction is anticipated to determine appropriate amounts of these components for southwestern Oregon.

Plan use of prescribed fire within the Applegate AMA to meet specific habitat requirements. Retention of habitat components such as coarse woody debris and standing snags must be considered based on the natural role of fire.

Implement harvest objective and use of fire with intent of maintaining soil productivity and nutrient cycling capability.

- Minimize intensive burning, unless appropriate for specific habitats, communities, or stand conditions. Prescribed fires should be planned to minimize the consumption of litter and coarse woody debris. However, fire will be utilized within the Applegate AMA based on the natural role of fire and the reasons to reintroduction;
- Minimize soil and litter disturbance that may occur as a result of yarding and operation of heavy equipment; and
- Reduce the intensity and frequency of site treatments.

Provide for old-growth fragments in watersheds where little remains. The Matrix management actions/direction for retaining late-successional forest in fifth field watersheds (see Matrix section for details) will be considered as a threshold for analysis in Adaptive Management Area planning rather than a strict management actions/direction. The role of remaining late-successional forest stands will be fully considered in watershed analysis before they can be modified.

During AMA planning, review relevant objectives, land use allocations, and management actions/direction for resource programs established in this Resource Management Plan. They may be modified in AMA plans based on site-specific analyses. Otherwise, management actions/direction will be developed to meet the objectives of the AMA and the overall strategy. Development of management guidance will be coordinated with the Regional Ecosystem

Office through the Regional Interagency Executive Committee.

Explore and support opportunities to research the role and effects of fire/fuels management on ecosystem functions.

Emphasize fire/fuels management cooperation across agency and ownership boundaries.

Follow the hazard reduction management actions/direction in this resource management plan (see Fire section) until the Adaptive Management Area plan is completed and approved.

Use accepted wildfire suppression strategies and tactics, and conform to specific agency policy.

Develop research and monitoring objectives that are clear and measurable to gain information needed in forest ecological and social systems. Develop education framework that enhances agency and community capacity. Adaptive management is, by definition, information dependent.

Adaptive management areas are intended to provide flexible experimentation with policies and management. These areas should provide opportunities for land managing and regulatory agencies, other government entities, nongovernmental organization, local groups, landowners, communities, and citizens to work together to develop innovative management approaches. Broadly, AMAs are intended to be prototypes of how forest communities might be sustained.

Management Actions/Direction - Late-Successional Reserves

A portion of the Munger Butte late-successional reserve (32,937 acres) is located in the Applegate AMA.

Manage mapped and unmapped late-successional reserves in accordance with management actions/direction stated previously. Management around these reserves will be designed to reduce the risk of catastrophic wildfire disturbances.

Site-specific standards and guidelines may be developed for the LSRs within the Applegate AMA based on research and monitoring objectives, consistent with LSR objectives and the adaptive management process (see Implementation on page E-13 specified in the SEIS ROD).

Management Actions/Direction - Riparian Reserves

Protect riparian reserves in a manner comparable to that prescribed for other Federal land areas. Desired conditions may be achieved in a different manner than that prescribed for other areas, and research projects may be conducted within riparian zones. During analysis of riparian reserve widths, consider the contribution of these reserves to aquatic and terrestrial species. Through watershed analysis, take into account all species that were intended to benefit by the prescribed riparian reserve widths (i.e., fish, mollusks, amphibians, lichens, fungi, bryophytes, vascular plants, American marten, red tree voles, bats, marbled murrelets, and northern spotted owls).

More site-specific standards and guidelines will be developed for riparian reserves within the Applegate AMA based on watershed analysis, research, and monitoring objectives.

Managed Late-Successional Areas

Objectives

Protect populations of rare and locally endemic species where they occur outside designated reserves.

Land Use Allocations

Managed late-successional reserves will be established within Matrix lands where Del Norte and Siskiyou Mountain salamanders are found. In addition, should the four species of fungus and moss identified in the SEIS ROD (page C-27) be located within the planning area they also will receive managed late-successional reserves.

Management Actions/Direction

Where sites are occupied by Siskiyou Mountain salamander or Del Norte salamander, protect the site from ground disturbing activities. Designate a buffer of at least the height of one site-potential tree or a 100-foot horizontal distance, whichever is greater, surrounding the location. Within the site and the surrounding buffer, maintain at least 40 percent canopy closure and avoid any activities that would directly disrupt the talus layer. Develop and use standardized survey protocol to determine occupancy.

Locations where any of the four identified species of

moss and fungi are found will be protected using the management standards and guidelines contained in the SEIS ROD.

Congressionally Reserved Areas

Congressionally Reserved Areas are addressed in other sections of this alternative. The only areas that qualify are the Rogue Wild and Scenic River. The Pacific Crest National Scenic Trail is a congressionally designated area, but no specific reservations are included.

Administratively Withdrawn Areas

Administratively Withdrawn Areas (areas withdrawn from scheduled timber harvest) include such areas as timber production capability classification withdrawals, recreation sites, rights-of-way corridors, etc. Management of these areas is addressed in other sections.

Matrix (General Forest Management Area and Connectivity/Diversity Blocks)

Objectives

Produce a sustainable supply of timber and other forest commodities to provide jobs and contribute to community stability.

Provide connectivity (along with other allocations such as riparian reserves) between late-successional reserves.

Provide habitat for a variety of organisms associated with both late-successional and younger forests.

Provide for important ecological functions such as dispersal of organisms, carryover of some species from one stand to the next, and maintenance of ecologically valuable structural components such as down logs, snags, and large trees.

Provide early-successional habitat.

Land Use Allocations

The matrix within the planning area has been divided into the northern and southern General Forest Managements Area and Connectivity/Diversity blocks. There are approximately 482,081 acres of BLM-administered land in the General Forest Management Area and 28,761 acres in Connectivity/Diversity blocks. Connectivity/Diversity blocks vary in size and are distributed throughout the northern GFMA.

Management Actions/Direction

Management Actions/Direction - General Forest Management Areas

Apply the management actions/direction in the Special Status and SEIS Special Attention Species section.

Conduct timber harvest and other silvicultural activities in that portion of the Matrix with suitable forestlands, according to management actions/direction summarized below and in the Timber section (see Appendices E and F).

Provide a renewable supply of large down logs well distributed across the Matrix lands in a manner that meets the needs of species and provides for ecological functions. Down logs will reflect the species mix of the original stand. Models will be developed for groups of plant associations and stand types that can be used as a baseline for developing prescriptions.

- Leave a minimum of 120 linear feet of logs per acre greater than or equal to 16 inches in diameter and 16 feet long. Decay class 1 and 2 logs will be credited toward the total. Where this management actions/direction cannot be met with existing coarse woody debris, merchantable material will be used to make up the deficit;
- In areas of partial harvest, apply the same basic management actions/direction, but they can be modified to reflect the timing of stand development cycles; and
- Retain coarse woody debris already on the ground and protect it to the greatest extent possible from disturbance during treatment (e.g., slash burning and yarding).

Provide a renewable supply of large live trees and snags well distributed across the Matrix lands in a manner that provides habitat for cavity using birds, bats, and other species; provides structure and habitat diversity; provides future sources of large down logs; and provides for other ecological functions. Retained live trees and snags will reflect the species mix of the original stand. Emphasize retention of the largest trees and snags available to provide the unique structure and functions associated with these large old trees.

Retain 100 acres of the best northern spotted owl habitat as close as possible to a nest site or owl activity center for all known (as of January 1, 1994) northern spotted owl activity centers.

Retain late-successional forest patches in landscape areas where little late-successional forest persists. This management actions/direction will be applied in fifth field watersheds (20 to 200 square miles) in which Federal forestlands are currently comprised of 15 percent or less late-successional forest. (The assessment of 15 percent will include all Federal land allocations in a watershed.) Within such an area, protect all remaining late-successional forest stands. Protection of these stands could be modified in the future when other portions of a watershed have recovered to the point where they could replace the ecological roles of these stands.

Within the General Forest Management Area north of Grants Pass (northern GFMA) retain at least 6 to 8 green conifer trees per acre in regeneration harvest units.

Within the General Forest Management Area south of Grants Pass (southern GFMA) retain at least 16 to 25 large, green conifer trees per acre in regeneration harvest units.

Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to:

- Minimize intensive burning unless appropriate for specific habitats, communities, or stand conditions. Prescribed fires should be planned to minimize the consumption of litter and coarse woody debris;
- Minimize soil and litter disturbance that may occur as a result of yarding and operation of heavy equipment; and
- Reduce the intensity and frequency of site treatments.

Where sites are occupied by Siskiyou Mountain Salamander or Del Norte Salamander, protect the site from ground disturbing activities. Designate a buffer of at least the height of one site-potential tree or a 100-foot horizontal distance, whichever is greater, surrounding the location. Within the site and the surrounding buffer, maintain at least 40 percent canopy closure and avoid any activities that would directly disrupt the talus layer. Develop and use standardized survey protocol to determine occupancy. These sites are referred to as managed late-successional reserves in the SEIS ROD.

Conduct surveys for roosting bats. As an interim measure, prohibit timber harvest within 250 feet of

sites containing bats. Develop management standards and guidelines for each site.

Retain snags and green trees within a timber harvest unit at levels sufficient to support species of cavity-nesting birds at 40 percent of potential population levels. Meet the 40 percent minimum throughout the Matrix with per-acre requirements met on average areas no larger than 40 acres.

Within the matrix, provide snags and future sources of snags to maintain 100 percent of the potential population levels of white-headed and black-backed woodpeckers. Within the range of these species, this level of snag retention will be added to the normal standards and guidelines for snag retention levels in the Matrix. It is assumed these snag levels provide adequate habitat for pygmy nuthatches and flammulated owls.

In addition to the previous green-tree retention management actions/direction, retain green trees for snag recruitment in timber harvest units where there is an identified, near-term (less than three decades) snag deficit. These trees do not count toward the green-tree retention requirements.

Within the known or suspected ranges and within the habitat types of vegetation communities associated with the species, survey for *Allotropa virgata*, *Bensoniella oregana*, *Cypripedium fasciculatum* and *Cypripedium montanum*. Survey for Del Norte salamanders, Siskiyou Mountain salamanders, and red tree voles. These surveys will precede the design of all ground-disturbing activities to be implemented in 1997 or later.

Protect known occupied locations of *Ptilidium californicum* (Liverwort) by deferring timber harvest and avoiding removal of fallen trees and logs. The district has one known site at this time. If *Ulota meglospora* (Moss), *Aleuria rhenana* (Fungus), *Otidea leoporina*, *Otidea onotica* and *Otidea smithii* (Fungi) are discovered, defer ground-disturbing activities.

Additional trees may need to be retained to contribute to bat roost sites on a site-specific basis.

Retain some large hardwood trees, where present in harvest units, to provide habitat diversity.

Management Actions/Direction - Connectivity/Diversity (C/D) Blocks Spaced Throughout the Matrix Lands in the Northern GFMA

Maintain at least 25 to 30 percent of each block

in late-successional forest. Riparian reserves and other allocations with late-successional forest count toward this percentage. Blocks may be comprised of contiguous or noncontiguous BLM-administered land. The size and arrangement of habitat within a block will provide effective habitat to the extent possible.

Retain at least 12 to 18 green conifer trees per acre in regeneration harvest units.

Resource Program Direction

The following material includes objectives, land use allocations, and management actions/direction for the resource uses and programs BLM manages in the Medford District. Some of the management actions/direction in the previous land use allocation section are repeated in this section. The intent of this duplication is to give a reader a package of related management guidance in one location.

Air Quality

Objectives

Continue efforts to meet National Ambient Air Quality Standards, Prevention of Significant Deterioration, and the Oregon Visibility Protection Plan and Smoke Management Plan goals.

Maintain and enhance air quality and visibility in a manner consistent with the Clean Air Act and the State Implementation Plan.

Use prescribed fire to reduce the potential for wildfire emissions through the use of prescribed fire and other fuel management techniques.

Consider alternate emission reduction techniques whenever they are compatible with land allocation objectives and other management actions/direction. See the Air Quality Analysis section of the FSEIS for alternative treatments that may be considered during fuels management project design.

Land Use Allocations

None.

Management Actions/Direction

By the year 2000, reduce particulate matter emissions and impacts from prescribed burning by 50 percent from the baseline period (1976-1979). This will be accomplished by planning, conducting, monitoring, and if necessary, adjusting prescribed fire activities

in accordance with the Oregon State Implementation Plan and the Oregon Smoke Management Plan.

Minimize broadcast burning in favor of lower intensity underburning. Use emission reduction mitigation measures and smoke dispersal techniques to the greatest practical extent.

Wildfire hazard reduction, site preparation, and the use of prescribed fire for species habitat mitigation will be implemented in a manner consistent with ecosystem management objectives.

Where appropriate, use dust abatement measures during construction activities and on roads during BLM wood product removal or other BLM commodity hauling activity. Encourage dust abatement measures when haulers use BLM roads under permits and rights-of-way agreements.

Prepare conformity determinations required by the Clean Air Act as part of implementing planning.

Perform an emissions tradeoff analysis to determine and quantify the effects of prescribed burning and other types of fuel management on reduction of wildfire emissions. This analysis should be performed at the same geographic scale as conformity determinations.

For designated nonattainment areas where smoke from woodstoves has shown to be a major source of particulate matter directly affecting both health and visibility, mitigation can include the following:

- close permitted firewood cutting use on or before September 30 of each year to assure that firewood is not collected when it is wet, and some curing time is available prior to burning;
- coordinate the issuance of educational information with wood cutting permits that target proper gathering practices and ways to minimize adverse effects on air quality from inefficient burning wood; and
- cooperate with local air quality control agencies and other Federal land management agencies to assure uniform and accurate dissemination of public information and educational material on proper firewood use and enforcement of permit requirements across agency boundaries.

See Special Forest Product's section for additional information on firewood availability.

Water and Soil

Objectives

See Aquatic Conservation Strategy objectives.

As directed by the Clean Water Act, comply with State water quality requirements to restore and maintain water quality necessary to protect designated beneficial uses for the Rogue, Umpqua, and Klamath basins.

Improve and/or maintain soil productivity.

Land Use Allocations

None specifically for water quality or soils. However, riparian reserves, key watershed provisions, and timber production capability classifications will assist in meeting water quality and soils management objectives.

Nonsuitable woodlands, which include all landslide prone areas and other unstable soils, are identified as not suitable for timber harvest. Other surface-disturbing activities will be prohibited unless adequately mitigated to maintain site productivity and protect water quality.

Management Actions/Direction

Management Actions/Direction - Late-Successional Reserves

Consider watershed restoration projects if they provide late-successional habitat benefits or if their effect on late-successional associated species is neutral or beneficial. Design and implement watershed restoration projects in a manner that is consistent with late-successional reserve objectives.

Management Actions/Direction - General

Improve and/or maintain soil and water conditions by closing selected areas to off-highway vehicle use and/or limiting such use to existing or designated roads and trails. See Recreation and Off-highway Vehicles for additional details.

Management Actions/Direction - Water

See Management Actions/Direction for Riparian Reserves, Key Watersheds, and Watershed Restoration (located in Aquatic Conservation Strategy section).

Continue to implement a nonpoint source management program in cooperation with the U. S. Environmental Protection Agency and the Oregon Department of Environmental Quality.

Ensure consistency of management activities with Oregon's Statewide Water Quality Management Plan for forest practices and with Oregon's water quality criteria and guidelines (Oregon Administrative Rule 340-41). This includes consistency with Oregon's program for water quality limited streams in the planning area, which are Bear Creek and its tributaries, Little Butte Creek, and Evans Creek.

Continue coordination with the Oregon Department of Environmental Quality for implementation of best management practices that protect beneficial uses of water (see Best Management Practices, Appendix D).

Protect floodplains and wetlands in accordance with Executive Orders 11988 and 11990 and BLM's Riparian-Wetlands Initiative for the 1990s (USDI, BLM 1991a).

Cooperate with Federal, State, local, and Tribal agencies and private landowners to develop watershed-based coordinated resource management plans or other cooperative agreements to meet Aquatic Conservation Strategy and riparian reserve objectives.

Prepare watershed plans in conjunction with and for the following community water systems where BLM administers a significant portion of land within the watershed:

city of Butte Falls,
city of Glendale (section of Mill Creek),
city of Talent (Wagner Creek), and
city of Yreka.

Use watershed analysis to identify water quality concerns, watershed restoration opportunities, and water monitoring strategies.

Design and implement watershed restoration projects that promote long-term ecological integrity of ecosystems, conserve the genetic integrity of native species, and attain Aquatic Conservation Strategy and riparian reserve objectives (see Aquatic Conservation Strategy and Riparian Reserve sections for additional guidance).

Manage uplands to minimize nonpoint source

pollution and moderate extremes in streamflow by maintaining or improving hydrologic functions (e.g., infiltration, instream flow, groundwater quantity, etc.).

Prevent watershed degradation rather than using mitigation or planned restoration to correct foreseeable problems caused by management activities (see Best Management Practices, Appendix D for additional guidance).

Defer the following areas (approximately 49,636 acres) identified as having high watershed cumulative effects from management activities, including timber harvest and other surface-disturbing activities for ten years, starting from January 1993. Management activities of a limited nature (e.g., riparian, fish or wildlife enhancement, salvage, etc.) could be permitted in these areas if the effects will not increase the cumulative effects. Watershed analysis plans will be prepared if rehabilitation is deemed appropriate. The following areas will be reevaluated during the next planning cycle or by January 2003. (See Map 5)

Designate four areas covering approximately 4,000 acres as watershed monitoring areas and defer them from timber harvest and other management activities over the planning period. Tentative watershed selections are East Fork Bobby Creek, Upper Star Gulch, Upper Morine Creek, and Pipe Fork. These watersheds, when paired with like watersheds where management activities will occur, will provide baseline information of the effects of management activities on water quality and quantity.

Identify instream flows needed to maintain riparian resources, channel conditions, aquatic habitat, and water quality. Attempt to acquire or encourage the State of Oregon to acquire instream flow water rights.

Apply for water rights to support the needs for fire suppression, construction/maintenance (e.g., pump chances, water holes, and reservoirs), grazing, recreation and other programs.

Locate water drafting sites to minimize adverse effects on stream channel stability, sedimentation, and instream flows needed to maintain riparian resources, channel conditions, and fish habitat.

If herbicides, insecticides, and other chemicals are applied, do so in a manner that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Use land acquisition, exchange, and conservation easements to meet Aquatic Conservation Strategy and riparian reserve objectives.

Management Actions/Direction - Soil

Apply best management practices during all ground- and vegetation-disturbing activities. See Appendix D for a list of practices.

Utilize silvicultural systems that are capable of maintaining or improving long-term soil productivity.

Design logging systems to avoid or minimize adverse impacts to soils.

Provide a renewable supply of large down logs well distributed across the Matrix lands in a manner that meets the needs of species and provides for ecological functions. Down logs will reflect the species mix of the original stand. Models will be developed for groups of plant associations and stand types that can be used as a baseline for developing prescriptions.

- Leave a minimum of 120 linear feet of logs per acre greater than or equal to 16 inches in diameter and 16 feet long. Decay class 1 and 2 logs will be credited toward the total. Where this management actions/direction cannot be met with existing coarse woody debris, merchantable material will be used to make up the deficit.
- In areas of partial harvest, apply the same basic management actions/direction, but they can be modified to reflect the timing of stand development cycles.
- Retain coarse woody debris already on the ground and protect it to the greatest extent possible from disturbance during treatment (e.g., slash burning and yarding).
- Use watershed analysis to determine appropriate amounts of coarse woody debris for site-specific conditions.

Manage lands dominated by fragile granitic and schist soils consistent with southern general forest management area guidelines. In addition, limit surface-disturbing activities on all lands dominated by fragile granitic, schist, and pyroclastic soils (approximately 85,300 acres) to maintain site productivity, reduce soil erosion, and minimize water quality degradation. These soils are scattered throughout the planning area, however, the largest concentrations of soils formed from decomposed schist and/or granite parent material occurs in Evans, Snow, Sugar, and Meadow Creeks, upper portions of Williams Creek, and headwaters of Birdseye Creek. Soils formed in deeply weathered pyroclastic parent materials are predominantly in the foothills of the

Watershed Deferrals

Analytical Watershed	Subwatershed	Area Deferred	BLM Acres
Big Butte Creek	Clark Creek	Clark Creek	2,075
Deer Creek	White Creek	White Creek	1,593
Elk Creek	Middle Elk Creek	Alco-Middle Flat Creek Miller-Jones Yellow Rock	1,271 4,099 759 1,482
Evans Creek	East Fork Evans Creek Upper W. Fk. Evans Cr. Rock/Salt Creeks	Sprignet Creek W. Fk. Evans(Hdwts) W. Skeleton Mountain Ash Flat Cold Creek	1,454 1,311 1,023 1,498 1,423
Grave Creek	Upper Grave Creek	Upper Grave Creek Grave-Boulders	1,880 1,044
Jenny Creek	Keene Creek	Parsnip-Keene	1,083
Jumpoff Joe Ck.	Upper Jumpoff Joe Ck. Louse Creek	Upstream of Water Branch Creek Upper Louse Creek	3,397 4,014
Little Butte Ck.	Lake Creek	Upper Lake Creek	984
Rogue-Lost Creek	Upper Lost Creek Lower Lost Creek	Vine Maple Lost-Floras	2,375 1,866
Rogue-Wild Section	Missouri Creek	Missouri-Trout	3,684
Silver Creek	N. Fk. Silver Creek	N.Fk Silver Creek	8,284
Williams Creek	W. Fk. Williams Creek	Lone-Goodwin	3,037

Cascades. (See Map 6 and Appendix D for fragile soils mitigation measures.)

While the goal of maintaining long-term soil productivity is inherent in all management practices, it is recognized that some minor losses in productivity could result due to surface disturbances (soil compaction, road construction, etc.) caused by management activities. Implementing best management practices and minimizing disturbance of fragile areas will keep losses to a minimum (see Appendix D).

Wildlife Habitat

Objectives

See Late-Successional Reserve, AMA, Riparian Reserve, and Matrix objectives.

Enhance and maintain biological diversity and ecosystem health in order to contribute to healthy wildlife populations.

Land Use Allocations

The land use allocations in this resource management plan are designed to benefit wildlife species, that use the various seral stages and other habitat areas of the forest. Various land use allocations are made for a variety of species (See Map 7).

Management Actions/Direction

Management Actions/Direction - All Land Use Allocations

Use the watershed analysis process to address wildlife habitat issues for individual watersheds. The analysis will help to resolve any concerns identified in applying management actions/direction in this section and those in the Special Status and SEIS Special Attention Species section. Where appropriate, more site-specific habitat objectives and wildlife habitat enhancement opportunities will be identified through this process.

Coordinate with the Oregon Department of Fish and Wildlife during planning and implementation of wildlife habitat enhancement projects.

Cooperate with Federal, Tribal, and State wildlife management agencies to identify and eliminate impacts associated with habitat manipulation, poaching, and other activities that threaten the continued existence and distribution of native wildlife inhabiting Federal lands.

Land will be acquired to facilitate wildlife habitat management, as appropriate.

Management Actions/Direction - Riparian Reserves

Design and implement wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Design, construct, and operate wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. For existing wildlife interpretive and other user-enhancement facilities inside riparian reserves, ensure that Aquatic Conservation Strategy and riparian reserve objectives are met. Where Aquatic Conservation Strategy and riparian reserve objectives cannot be met, relocate or close such facilities.

Cooperate with Federal, Tribal, and State wildlife management agencies to identify and eliminate wild ungulate impacts that are inconsistent with attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Management Actions/Direction - Late-Successional Reserves

Design projects to improve conditions for wildlife if they provide late-successional habitat benefits or if their effect on late-successional associated species is negligible.

If introduction of a nonnative species is proposed, complete an assessment of impacts and avoid any introduction that would retard or prevent achievement of late-successional reserve objectives.

Evaluate impacts of nonnative species existing within late-successional reserves.

Develop plans and recommendations for eliminating or controlling nonnative species that are inconsistent with late-successional reserve objectives. Include an analysis of effects of implementing such programs on other species within late-successional reserves.

Establish a one-quarter mile protection zone around known great gray owl nest sites and provide a 300-foot no-harvest buffer around meadows and natural openings. Develop a standardized protocol for surveys within one year.

Table 2. Priority Wildlife Animal Species Habitat Protection*

Species or Habitat	Management Action
Cavity users	Snag and green tree retention of lands allocated to timber management. Provide for 100 percent of optimum woodpecker populations. Snag and green tree retention on lands not allocated to timber management. Unmerchantable snags and culls would be retained unless safety hazard. Provide for 40 percent of the mean number of snags found in unentered stands.
Coarse woody debris (CWD)	CWD retention on lands allocated to timber management. CWD would be retained to approximate the mean levels found in unentered stands. Retain 120 linear feet per acre logs equal to or greater than 16 inches in diameter and 16 feet long.
Special habitats (meadows, caves, wetlands, springs, etc.)	Special habitats would be protected or enhanced for wildlife habitat with a 100 to 200 foot buffer. New road location. Roads would avoid special habitats and minimize effects to wetlands and riparian areas. Off-highway vehicle closure. Meadows and wetlands would be closed to off-highway vehicle use.
Cliffs	Peregrine nests and potential peregrine nests would be protected.
Talus slopes	Sites where Del Norte and Siskiyou salamanders are found would be protected.
Land tenure	Land would be acquired to facilitate wildlife habitat management.
Roosevelt elk	<p>Maintain target habitat conditions. Within selected elk management areas, forage and cover would be managed to maintain habitat effect indices of at least 0.6.</p> <p>Within elk management areas, forage would be managed by creating small openings, burning, seeding, fertilizing, and other means.</p> <p>Within selected elk management areas, manage open road density for target of 1.5 miles of road per square mile.</p> <p>Lands would be acquired to facilitate habitat management.</p>
Designated deer winter range areas	<p>Thermal cover. At least 20 percent of these areas would be maintained in thermal cover. Habitat management plans would be prepared unless incorporated into watershed analysis.</p> <p>Activities would be restricted to avoid disturbance Nov. 15 to April 1.</p> <p>All roads except major collectors and arterials would be closed Nov. 15 to April 1. New road construction would be minimized.</p>

Table 2. Priority Wildlife Animal Species Habitat Protection*

Species or Habitat	Management Action
Raptors and great blue herons	Permanent forage areas would be created only on lands not managed for timber. Nest site and habitat would be protected. Disturbance would be avoided during nesting season.
Golden eagles	Protection of 30-acre core around nest site. No timber harvest or habitat removal. No new road construction. Disturbance would be avoided during nesting season.
White oak	Maintain or enhance values for wildlife, range, plants and biological diversity.

* (See also directions for Survey and Manage Species, Appendix C.)

Management Actions/Direction - Matrix

Provide a renewable supply of large down logs well distributed across the Matrix lands in a manner that meets the needs of species and provides for ecological functions. Down logs will reflect the species mix of the original stand. Models will be developed for groups of plant associations and stand types that can be used as a baseline for developing prescriptions.

- Leave a minimum of 120 linear feet of logs per acre greater than or equal to 16 inches in diameter and 16 feet long. Decay class 1 and 2 logs will be credited toward the total. Where this management actions/direction cannot be met with existing coarse woody debris, merchantable material will be used to make up the deficit;
- In areas of partial harvest, apply the same basic management actions/direction, but they can be modified to reflect the timing of stand development cycles; and
- Retain coarse woody debris already on the ground and protect it to the greatest extent possible from disturbance during treatment (e.g., slash burning and yarding).

Retain 100 acres of the best northern spotted owl habitat as close as possible to a nest site or owl activity center for all known (as of January 1, 1994) northern spotted owl activity centers.

Retain late-successional forest patches in landscape areas where little late-successional forest persists. This management actions/direction will be applied in fifth field watersheds (20 to 200 square miles) in which Federal forestlands are currently comprised of 15 percent or less late-successional forest. (The assessment of 15 percent will include all Federal land allocations in a watershed.) Within such an area, protect all remaining late-successional forest stands. Protection of these stands could be modified in the future when other portions of a watershed have recovered to the point where they could replace the ecological roles of these stands.

Provide a renewable supply of large live trees and snags well distributed across the Matrix lands in a manner that provides habitat for cavity using birds, bats, and other species; provides structure and habitat diversity; provides future sources of large down logs; and provides for other ecological functions. Retained live trees and snags will reflect the species mix of the original stand. Emphasize retention of the largest trees and snags available to provide the unique structure and functions associated with these large old trees.

- Within the General Forest Management Area north of Grants Pass (northern GFMA) retain at least 6

to 8 green conifer trees per acre in regeneration harvest units; and

- Within the General Forest Management Area south of Grants Pass (southern GFMA) retain at least 16 to 25 large, green conifer trees per acre in regeneration harvest units.

Where sites are occupied by Siskiyou Mountain Salamander or Del Norte Salamander, protect the site from ground-disturbing activities. Designate a buffer of at least the height of one site-potential tree or a 100-foot horizontal distance, whichever is greater, surrounding the location. Within the site and the surrounding buffer, maintain at least 40 percent canopy closure and avoid any activities that would directly disrupt the talus layer. Develop and use standardized survey protocol to determine occupancy. These sites are referred to as managed late-successional reserves in the SEIS ROD.

Conduct surveys for roosting bats. As an interim measure, prohibit timber harvest within 250 feet of sites containing bats. Develop management standards and guidelines for each site.

Within the matrix, provide snags and future sources of snags to maintain 100 percent of the potential population levels of white-headed and black-backed woodpeckers. Within the range of these species, this level of snag retention will be added to the normal standards and guidelines for snag retention levels in the Matrix. It is assumed these snag levels are adequate to provide adequate habitat for pygmy nuthatches and flammulated owls.

Retain snags and green trees within a timber harvest unit at levels sufficient to support species of cavity-nesting birds at 40 percent of potential population levels. Meet the 40 percent minimum throughout the Matrix with per-acre requirements met on average areas no larger than 40 acres.

In addition to the previous green-tree retention management actions/direction, retain green trees for snag recruitment in timber harvest units where there is an identified, near-term (less than three decades) snag deficit. These trees do not count toward the green-tree retention requirements.

Additional trees may need to be retained to contribute to bat roost sites on a site-specific basis.

Retain some large hardwood trees, where present in harvest units, to provide habitat diversity.

Management Actions/Direction - Connectivity/

Diversity (C/D) Blocks spaced throughout the Matrix lands in the northern GFMA

Maintain at least 25 to 30 percent of each block in late-successional forest. Riparian reserves and other allocations with late-successional forest count toward this percentage. Blocks may be comprised of contiguous or noncontiguous BLM-administered land. The size and arrangement of habitat within a block will provide effective habitat to the extent possible.

Retain at least 12 to 18 green conifer trees per acre in regeneration harvest units.

Management Actions/Direction - Raptors and Great Blue Heron

Protect nest sites, centers of activity, or rookeries as necessary to maintain the integrity of the site. Human disturbances that may disturb or interfere with nesting will be prohibited within one-quarter mile of active nesting areas between approximately March 1 and July 15.

Management Actions/Direction - Roosevelt Elk

Manage elk management areas (171,000 acres) to enhance elk habitat consistent with the objectives of other allocations (timber, old-growth, connectivity):

- All roads except major collectors and arterials will be closed. New road construction will be minimized;
- Limit motorized vehicle use to an open road density of 1.5 miles per square mile, where possible;
- Impose seasonal restrictions on activities if needed to avoid disturbance and harassment;
- Maintain or enhance forage where appropriate by creating small openings in conifer stands of all ages, prescribed burning, seeding, fertilizing, underburning forest stands, or other means. In Matrix lands, priority would be given to utilizing portions of stands with little or no conifer stocking; and
- Manage the mix of forage areas, thermal cover, hiding cover, and optimal cover to maintain or attain highly viable habitat condition for each of the four indices using the Wisdom Elk Model or equivalent model (see Appendix 2-WL-1, Draft RMP).

Management Actions/Direction - Deer and Elk Winter Range

Manage about 97,100 acres of deer and elk winter range in the Cascade foothills as winter range with an emphasis on providing thermal cover and minimizing disturbances.

- All roads, except major collectors and arterials, will be closed between November 15 and April 1. New road construction will be minimized;
- Maintain at least 20 percent of these areas in thermal cover, 70 percent canopy closure, canopy height of at least 40 feet, and large enough to avoid edge effects; and
- Restrict activities to avoid disturbance between approximately November 15 and April 1.

Where elk management areas overlap with winter range areas, management directions for both areas will be applied.

Management Actions/Direction - Special Habitats

Protect special habitats for plants and animals, such as meadows, cliffs, caves, and talus slopes from disturbance as appropriate to the specific site. Generally, the no harvest buffer will vary from 100-200 feet but could be increased or decreased based on site-specific circumstances and the objective to protect the special habitat values. Protection and necessary mitigation will be determined during activity planning.

Use management practices, including fire, to obtain desired vegetation conditions in special habitats.

Management Actions/Direction - Oak Stands

White oak woodlands will be managed to maintain or enhance values for wildlife habitat, range, botanical values, and biological diversity. Utilize prescribed fire to maintain habitat conditions within the white oak woodland communities.

Management Actions/Direction - Golden Eagles

Protect approximately 30 acres around all golden eagle nest sites. Within those areas, allow no timber harvest or other habitat removal. Human disturbance will be prohibited between approximately March 1 and July 15. No new roads will be constructed within the 30-acre core area around active nests.

Fisheries Habitat

Objectives

See Aquatic Conservation Strategy and Riparian

Reserve Objectives.

Maintain or enhance the fisheries potential of streams and other waters consistent with BLM's Fish and Wildlife 2000 Plan, the Bring Back the Natives initiative, and other nationwide initiatives.

Promote the rehabilitation and protection of at risk fish stocks and their habitat.

Land Use Allocations

There are no land use allocations specific to fisheries. However, riparian reserves are managed in part, to provide sufficient fisheries habitat.

Management Actions/Direction

Management Actions/Direction - Riparian Reserves

Design and implement fish habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Design, construct, and operate fish interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. For existing fish interpretive and other user-enhancement facilities inside riparian reserves, ensure that Aquatic Conservation Strategy and riparian reserve objectives are met. Where Aquatic Conservation Strategy and riparian reserve objectives cannot be met, relocate or close such facilities.

Cooperate with Federal, Tribal, and State fish management agencies to identify and eliminate impacts associated with habitat manipulation, fish stocking, harvest and poaching that threaten the continued existence and distribution of native fish stocks inhabiting Federal lands.

Management Actions/Direction - Late-Successional Reserves

Design projects to improve conditions for fish if they provide late-successional habitat benefits or if their effect on late-successional associated species is negligible.

Management Actions/Direction - All Land Use Allocations

Apply the management actions/direction in the

Special Status and SEIS Special Attention Species section.

Use the watershed analysis process to address at-risk fish species and stocks and their habitat for individual watersheds. Where appropriate, fish habitat enhancement opportunities will be identified through this process.

Coordinate with the Oregon Department of Fish and Wildlife Wild Fish Policy during planning and implementation of fish habitat enhancement projects. Priority will be given to watersheds supporting at-risk fish species and stocks and those requiring extensive restoration.

As identified through watershed analysis, rehabilitate streams and other waters to enhance natural populations of anadromous and resident fish. Possible rehabilitation measures would include, but not be limited to, fish passage improvements, instream structures using boulders and log placement to create spawning and rearing habitat, placement of fine and coarse materials for over-wintering habitat, and riparian rehabilitation to establish or release existing coniferous trees. See Table 3 for a list of possible fish enhancement projects.

Except for land tenure Zone 3 lands, riparian and fish habitat will be retained unless land exchanges would improve management of fish, wildlife, or riparian habitat elsewhere.

BLM would work with the Oregon Department of Fish and Wildlife to determine appropriate streamflows for instream water rights to maintain or enhance aquatic habitat, particularly for special status species.

Best Management Practices (Appendix D), will be implemented for water quality and soil productivity whenever appropriate and practical to minimize adverse effects of management actions on water quality, fish, and riparian habitat.

BLM ownership in the watersheds shown on Table 4 would be blocked up where possible to improve watershed management for:

- Federal candidate fish and amphibian species (Jenny Creek sucker, Redband trout, and Western pond turtle);
- State of Oregon and American Fisheries Society sensitive fish species (coho salmon, winter and summer steelhead); and

- Prevent decline of other priority fish species in other watersheds.

Management direction in the RMP for water and soils and riparian reserves also applies to Fisheries.

Special Status and SEIS Special Attention Species Habitat

Objectives

See Late-Successional Reserve, Riparian Reserve, Matrix and Special Area Objectives.

Protect and conserve Federal listed and proposed species, and manage their habitats to achieve their recovery in compliance with the Endangered Species Act, approved recovery plans, and Bureau special status species policies.

Manage for the conservation of Federal candidate and Bureau-sensitive species and their habitats so as not to contribute to the need to list and to contribute to the recovery of the species.

Manage for the conservation of State listed species and their habitats to assist the State in achieving management objectives.

Protect and manage assessment species where possible so as not to elevate their status to any higher level of concern.

Protect SEIS special attention species so as not to elevate their status to any higher level of concern.

Study, maintain or restore community structure, species composition, and ecological processes of special status plant and animal habitat.

Land Use Allocations

All of the major land allocations in this plan are designed in part to benefit special status species across the District. Specific land use allocations are generally too small to be mapped at the scale used for the RMP.

Management Actions/Direction

Management Actions/Direction - Late-Successional Reserves

Consider projects required for recovery of threatened or endangered animal and plant species even if they result in some reduction of habitat quality for late-

successional species. These projects will be designed for least impact to late-successional species.

Management Actions/Direction - All Land Use Allocations - Special Status Species

Review all proposed actions to determine whether or not special status species occupy or use the effected area or if habitat for such species could be affected.

Conduct field surveys according to current protocol. This includes surveying during the proper season. Field surveys may not be conducted in all cases depending on the number and timing of previous surveys conducted, whether previous surveys looked for all species that a new survey would, and the likelihood of potential habitat. The intensity of field surveys will also vary depending on the same factors.

Consult/conference with the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) for any proposed action that may affect Federally listed or proposed species or their critical or essential habitat. Based on the results of consultation, modify, relocate, or abandon the proposed action. Request technical assistance from one of these agencies for any proposed action that may affect Federal candidate species or their habitat.

Coordinate with the USFWS, NMFS, and other appropriate agencies and organizations and jointly endeavor to recover Federal listed and proposed plant and animal species and their habitats.

Modify, relocate, or abandon proposed actions that contribute to the need to list Federal candidate species, State listed species, Bureau-sensitive species, or their habitats.

Coordinate with the State of Oregon to conserve State listed species.

Identify impacts of proposed actions, if any, to Bureau-sensitive and assessment species and clearly describe impacts in environmental analyses. As funding permits and as species conservation dictates, assessment species will be actively managed.

Retain under Federal management (or other appropriate management organizations), habitat essential for the survival or recovery of listed and proposed species. Retain habitat of candidate, or Bureau-sensitive species where disposal could contribute to the need to list the species.

Where appropriate opportunities exist, acquire land to contribute to recovery, reduce the need to list, or

Table 3. Potential Fish Habitat Improvement Projects¹

Resource Area/Stream	Priority ²
Ashland	
Hyatt Lake	3
Jenny Creek	1
Keene Creek	1
Little Applegate River	1
Ninemile Creek	1
Shoat Spring Creek	2
South Fork Little Butte Creek	2
Spring Creek	2
Star Gulch	1
Thompson Creek	1
Yale Creek	3
Butte Falls	
East Evans Creek	1
Elkhorn Creek	3
Grave Creek	1
Lost Creek Reservoir	3
North Fork Big Butte Creek	1
Pleasant Creek	2
Rock Creek	3
Sugarpine Creek	3
Timber Creek	3
West Evans Creek	1
West Fork Elk Creek	3
Glendale	
Bear Creek	3
Bull Run Creek	1
Cow Creek	2
East Fork Elk Valley Creek	3
Galesville Reservoir	3
Quines Creek	1
Riffle Creek	2
Skull Creek	1
Stanley Creek	3
Starvout Creek	3
Walker Creek	1
West Fork Cow Creek	2
Whitehorse Creek	1
Wolf Creek	3
Grants Pass	
Althouse Creek	1
Crooks Creek	1
East Fork and West Forks, Illinois River	3
Galice Creek	2
Grave Creek	1
Hog Creek	3
North Fork Deer Creek	1
Pickett Creek	2
Sucker Creek	1
Waters Creek	1
West Williams Creek	3

¹Project work in all cases would involve placing logs, boulders, and possibly other natural and man-made materials in the channel or lakebed. Work on Jenny Creek and Pleasant Creek would also involve riparian rehabilitation using appropriate silvicultural and/or livestock management options. No priority projects to provide fish passage over or around barriers have been identified at this time.

²Priority:

1: High potential for increasing fish production capability in a cost-effective manner.

2: Low to moderate potential for increasing fish production capability in a cost-effective manner due to accessibility, stream size, gradient, or flow characteristics.

3: Potential for project work is uncertain until additional inventory is completed.

Table 4. Acquisition Needs to Improve Watershed Management for Fish Production

Stream

Klamath River Basin
Jenny Creek

Applegate River Sub-Basin
Little Applegate River
Waters Creek
Ninemile Creek
Star Gulch

Cow Creek Sub-Basin
Starvout Creek
Snow Creek
Riffle Creek
Whitehorse Creek
West Fork Cow Creek
Cow Creek below Dad's Creek
Rattlesnake Creek

Rogue River Tributaries
Grave Creek
West Fork Evans Creek
East Fork Evans Creek
North Fork Big Butte Creek
South Fork Big Butte Creek
Big Butte Creek above Clark Creek
Beaverdam/Vine Maple Creek
Elk Creek
Pickett Creek
Galice Creek
South Fork Little Butte Creek above Lost Creek

Illinois River Sub-Basin
North Fork Deer Creek
South Fork Deer Creek
Crooks Creek
Upper Althouse Creek
Upper Sucker Creek

enhance special status species habitat.

Coordinate with other agencies and groups in management of species across landscapes. Coordination will be accomplished through conservation plans or similar agreements that identify actions to conserve single or multiple species and/or habitats. Such strategies could preclude the need for intensive inventories or modifications to some projects where the conservation plan provides adequate protection for the species and meets the intent of policy.

Where plans exist for species no longer on the special status list, continue with the prescribed conservation actions if determined to be required to avoid relisting or future consideration for listing. In the case of interagency plans or agreements, this determination will be mutually decided. Such plans may be modified as needed, based on adequacy of existing range-wide conditions and conservation management.

Pursue opportunities for public education about conservation of species.

Where appropriate, pursue opportunities to increase the number of populations of species under BLM management through land acquisition and/or species reintroduction.

Integrate management of special status plants into watershed assessment, looking at historic patterns and modeling to improve habitat for special status plants.

Implement prescribed burns to enhance habitat for special status plants.

Implement noxious weed control in habitat of special status plants.

Develop and implement automated data bases for storage and retrieval of information on special status plants.

Design and schedule site-specific management prescriptions and projects to benefit individual species habitats in allotment management plans and recreational management plans.

Develop monitoring plans for special status plants and their habitats that schedule measurement and periodic evaluation of trend, status, and progress toward meeting recovery and conservation objectives.

Develop monitoring plans to determine viability of

populations over time and effects of management actions.

Develop Conservation Agreements with USFWS on Federal candidate plants to act as recovery plans and prevent listing.

Develop and implement education and outreach plans to improve public understanding and awareness of the need to protect and manage special status plants. Develop botanical (Wildflower) viewing sites for the public as part of the Watchable Wildlife Program.

Collect seed from special status plant species for storage at Berry Botanic Garden Cryogenic Seed Bank.

Implement Rare Plants and Natural Plant Communities, Fish and Wildlife 2000.

Identify and manage special habitat areas such as wetlands, serpentine areas, wet and dry meadows, and rock cliffs where over 50 percent of the special status plants occur.

Where sites are occupied by Siskiyou Mountain Salamander or Del Norte Salamander, protect the site from ground-disturbing activities. Designate a buffer of at least the height of one site-potential tree or a 100-foot horizontal distance, whichever is greater, surrounding the location. Within the site and the surrounding buffer, maintain at least 40 percent canopy closure and avoid any activities that would directly disrupt the talus layer. Develop and use standardized survey protocol to determine occupancy. These sites are referred to as managed late-successional reserves in the SEIS ROD.

Conduct surveys for roosting bats. As an interim measure, prohibit timber harvest within 250 feet of sites containing bats. Develop management standards and guidelines for each site.

Management Actions/Direction - All Land Use Allocations - SEIS Special Attention Species

Appendix C identifies species included under the following groupings: survey and manage and protection buffer species (both from the SEIS ROD), and special status species specific to the district.

Management Actions/Direction - Survey and Manage Strategies

Implement the survey and manage provisions of the SEIS ROD. Appendix C shows which species are covered by this provision, and which of the following

four categories and management actions/direction are to be applied to each:

Survey Strategy 1: Manage known sites (highest priority).

- Acquire information on these sites, make it available to all project planners, and use it to design or modify activities;
- Protect known sites. For some species, apply specific management treatments such as prescribed fire; and
- For rare and endemic fungus species, temporarily withdraw 160 acres around known sites from ground-disturbing activities until the sites can be thoroughly surveyed and site-specific measures prescribed.

Survey Strategy 2: Survey prior to ground disturbing activities and manage sites.

- Continue existing efforts to survey and manage rare and sensitive species habitat;
- For species without survey protocols, start immediately to design protocols and implement surveys;
- Within the known or suspected ranges and within the habitat types of vegetation communities associated with the species, survey for *Allotropa virgata*, *Bensoniella oregana*, *Cypripedium fasciculatum* and *Cypripedium montanum*. Survey for Del Norte salamanders, Siskiyou Mountain salamanders, and red tree voles. These surveys will precede the design of all ground-disturbing activities to be implemented in 1997 or later;
- For the other species listed in Appendix C, begin development of survey protocols in 1994 and proceed with surveys as soon as possible. These surveys will be completed prior to ground-disturbing activities that will be implemented in Fiscal Year 1999 or later. Work to establish habitat requirements and survey protocols may be prioritized relative to the estimated threats to the species as reflected in the SEIS;
- Conduct surveys at a scale most appropriate to the species;
- Develop management actions/direction to manage habitat for the species on sites where they are located; and

- Incorporate survey protocols and proposed site management in interagency conservation strategies developed as part of ongoing planning efforts coordinated by the Regional Ecosystem Office.

Survey Strategy 3: Conduct extensive surveys and manage sites.

- Conduct extensive surveys for the species to find high-priority habitat for species management. Specific surveys prior to ground-disturbing activities are not a requirement;
- Conduct surveys according to a schedule that is most efficient and identify sites for protection at that time;
- Design these surveys for efficiency and develop standardized protocols; and
- Begin these surveys by 1996.

Survey Strategy 4: Conduct general regional surveys.

- Conduct general regional surveys to acquire additional information and to determine necessary levels of protection for arthropods, fungi species that were not classed as rare and endemic, bryophytes, and lichens; and
- Initiate these surveys no later than Fiscal Year 1996 and complete them within 10 years.

Management Actions/Direction - Protection Buffer Species

Provide protection buffers for specific rare and locally endemic species (see Appendix C). These species are likely to be assured viability if they occur within reserves. However, there might be occupied locations outside reserves that will be important to protect as well. Special habitats such as wet meadows, dry meadows, and caves, will get 100 to 200 feet no cut buffers for protection. Special Status plant species will receive appropriate buffers.

Apply the following management actions/direction:

- Develop survey protocols that will ensure a high likelihood of locating sites occupied by these species;
- Following development of survey protocols and prior to ground-disturbing activities, conduct surveys within the known or suspected ranges of the species and within the habitat types or

vegetation communities occupied by the species. See the previous Survey and Manage section for an implementation schedule; and

- When located, protect the occupied sites as follows:

Nonvascular Plants

***Ptilidium californicum* (Liverwort):**

- Management direction includes finding locations and maintaining stands of overmature white fir at about 5,000-foot elevation for inoculum and dispersal along corridors, and studying specific distribution patterns; and
- Protect known occupied locations if distribution patterns are disjunct and highly localized by deferring timber harvest and avoiding removal of fallen trees and logs.

***Ulota meglospora* (Moss):**

- Management direction includes conducting basic ecological studies and surveying for presence;
- Protect known occupied sites if distribution patterns are disjunct and highly localized; and
- Defer timber harvest or other activities that would not maintain desired habitat characteristics and population levels.

***Brotherella roellii* (Moss):**

- Management direction includes locating specific populations and protection of large decay class 3, 4, and 5 logs and maintaining canopy closure greater than 70 percent; and
- Defer management activities that conflict with maintaining suitable habitat characteristics and known population levels.

***Buxbaumia piperi*, *B. viridis*, *Rhizomnium nudum*, *Schistostega pennata*, and *Tetraphis geniculata* (Mosses):**

- Management direction includes surveying to determine presence and distribution; and where located, maintaining decay class 3, 4, and 5 logs and greater than 70 percent closed-canopy forest habitats for shade.

***Aleuria rhenana* (Fungus):**

- Management direction includes conducting ecological studies and surveys to determine localities;
- Protect known populations if surveys continue to indicate that the population is rare; and
- Defer ground-disturbing activities.

***Otidea leporina, O. onotica, and O. smithii* (Fungi):**

- Maintain a spatially explicit data base of all known sites in planning area; and
- Develop species or area management plans to be implemented under the guidance of the regional botany programs.

***Polyozellus multiplex* (Fungus):**

- Management direction for this species includes conducting surveys to define its distribution and studies to assess its habitat requirements.

***Sarcosoma mexicana* (Fungus):**

- Management direction for this species includes conducting surveys to define its distribution and studies to assess its habitat requirements.

Management Actions/Direction - All Land Use Allocations - Listed and Proposed Threatened and Endangered Species

Management Actions/Direction - General

Implement the land use allocations and management actions/direction of this resource management plan that are designed to enhance and maintain habitat for threatened and endangered species.

Management Actions/Direction - Northern Spotted Owl (Federal threatened species)

In the Matrix, retain 100 acres of the best northern spotted owl habitat as close as possible to a nest site or owl activity center for all known (as of January 1, 1994) northern spotted owl activity centers.

With minor exceptions, restrict human activities that could disturb owl nesting, especially timber falling and yarding and the use of large power equipment, within one-quarter mile of all active northern spotted owl nest sites from approximately March 1 to September 30.

Management Actions/Direction - Marbled Murrelet (Federal threatened species)

Conduct two years of survey prior to any human disturbance of marbled murrelet habitat within 50 miles of the coast.

Protect contiguous existing and recruitment habitat for marbled murrelets (i.e., stands which are capable of becoming marbled murrelet habitat within 25 years) within a 0.5 mile radius of any site where the birds' behavior indicates occupation (e.g., active nest, fecal ring or eggshell fragments, and birds flying below, through, into, or out of the forest canopy within or adjacent to a stand).

During silvicultural treatments of nonhabitat within the 0.5 mile radius around occupied stands, protect or enhance suitable or replacement habitat.

Neither conduct nor allow harvest of timber within occupied marbled murrelet habitat at least until completion of the Marbled Murrelet Recovery Plan.

Amend or revise management direction as appropriate when the Recovery Plan is completed.

Restrict human activities that could disturb marbled murrelet nesting.

Management Actions/Direction - Bald Eagle (Federal Threatened Species)

Comply with the Pacific Bald Eagle Recovery and Implementation Plan and existing, site-specific habitat management plans.

Within one-half mile of active bald eagle sites, do not allow aerial use of herbicides or pesticides and minimize human disturbance between February 1 and August 15. Retain requisite forest habitat characteristics including large trees, snags, and at least 50 percent canopy closure. Prepare a site-specific management plan to provide more specific management guidelines for bald eagles.

Protect the core area around known bald eagle nest sites. In addition to the measures used in the one-half mile radius within the protected core area, allow no planned timber harvest except to benefit bald eagle nest habitat, no new road construction, and no surface occupancy (NSO) for leasable minerals.

Retain two additional 80-acre areas with suitable

nesting characteristics for future territory establishment consistent with the Pacific Bald Eagle Recovery Plan. One of these would be located along the wild section of the Rogue River in the vicinity of Whiskey Creek and the other would be in the Finley Bend area along the recreational section of the Rogue River. In addition, manage one block of at least 80 acres for nesting habitat within one-half mile of each of the following water bodies to provide for future population expansion: Galesville Reservoir, Illinois River, Emigrant Lake, Hyatt Lake, Howard Prairie and Lost Creek reservoirs.

Management Actions/Direction - Peregrine Falcon (Federal Endangered Species)

Comply with the Peregrine Falcon Recovery Plan and existing, site-specific habitat management plans.

Minimize human disturbance with the potential to disturb nesting falcons within one mile of active peregrine falcon nest sites between January 1 and July 15. Prepare a site-specific management plan for each active site.

The core area within one-half mile of active peregrine nest sites would receive additional protection. In addition to the measures used in the one-mile radius within the protected core area, there would be no scheduled timber harvest, no aerial application of herbicides or pesticides, and no surface occupancy (NSO) for leasable minerals. There will be no new road construction unless the activity would not adversely affect the integrity of the site.

Special Areas

Objectives

Retain existing research natural areas and existing areas of critical environmental concern that continue to meet the criteria for designation. Retain other special areas. Provide new special areas where needed to maintain or protect important values.

Maintain, protect, or restore relevant and important value(s) of areas of critical environmental concern.

Preserve, protect, or restore native species composition and ecological processes of biological communities (including Oregon Natural Heritage Plan terrestrial and aquatic cells) in research natural areas. These areas will be available for short- or long-term scientific study, research, and education and will serve as a baseline against which human impacts on natural systems can be measured.

Provide for recreation uses and environmental education in outstanding natural areas. Manage uses to prevent loss of outstanding values.

Provide and maintain environmental education opportunities in environmental education areas. Control uses to minimize disturbance of educational values.

Land Use Allocations

Special Area Category	Number	Acres
Areas of Critical Environmental Concern ¹	16	7,236
Areas of Critical Env. Concern/ Research Natural Areas	13	10,274
Areas of Crit. Env. Concern/ Outstanding Natural Areas	1	1,002
Environmental Education Areas	4	550
Illinois Valley Botanical Area	1	10,613
Cascade/Siskiyou Ecological Emphasis Area	1	16,340

¹This category includes only areas with an area of critical environmental concern designation. Double designated areas such as areas of critical environmental concern/research natural areas, are not included.

See Map 8 for locations and Table 6 for site-specific acres.

Management Actions/Direction

Manage previously designated special areas in accordance with approved management plans. If management plans have not been prepared for previously designated areas, manage in accordance with the guidelines in Table 6.

Develop site-specific management plans for special areas as needed. Protect resource values in new areas pending completion of management plans. Management plans will address such actions as land acquisition, use of prescribed fire, interpretation, introduced species, fire suppression, domestic grazing, insects and disease, public use, minerals, and hydrology.

Manage 10,613 acres in the Illinois Valley as a botanical emphasis area (BEA) due to the preponderance of special status plants. Actions including timber harvest will be allowed if they do not conflict with the habitat needs of these plants (see Map 8).

Manage 16,340 acres near Soda Mountain and Agate Flat areas as the Cascade/Siskiyou ecological emphasis area (see Map 8). Management will

consider the four varied plant communities, two RNAs, two ACECs, special status plant and animal populations, crucial deer range for an interstate herd, and the outstanding recreation and scenic values. Off-highway vehicle use in the Soda Mountain WSA will be managed according to the Interim Management Policy. Off-highway vehicle use in the remainder of the Cascade Siskiyou Ecological Emphasis Area will be limited to designated roads. Timber harvest will be deferred for ten years pending completion of a management plan. Research and monitoring will be initiated to help develop management options to maintain the ecosystems of the area. Coordination will occur with the Redding Resource Area in California, on the Jenny Creek ACEC and the Horseshoe Range Wildlife area that are contiguous with this emphasis area. This area will be part of a quality management area (QMA) that includes the majority of the Dead Indian Plateau that is under BLM-administration. This is an area where greater emphasis will be placed on innovative social processes as a tool for achieving resource objectives through applied stewardship.

Designate 1,702 acres of the proposed Bobby Creek ACEC as Bobby Creek RNA to fill two high priority cells in the Oregon Natural Heritage Plan for the Klamath Mountains Province. These two cells are Douglas-fir-western hemlock/rhododendron-salal forest and Douglas-fir/rhododendron-salal forest.

Designate 495 acres of the proposed Flounce Rock ACEC as Flounce Rock Environmental Education area. Designate 10 acres of the proposed Flounce Rock ACEC as Baker Cypress ACEC.

Pursue mineral withdrawal in all RNAs.

Integrate special areas into landscape analysis.

Develop monitoring plans that address ecological status, defensibility and compliance monitoring issues.

Inventory and designate new RNAs as appropriate "cells" are identified.

Limit off-highway vehicle use in all special areas to existing roads (unless closed).

Forest Health

Objectives

Reduce tree mortality and restore the vigor, resiliency,

and stability of forest stands that are necessary to meet land use allocations objectives.

Land Use Allocations

There are no specific land use allocations for forest condition restoration. There is the potential for restoration treatment in all allocations.

Management Actions/Direction

Management Actions/Direction - All Land Use Allocations

Design and implement silvicultural treatments in ~~stands that are in a condition, or that will soon be in~~ a condition, which prevents management objectives from being achieved. Treatments are intended to ~~restore the ability of stands to respond to other~~ management and to reduce the risk of mortality from insects, disease, and wildfire. Treatments will consist of thinning of stands, forest fertilization, reduction of understory vegetation, reduction of fuel ladders, and restoration of more stable plant communities.

Apply the management actions/directions in the Special Status and SEIS Special Attention Species section.

Design forest condition restoration treatments to be consistent with the long-term objectives of the allocation in which the treatment is proposed. Develop treatments in an interdisciplinary manner.

Design restoration treatments to maintain or improve soil productivity, meet coarse woody debris and snag objectives, maintain or improve hydrologic functions, and maintain the natural richness of tree species.

Develop forest condition restoration treatments at the stand level based on the combination of stand condition and trend, on the functional characteristics of the ecosystem, and on characteristics of the site.

Design treatments, as much as possible, to prevent the development of undesirable species composition, species dominance, or other stand characteristics. Design treatments to incorporate and restore ecosystem function. Employ the principles of integrated pest management and integrated vegetation management to avoid the need for direct treatments. Use herbicides only as a last resort.

Off-Highway vehicle use will be limited to designated roads in areas which are infected with Port-Orford root disease.

Table 5. Special Status Animal Species Management

Species or Habitat	Management Action
Bald eagle	Buffer around nest sites. Manage approximately 30-acre core area around nest sites. Retain older forests within 1/2-mile of nests. Develop HMP for sites. Seasonal restrictions. Avoid disturbance within 1/2-mile Feb. 1 - Aug. 15. Provide for future population expansion. Retain two 80-acre areas for future nest sites.
Peregrine falcon	Core area 1/2-mile around nest sites. No timber harvest, no spraying, no surface occupancy. Buffer around core area, one mile. Manage for prey diversity. Seasonal restriction. Avoid disturbance Feb. 1 -Aug. 15. Provide for future population expansion. Maintain potential nests.
Northern spotted owl	Seasonal restriction. No timber harvest within 1/4-mile of nest sites between Mar. 1 and Sep. 30. No disturbance, salvage or timber harvest within 100 acre core areas. See LSRs in Table R-1. Minimize road construction.
Marbled Murrelets	Conduct surveys, protect occupied sites.
Townsend's big-eared bat	Protect within 250' of occupied sites, develop management plan.
Northern goshawk	Protect all nest sites.
Siskiyou Mountain Salamander, and Del Norte Salamander	Maintain 40% canopy closure within salamanders 100' of occupied sites. Avoid surface disturbing activities within 100 feet.
Jenny Creek sucker and redband trout	Protect known sites. No timber harvest or surface-disturbing activities within steep canyon areas.
<i>Allotropa virigata</i>	Protect known sites. Protect according to protocol.
<i>Cypripedium fasciculatum</i>	Protect known sites. Protect according to protocol.
<i>Cypripedium montanum</i>	Protect known sites. Protect according to protocol.

Table 6. Special Area Management

Area Name	Acres	Primary Objectives	Management
Existing: Areas of Critical Environmental Concerns			
Eight Dollar Mountain	1,247	Special status plants and Darlingtonia wetlands.	Closed for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to no surface occupance (NSO). Open to mineral entry. Acquisition needed.
King Mountain Rock Garden	67	Special status plants and communities.	Not available for timber harvest. Open or restricted OHV use. Mineral leasing subject to NSO. Closed to mineral entry.
Table Rocks	1,240	Dwarf meadow-foam, which occurs nowhere else in the world, other special status plant and animal species, unique geology and scenic values, and education opportunities	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO. Open to mineral entry. Acquisition needed.
Existing: Research Natural Areas			
Brewer Spruce	390	Brewer spruce forest and aquatic cell for mid- to high-elevation permanent pond.	Not available for timber harvest. OHV use restricted to designated roads. Mineral leasing subject to NSO. Close to mineral entry.
Woodcock Bog	280	Darlingtonia wetland on serpentine and special status plant species.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO. Closed to mineral entry.
Existing: Environmental Education Areas			
Flounce Rock	495	Baker cypress stand, historic, cultural, scenic educational, and wildlife values.	Designated as Environmental Education area. Not available for timber harvest OHV use restricted to existing roads. Mineral leasing subject to NSO. The 10-acre Baker cypress stand designated as ACEC.
Hidden Creek	20	Environmental education.	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO.

Table 6. Special Area Management

Area Name	Acres	Primary Objectives	Management
Hollenbeck	20	Environmental education.	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO.
Listening Tree	15	Environmental education.	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO.
New: Areas of Critical Environmental Concern			
Bobby Creek	428	Natural systems, botanical, special status species, and wildlife fisheries. species, and	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO. 428-acres designated as ACEC and 1,702 acres designated as RNA.
Crooks Creek	149	Natural systems, wildlife, and special status species. status species.	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO.
Baker Cypress	10	Baker cypress stand, historic cultural, scenic educational, and wildlife values.	Designated 495-acres as Flounce Rock Environmental Education area. Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO. The 10-acre Baker Cypress stand designated as ACEC.
French Flat	656	Special status plants and plant communities.	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO. Closed to OHV.
Hole-In-The Rock	63	Scenic and geological values.	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO.
Hoxie Creek	255	Natural systems, wildlife and botanical values	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO.

Table 6. Special Area Management

Area Name	Acres	Primary Objectives	Management
Iron Creek	286	Natural systems, wildlife and botanical values.	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO.
Jenny Creek	966	Natural systems, riparian values, special status fish and other special status plants and animals.	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO. Acquisition needed.
Moon Prairie	91	Natural systems.	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO.
Pilot Rock	544	Geological formation, fossil beds, wildflower meadows, and special status plants and animals.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO.
Poverty Flat	29	Natural systems, vernal pool wetlands, and special status plants.	OHV use restricted to existing roads. Mineral leasing subject to NSO.
Rough & Ready	1,164	Natural systems, special status plants, botanical.	Not available for timber harvest. OHV use limited to designated roads. Mineral leasing subject to NSO.
Sterling Mine Ditch	141	Historic mining ditch, hiking trail, and special status species.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO.
Tin Cup	84	Natural systems and botanical and wildlife values	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO.
New: Research Natural Areas			
Bobby Creek	1,702	Natural systems, botanical, special status species, and wildlife fisheries.	Not available for timber harvest. OHV use restricted to existing roads. Mineral leasing subject to NSO. 428-acres designated as ACEC and 1,702 acres designated as RNA.
Brewer Spruce Enlargement	1,384	Natural area of Brewer spruce forest for scientific research and baseline study area.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO. Closed to mineral entry.

Table 6. Special Area Management

Area Name	Acres	Primary Objectives	Management
Grayback Glade	1,069	Terrestrial white-fir Port-orford-cedar and aquatic first order stream for scientific research and baseline study area.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO. Closed to mineral entry.
Holton Creek	423	Terrestrial Douglas-fir, white fir, forest for scientific research and baseline study area.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO. Closed to mineral entry.
Lost Lake	384	Low elevation natural lake and mixed conifer forest for scientific research and baseline study area.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO. Closed to mineral entry.
North Fork Silver Creek	499	Douglas-fir/white fir forest with diverse shrub understory and third order stream; for scientific research and baseline study area.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO. Closed to mineral entry. No surface disturbance within 100 feet of boundary.
Old Baldy	166	White fir at high elevation with Shasta red fir/mountain hemlock/Pacific silver fir/white pine and chaparral Communities; for scientific research and baseline study areas.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO. Closed to mineral entry.
Oregon Gulch	1,047	Mixed conifer forest and manzanita-ceanothus/bunch grass chaparral communities; for scientific research and baseline study area.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO. Close to mineral entry.
Pipe Fork	529	Port-orford-cedar/Oregon grape and Port-orford-cedar/salal communities; for scientific research and baseline study area.	Not available for timber harvest. Closed to OHV use. Mineral leasing subject to NSO. Closed to mineral entry.
Round Top Butte	604	Oak/grass savannah, oak/ponderosa pine woodland, and typical grassland mosaic; for scientific research and baseline study area.	Closed to OHV use. Mineral leasing subject to NSO. Closed to mineral entry.
Scotch Creek	1,797	Typical chaparral community in eastern Siskiyou for scientific research and baseline study area.	Closed to OHV use. Mineral leasing subject to NSO. Closed to mineral entry.

Management Actions/Direction - Riparian Reserves

Design and implement forest condition restoration treatments in a manner that contributes to the attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Management Actions/Direction - Late-Successional Reserves

Design and implement forest condition restoration treatments that provide habitat benefits for late-successional associated species, or that have negligible effects on such species. Design treatments to be consistent with the LSR assessment.

When possible, avoid introducing nonnative plant species, including grasses, into late-successional reserves. If introduction of a nonnative species is proposed, complete an assessment of the impacts and avoid any introduction that would retard or prevent achievement of late-successional reserve objectives.

Evaluate the impacts of nonnative plant species existing within late-successional reserves. Develop plans and recommendations for eliminating or controlling nonnative plant species that are inconsistent with late-successional reserve objectives. Include an analysis of effects of implementing such programs on other species within the late-successional reserves.

Prior to the use of prescribed fire as a forest condition restoration treatment, develop an interdisciplinary fire management plan specifying how prescribed fire applications will meet the objectives of the late-successional reserve. Until the plan is approved, proposed activities will be subject to review by the Regional Ecosystem Office. Apply prescribed fire in a manner that retains the amount of coarse woody debris determined to be appropriate for the site based on watershed analysis.

Management Actions/Direction - Adaptive Management Areas

Emphasize cooperation across agency and ownership boundaries.

Management Actions/Direction - Connectivity/Diversity Blocks

Maintain 25 to 30 percent of each block in late-successional forest at any point in time. The percentage of habitats will include habitat in other

allocations, such as riparian reserves. The size and arrangement of habitat within a block should provide effective habitat to the extent possible.

Management Actions/Direction - General Forest Management Area (all)

Retain snags within forest condition restoration treatment units at levels sufficient to support species of cavity nesting birds at 40 percent of potential population levels. Meet the 40 percent minimum throughout the matrix with per-acre requirements met on average areas no larger than 40 acres.

Management Actions/Direction - Special Habitats

In project areas containing special wildlife and plant habitats (e.g., talus and meadows), maintain ecologically significant buffers around the special habitat. This could be increased, decreased, or manipulated, based on site-specific circumstances. Ecologically significant buffers will be determined by interdisciplinary teams.

Recreation

Objectives

Provide a wide range of developed and dispersed recreation opportunities that contribute to meeting projected recreation demand within the planning area. Provision of recreation opportunities in or adjacent to water will be emphasized.

Manage scenic, natural, and cultural resources to enhance visitor recreation experience expectations and satisfy public land users.

Pursue recreation opportunities that will benefit local community economic strategies consistent with BLM land use objectives.

Manage off-highway vehicle (OHV) use on BLM-administered land to protect natural resources, provide visitor safety, and minimize conflicts among various users. Three areas will be managed specifically to provide for OHV use.

Enhance recreation opportunities provided by existing and proposed watchable wildlife and wildflower areas and national back country byways.

Manage special and extensive recreation management areas in a manner consistent with BLM's Recreation 2000 Implementation Plan and Oregon-Washington Public Lands Recreation initiative. Manage Special Recreation Management

Areas to realize their potential to provide appropriate/prescribed recreational experience opportunities while protecting sensitive resources, increasing public awareness, reducing conflicts and diversifying the regional economy. Manage Extensive Recreation Management Areas to provide opportunities for dispersed, unstructured, and resource-dependent recreation uses, while protecting sensitive resources.

Land Use Allocations

See Map 9 for locations for a list of sites and areas.

The congressionally-designated Pacific Crest National Scenic Trail and the Rogue National Wild and Scenic River will be managed to preserve their remarkably outstanding natural resource values and the desired recreational opportunity settings in accordance with applicable legislative mandates.

Special Recreation Management Areas. In addition to continuing management of the three existing special recreation management areas (SRMAs): Hyatt Lake-Howard Prairie Lake, Pacific Crest Trail National Scenic Trail, and Rogue National Wild and Scenic River. Two new SRMAs (Lost Creek and Galesville Reservoir) will be designated.

Recreation Sites and Trails. In addition to the 11 existing recreation sites that will continue to be managed and maintained, 27 potential recreation sites will be managed to maintain their potential for development. The 14 existing trails will continue to be maintained and 16 new potential trails will be developed. These potential sites and trails will be developed as funding and opportunity exists.

Back Country Byways. In addition to continuing management of three existing back country byways, eight new BCBWs will be designated. (NOTE: Map 9 does not correctly illustrate the Williams to Selma Back Country Byway.)

Off-Highway Vehicles. Existing off-highway vehicle (OHV) closures within the congressionally-designated Rogue National Wild and Scenic River and the Pacific Crest National Trail, except for roads crossing the Pacific Crest Trail, will continue in order to protect their outstandingly remarkable recreational resource values and to meet legislative mandates.

All research natural areas (RNAs, 10,274 acres) will be closed to any OHV activity. Areas of critical

environmental concern (ACECs, 7,236 acres), environmental education areas (EEAs, 550 acres), and recreational sites/campgrounds (1,000 acres) will be closed or limited to existing roads only depending on the values of the individual site. The Soda Mountain Wilderness Study Area (WSA 5,867) limits OHV use to existing ways/roads only. Big Game areas (268,000 acres) will be limited to existing roads not physically blocked or managed by a seasonal restriction.

About 49,636 acres will limit off-highway vehicle (OHV) use to existing roads. These acres are in deferred watersheds in the Ashland, Butte Falls, and Grants Pass resource areas. These watersheds have been identified as having high cumulative effects and management activities, including timber harvest and other surface disturbance, will be deferred for ten years. In certain instances, some watersheds will limit use to rocked or surfaced roads only. The northwest part of the district has been designated as limited and will limit off-highway vehicles to existing open roads unless specifically designated as closed. The remaining portion of the district will be considered open unless specifically limited or closed with a special designation.

The winter tubing hill (10 acres) and cross-country ski trails in the Ashland Resource Area will be closed to OHVs. Snowmobiles will be limited to existing roads when traveling through big game areas that are not seasonally closed. In other areas when a snow depth of 12 inches is reached, areas will be considered open and not limited to existing roads.

Off-highway vehicle use will be limited to designated roads in areas that have been infected with Port-orford root disease

Three areas, Ferris Gulch (2,200 acres), Timber Mountain/John's Peak (16,250 acres), and Quartz Creek (7,120 acres) will be managed to provide for OHV use. See Table 8.

Management Actions/Direction

Management Actions/Direction - General

Enhance travel and recreation management through increased emphasis on interpretive and informational signs and maps. Identify on informational handouts at field locations, all major travel routes within the planning area. Prepare a districtwide travel map for public distribution. These actions, and others, will support State and local strategies to encourage tourism.

Table 7. Recreation Opportunities

Site/Trail **Acres/Miles**

Existing Recreation Sites:

<u>Ashland Resource Area</u>	Acres
Beene Cabin	10
Hyatt Lake Complex	745
Kenney Meadows	35
Little Applegate	20
Little Hyatt Lake	2
Table Mountain Snow Play Area	10
Woodrat Mountain	20

Butte Falls Resource Area

Elderberry Flat	80
Gold Nugget	53

Glendale Resource Area

Mt. Bolivar Trailhead	2
Tucker Flat	20

Potential Recreation Sites:

<u>Ashland Resource Area</u>	Acres
Dick Lake	40
Parsnip Lakes	40
Pilot Rock	20
Sensenig Falls	40
The Licks	40
Upper Applegate	40

Butte Falls Resource Area

Box Creek	40
Brush Creek	10
Cobleigh Bridge	40
Fredenbug	40
North Fork Big Butte Creek	20
Nugget Falls	5
Rocky Hill	10
Rocky Point	40
Seth Bullis	16
Skookum Creek Wayside	5
South Fork Big Butte Creek	20

Glendale Resource Area

Burma Pond	20
Cold Springs	10

Galesville Reservoir 40

Table 7. Recreation Opportunities

Site/Trail **Acres/Miles**

Ninemile	5
Panther Creek	5
Riffle Creek	5
Skull Creek	5

Grants Pass Resource Area

Eight Dollar Mountain Wayside	20
Illinois River Extension	40
Manzanita Cave	20
Shady Branch	40
Waldo Cemetery	20

Existing Trails:

Ashland Resource Area Miles

Armstrong Gulch Trail	1
Grizzly Peak Trail	5
Hidden Creek Trail	1
Jacksonville National Historic Landmark Trail	5
Listening Tree Trail	1
Pacific Crest National Scenic Trail	40
Sterling Mine Ditch Trail	10
Tunnel Ridge Trail	1
Wolf Gap Trail	4

Butte Falls Resource Area

Upper Table Rock Trail	2
Lower Table Rock Trail	2

Glendale Resource Area

Kelsey Pack Trail	3
Mt. Bolivar Trail	1.5
Mule Creek Trail	3

Potential Trails:

Ashland Resource Area Miles

Hyatt Lake-Howard Prairie Lake Trail	14
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Butte Falls Resource Area

Buck Rock-Berry Rock Loop Trail	10
Green Top Loop Trail	10

Medco Railroad Trail (Eagle Point-Butte Falls) 50

Table 7. Recreation Opportunities

Site/Trail	Acres/Miles
<u>Glendale Resource Area</u>	
Bald Ridge Trail	2.5
Galesville Trail	8
Kelsey Pack Trail Extension	2.5
King Mountain Trail	1
London Peak-Grave Creek Trail	3
Upper Mule Creek Trail	24
Wild Rogue Wilderness Trail	3.5
<u>Grants Pass Resource Area</u>	
Grayback Mountain Trail	6.5
Kerby Peak Trail	8
Lake Selmac Loop Trail	11
Round Top Mountain Trail	5
Existing Special Recreation Management Areas:	
<u>Ashland Resource Area</u> Acres	
Hyatt Lake-Howard Prairie Lake	17,000
Pacific Crest National Scenic Trail	12,086
<u>Grants Pass Resource Area</u>	
Rogue National Wild and Scenic River	14,277
New Special Recreation Management Areas:	
<u>Butte Falls Resource Area</u>	
Lost Creek Lake	9,49
<u>Glendale Resource Area</u>	
Galesville Lake	3,97
Existing National Byways:	
<u>Butte Falls Resource Area</u> Miles	
Rogue-Umpqua Scenic Byway	56
<u>Glendale Resource Area</u>	

Grave Creek-Marial Back Country Byway 33

Table 7. Recreation Opportunities

Site/Trail	Acres/Miles
<u>Grants Pass Resource Area</u>	
Hellgate-Galice Back Country Byway	39
New Back Country Byways:	
<u>Ashland Resource Area</u> Miles	
Hyatt Lake-Howard Prairie Lake Back Country Byway	39
McKee Bridge-Anderson Butte Back Country Byway	35
Shale City Back Country Byway	10
<u>Butte Falls Resource Area</u>	
Butte Falls to Prospect Back Country Byway	23
<u>Butte Falls and Glendale Resource Areas</u>	
Cow Creek-West Fork Evans Creek Road Back Country Byway	56
<u>Glendale Resource Area</u>	
Lower Cow Creek Road Back Country Byway	18
West Fork Cow Creek-Eden Valley Back Country Byway	23
<u>Grants Pass Resource Area</u>	

Manage recreation areas to minimize disturbance to a number of fungus and lichen species known to occur within these areas. Follow survey and manage actions/direction as stated in the introduction to Land Use Allocations and Resource Programs.

Management Actions/Direction - Riparian Reserves

Design new recreational facilities within riparian reserves, including trails and dispersed sites, so as not to prevent meeting Aquatic Conservation Strategy and riparian reserve objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within riparian reserves, evaluate and mitigate impacts to ensure that these do not prevent, and to the practicable extent contribute to, attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective, eliminate the practice or occupancy.

Management Actions/Direction - Late-Successional Reserves

Retain and maintain existing recreation developments consistent with other management actions/direction for late-successional reserves.

Use adjustment measures such as education, use limitations, traffic control devices, or increased maintenance, when dispersed or developed recreation practices retard or prevent attainment of late-successional reserve objectives.

Neither construct nor authorize new facilities that may adversely affect late-successional reserves.

Review on a case-by-case basis new recreation development proposals. They may be approved when adverse effects can be minimized and mitigated.

Locate new recreation developments to avoid degradation of habitat and adverse effects on identified late-successional species.

Remove hazard trees along trails and in developed recreation areas.

Management Actions/Direction - All Land Use Allocations (LUAs)

In addition to the guidelines for late-successional and riparian reserves, manage recreation resources consistent with the LUAs, in which they occur, and consistent with the following guidelines.

Management Actions/Direction - Recreation Sites and Trails

Limit burn acreage within all developed sites and recreation trail areas. Use prescribed fire to reduce fire hazard and to protect developed sites from wildfire. Restrictions on fire suppression equipment use and activities should be identified on a site specific basis.

Manage timber within developed recreation sites for purposes of removing hazard trees, providing space for additional facilities and activity areas, and providing desired regeneration of the forest canopy.

Pursue mineral withdrawals for existing developed recreation sites and for proposed recreation sites when development is approved.

Management Actions/Direction - Special Recreation Management Areas

Address special recreation management area issues and prioritize projects in watershed analyses or separate recreation area management plans, as appropriate. Prepare project plans as needed.

Management Actions/Direction - Extensive Recreation Management Areas

Address extensive recreation management area issues and prioritize projects in watershed analyses. Prepare project plans as needed.

Management Actions/Direction - Back Country Byways

Coordinate management of back country byways with county governments, chambers of commerce, regional tourism alliances, and the U. S. Forest Service. Designation of backcountry byways does not change how adjacent lands are managed.

Wild and Scenic Rivers

Objectives

Manage designated segments of the National Wild and Scenic Rivers System to protect their outstandingly remarkable values and maintain and

Table 8. Off-Highway Vehicle Designations¹

Area	Remarks
Existing sites (see Map 9)	Limited to existing recreation roads.
Potential sites (see Map 9)	Limited to existing recreation roads.
Existing trails (see Map 9)	Developed trails are usually closed to off-highway vehicle (OHV) use.
Potential trails (miles)	Developed trails are usually closed to OHV use.
Wilderness study areas (see Map 9)	
Potential wild and scenic rivers (see Map 9)	Potential recreational. Rivers are limited to existing roads.
Special areas (see Map 8): ACECs RNAs EEAs	Table Rocks, closed. Limited to designated roads seasonal limitation.
Fragile soil areas (see Map 6)	
Riparian Reserves	Limited to existing roads.
Wetlands	Closed, exact acres unknown.
Deferred watersheds	Limited to designated roads. Seasonal limitation.
Deer and elk management areas (see Map 7)	Seasonal limitations.
LSRs (see Map 4)	Limited to designated roads.
SRMAs (see Map 9)	Limited to existing roads except PCT, which is closed.
Table Mountain snow play area	Closed.
Pokegama	Closed between area 11/15 to 03/31.
Ferris Gulch	Limited to existing roads and designated trails.
Quartz Creek	Limited to existing roads and designated trails.
Timber Mountain snow play area	Limited to existing roads and designated trails.
Cascade/Siskiyou ecological emphasis area	Limited to designated roads.
Illinois Valley botanical emphasis area	Limited to designated roads.

¹Includes overlays.

enhance the natural integrity of river-related values.

Protect outstandingly remarkable values identified on BLM-administered lands within the study corridors of eligible river segments studied and administratively found suitable for inclusion as components of the National Wild and Scenic Rivers System.

Provide interim protective management for outstandingly remarkable values identified on BLM-administered lands along river segments determined eligible but not studied for inclusion as components of the National Wild and Scenic Rivers System.

Land Use Allocations

Designated River Segments

<u>River Segment</u>	<u>Classification</u>	<u>BLM-Administered land</u>	
		<u>Miles</u>	<u>Acres</u>
Rogue River (Josephine and Curry counties)	Wild	20	6,022
Rogue River (Josephine County)	Recreational	27	8,245

Four river segments that cover approximately 20 miles (all tributaries to the Rogue Wild and Scenic River) are found suitable for potential wild designation (see Map 9). No river segments are found suitable for potential scenic or recreation designation.

Suitable River Segments

<u>River Segment</u>	<u>Classification</u>	<u>BLM-Administered land</u>	
		<u>Miles</u>	<u>Acres</u>
Big Windy Creek	Wild	6.82	111
East Fork Windy Creek	Wild	3.61	120
Dulog Creek	Wild	1.75	44
Howard Creek	Wild	7.02	240

The corridor width for rivers found eligible or studied for suitability is generally defined as one-quarter mile on either side of the river (approximately one-half mile wide corridor).

Suitability reports for river segments found suitable for inclusion in the national system are located in Appendix J of the Final PRMP.

Manage the natural integrity of river-related values

to maintain or enhance the highest tentative classification. Classification criteria are found in Appendix 2-WS-1, Draft RMP.

Management Actions/Direction

Revise approved wild and scenic river management plans for both the wild and recreation segments of the Rogue River to address attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Manage the previously designated Rogue River, both the wild and recreation segments, according to existing management plans. A new management plan for the recreational segment is currently being prepared.

Under interim protective management, all authorized action on BLM-administered land within the one-half mile wide corridor must have either a positive or neutral effect on identified outstandingly remarkable values (ORVs) that resulted in rivers being found eligible/suitable (see Appendix 2-WS-2, Draft RMP). A synopsis of interim management follows:

- Eligible and/or suitable recreational rivers: exclude timber harvest in the riparian reserves, moderately restrict development of leasable and saleable minerals, and protect a segments' free-flowing values and identified ORVs.
- Eligible and/or suitable scenic rivers: exclude timber harvest in the riparian reserve. Provide VRM Class II management in the one-half mile wide corridor, and protect a segments' free-flowing values and identified ORVs.
- Eligible and/or suitable wild rivers: exclude timber harvest and other disturbing activities within the one-half mile wide corridor.

Determine the role of fire and probable risk of high intensity wildfire destroying scenic values within the wild section of the Rogue River. Determine the appropriate use of prescribed fire needed to meet long-term resource management objectives. Pending completion of the fire management activity plan, continue to maintain a higher level of protection through identification of extra protection needs on an annual basis.

Upon completion of the ROD for this resource management plan, release from interim protection all river segments found not suitable for inclusion as components of the national system.

Visual Resources

Objectives

Manage all BLM-administered land to meet the following visual quality objectives:

- VRM Class I areas: preserve the existing character of landscapes;
- VRM Class II areas: retain the existing character of landscapes;
- VRM Class III areas: partially retain the existing character of landscapes; and
- VRM Class IV areas: allow major modifications of existing character of landscapes.

Emphasize management of scenic resources in selected high-use areas to retain or preserve scenic quality.

Land Use Allocations

<u>VRM Class</u>	<u>Acres</u>
I	14,330
II	113,880
III	393,100
IV	337,220

VRM Class I: the Congressionally-designated Rogue Wild and Scenic River corridor.

VRM Class II:

- The seen area from the Rogue National Wild and Scenic River (wild section);
- The Hyatt/Howard Prairie Lake SRMA;
- The viewshed from Lost Creek Reservoir;
- Galesville SRMA;
- One-quarter mile on either side of the Pacific Crest Trail; and
- Within the foreground/middleground of Interstate 5 and Highway 62 from Shady Cove to Lost Creek Reservoir and the county road from Butte Falls to Prospect. (Foreground/middleground is defined as land within one mile or to the first ridge, whichever is closer.)
- Cobleigh bridge area

VRM Class III: BLM-administered land allocated to meet rural interface area (RIA) objectives unless lands within RIAs are already allocated to some other higher level of protection (e.g., W&SR, SRMAs, etc.).

VRM Class III or Class IV: the southern general forest management area (GFMA) as inventoried.

VRM Class IV: the northern GFMA, unless otherwise classified (see Map 3).

See Map 10 for the location of visual resource management classes.

Management Actions/Direction

Address visual resource management issues when conducting watershed analysis.

Use the visual resource contrast rating system during project level planning to determine whether or not proposed activities will meet VRM objectives. Use mitigation measures to reduce visual contrasts.

Provide for natural ecological changes in VRM Class I areas. Some very limited management activities may occur in these areas. The level of change to the characteristic landscape should be very low and must not attract attention. Changes should repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.

Manage VRM Class II lands for low levels of change to the characteristic landscape. Management activities may be seen but should not attract the attention of the casual observer. Changes should repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.

Manage VRM Class III lands for moderate levels of change to the characteristic landscape. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements of form, line color, texture, and scale found in the predominant natural features of the characteristic landscape.

Manage VRM Class IV lands for moderate levels of change to the characteristic landscape. Management activities may dominate the view and be the major focus of viewer attention. However, every

attempt should be made to minimize the effect of these activities through careful location, minimal disturbance, and should repeat the basic elements of form, line, color, and texture.

Cultural Resources (Including Native American Values)

Objectives

Protect cultural resource values including information and significant sites for public and/or scientific use by present and future generations.

Continue to fulfill government-to-government and trust responsibilities to American Indian tribes regarding heritage and religious concerns.

Land Use Allocations

Sites with significant values will be protected from management actions and from vandalism to the extent possible. Cultural resource sites are not mapped in this plan or described in detail in this plan due to the sensitivity of resource values.

The Medford District manages three cultural resource sites on the National Register of Historic Places.

Management Actions/Direction

Conduct paleo-environmental, archaeological, anthropological, and historical studies.

Conduct systematic inventories of areas likely to contain cultural resources.

Evaluate archaeological and historical sites to determine their potential for contributing to public and scientific uses.

Support ecosystem-based management by providing information about past ecological conditions, past cultural/natural system interactions, and differences among cultural and social groups regarding ecosystem management values.

Develop project plans to preserve, protect, and enhance archaeological, historical and traditional use sites, and materials under the district's jurisdiction. This would include protection from wildfires.

Increase public awareness and appreciation of cultural resources through development of education and interpretive programs.

Develop methods and gather data to assess social and cultural ecosystem components of the

environment for use in landscape-level analysis.

Monitor cultural resources and take appropriate law enforcement action related to unauthorized use.

Continue working with Native Americans to achieve the goals outlined in existing memoranda of understanding. Develop additional memoranda with Native American groups as needs arise.

Acquire significant cultural resource properties for public, cultural heritage, and scientific purposes.

Wilderness Study Areas

Objectives

Maintain the wilderness character of the Soda Mountain Wilderness Study Area (WSA) and the Brewer Spruce Instant Study Area (ISA) to comply with the Bureau's Wilderness Interim Management Policy.

Interim Land Use Allocations

<u>Area Name</u>	<u>Wilderness Status</u>	<u>Acreage</u>
Soda Mountain WSA	Study area	5,867
Brewer Spruce ISA	Instant study area	429

See Maps 8 and 9 for the location of these areas.

Management Actions/Direction

Follow interim management guidelines for wilderness study and instant study areas until decisions are made by Congress. Authorize no action that would diminish the suitability of these lands as wilderness. Take appropriate actions following congressional decision.

The President has transmitted his recommendations to Congress that Soda Mountain WSA (5,867 acres) be designated as wilderness and the Brewer Spruce ISA (429 acres) not be designated as wilderness.

If not designated wilderness, manage the west one-half of the Soda Mountain WSA (5,867 acres) as part of a late-successional reserve (LSR) and the east one-half as part of the Cascade/Siskiyou Special Emphasis Area. Objectives would be to maintain the ecological complexity and its pristine condition by maintaining the roadless condition and discouraging activities that would disrupt the unique diversity of the area, and maintaining the natural role of fire through the development of a fire management activity plan.

If not designated wilderness, enlarge the Brewer Spruce ISA from 429 acres to 1,240 acres and manage as an area of critical environmental concern/ research natural area (ACEC/RNA).

Timber Resources

Objectives

Provide a sustainable supply of timber and other forest products.

Manage developing stands on available lands to promote tree survival and growth and to achieve a balance between wood volume production, quality of wood, and timber value at harvest.

Manage timber stands to reduce the risk of stand loss from fires, animals, insects, and diseases.

Provide for salvage harvest of timber killed or damaged by events such as wildfire, windstorms, insects, or disease, consistent with management objectives for other resources.

Land Use Allocations

Lands available for scheduled timber harvest are as follows:

<u>Areas</u>	<u>Gross Acres</u>	<u>Net Acres</u>
General Forest Management Area (including visual resource management class II, rural interface, and TPCC restricted)	448,778	147,093
Connectivity/Diversity Blocks	27,237	11,121
Adaptive Management Areas (excluding AMR)	113,914	32,781

Lands Available for Timber Harvest Only for Enhancement of Other Uses

Lands determined to be economically marginal are not included in the timber allocation. Timber harvest could occur from those lands when economic conditions made them economical and where consistent with land use allocations.

On lands unavailable for planned forest management such as woodlands, recreation sites, late-successional reserves, protection buffers, riparian reserves, ACECs, wild river corridors, habitat for threatened and endangered, and special status species including the northern spotted owl, TPCC withdrawn lands, etc., timber harvest will occur only as part of strategies to enhance other resources such as riparian habitat, wildlife habitat, or management of special areas.

Harvest from these lands, if they occur, are not included in the ASQ.

The following lists some of the reasons that timber harvest could occur on these lands.

- To reduce road construction, thereby reducing overall cumulative effects;
- Salvage timber killed or substantially damaged by fire, windthrow, insect infestation, or other catastrophe. Such harvest would be accomplished under special silvicultural prescriptions designed to meet the needs of nontimber allocations made on these lands;
- Provide for the safety of forest users (including removing hazard trees along roads and trails, in camp grounds, and administrative sites, etc.);
- Facilitate construction, operation, and maintenance of new facilities such as roads, trails, power lines, communication facilities, recreation or administrative facilities, etc.;
- Scientific or research studies;
- Isolate and release Douglas-fir, sugar pine, or other individual test trees;
- Maintain or enhance fish and wildlife habitats;
- Facilitate development of mines, quarries, or fluid mineral leases;
- Modify high fuel hazard areas by construction of shaded fuel breaks and/or increase defensible space for fire suppression by maintenance of early seral stage conditions. Such activity could occur to provide protection for timber production areas, old-growth blocks, or developed recreational facilities;
- To provide more logical logging units limited timber harvest could occur on TPCC withdrawn lands;
- Rights-of-way;
- Salvage of mortality volume in areas not located to timber production could occur if consistent with the objectives of the allocation; and
- Forest health treatments.

Management Actions/Direction for Timber Management within Matrix Lands

Apply silvicultural systems that are planned to produce over time, forests that have desired species

composition, structural characteristics, and distribution of seral or age classes (See Appendix E and Table 9 for details).

Matrix lands in the Medford District are divided into the northern general forest management area, the southern general forest management area, and connectivity/diversity blocks. Collectively, these areas are referred to as the general forest management area. The line dividing the northern and southern GFMA is meant to be flexible. Also, there will be local situations in the northern GFMA that should be managed along southern GFMA prescription guidelines and visa versa.

Matrix lands are where most timber harvest and other silvicultural activities will be conducted within suitable forestlands, according to the following management actions/direction.

Timber Harvest

Declare an allowable sale quantity of 9.7 million cubic feet (57.1 million board feet).

- The allowable sale quantity for the resource management plan is an estimate of annual average timber sale volume likely to be achieved from lands allocated to planned, sustainable harvest. Harvest of this approximate volume of timber is considered sustainable over the long term. This is based on assumptions that the available land base remains fixed, and that funding is sufficient to make planned investments in timely reforestation, plantation maintenance, thinning, genetic selection, forest fertilization, timber sale planning, related forest resource protection, and monitoring.
- The allowable sale quantity represents neither a minimum level that must be met nor a maximum level that cannot be exceeded. It is an approximation because of the difficulty associated with predicting actual timber sale levels over the next decade, given the complex nature of many of the management actions/direction. It represents BLM's best assessment of the average amount of timber likely to be awarded annually in the planning area over the life of the plan, following a start-up period. The actual sustainable timber sale level attributable to the land use allocations and management direction of the resource management plan may deviate by as much as 20 percent from the identified allowable sale quantity. As inventory, watershed analysis and site-specific planning proceed in conformance with that management direction, the knowledge gained will permit refinement of the allowable sale quantity.

The separable component of the allowable sale quantity attributable to lands in key watersheds carries a higher level of uncertainty, due to the greater constraints of Aquatic Conservation Strategy objectives and the requirement to prepare watershed analyses before activities can take place.

- During the first several years, the annual probable sale quantity will not likely be offered for sale. The resource management plan represents a new forest management plan represents a new forest management strategy. Time will be required to develop new timber sales that conform to the resource management plan.

Management Actions/Direction - General

Provide a renewable supply of large down logs well distributed across the Matrix lands in a manner that meets the needs of species and provides for ecological functions. Down logs will reflect the species mix of the original stand. Models will be developed for groups of plant associations and stand types that can be used as a baseline for developing prescriptions.

- Leave a minimum of 120 linear feet of logs per acre greater than or equal to 16 inches in diameter and 16 feet long. Decay class 1 and 2 logs will be credited toward the total. Where this management actions/direction cannot be met with existing coarse woody debris, merchantable material will be used to make up the deficit;
- In areas of partial harvest, apply the same basic management actions/direction, but they can be modified to reflect the timing of stand development cycles; and
- Retain coarse woody debris already on the ground and protect it to the greatest extent possible from disturbance during treatment (e.g., slash burning and yarding).

Retain 100 acres of the best northern spotted owl habitat as close as possible to a nest site or owl activity center for all known (as of January 1, 1994) northern spotted owl activity centers.

Retain late-successional forest patches in landscape areas where little late-successional forest persists. This management actions/direction will be applied in fifth field watersheds (20 to 200 square miles) in which Federal forestlands are currently comprised of 15 percent or less late-successional forest. (The assessment of 15 percent will include all Federal land allocations in a watershed.) Within such an

area, protect all remaining late-successional forest stands. Protection of these stands could be modified in the future when other portions of a watershed have recovered to the point where they could replace the ecological roles of these stands.

Provide a renewable supply of large live trees and snags well distributed across the Matrix lands in a manner that provides habitat for cavity using birds, bats, and other species; provides structure and habitat diversity; provides future sources of large down logs; and provides for other ecological functions. Retained live trees and snags will reflect the species mix of the original stand. Emphasize retention of the larger trees and snags available to provide the unique structure and functions associated with these large old trees.

- Within the General Forest Management Area north of Grants Pass (northern GFMA) retain at least 6 to 8 green conifer trees per acre in regeneration harvest units; and
- Within the General Forest Management Area south of Grants Pass (southern GFMA) retain at least 16 to 25 large, green conifer trees per acre in regeneration harvest units.

Retain snags and trees within a timber harvest unit at levels sufficient to support species of cavity-nesting birds at 40 percent of potential population levels. Meet the 40 percent minimum throughout the Matrix with per-acre requirements met on average areas no larger than 40 acres.

Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to:

- Minimize intensive burning unless appropriate for specific habitats, communities, or stand conditions. Prescribed fires should be planned to minimize the consumption of litter and coarse woody debris;
- Minimize soil and litter disturbance that may occur as a result of yarding and operation of heavy equipment; and
- Reduce the intensity and frequency of site treatments.

Retain some large hardwood trees, where present in harvest units, to provide habitat diversity.

Management Actions/Direction - Connectivity/ Diversity Blocks Spaced Throughout the Matrix Lands in the Northern GFMA:

Maintain at least 25 to 30 percent of each block in late-successional forest. Riparian reserves and other allocations with late-successional forest count toward this percentage. Blocks may be comprised of contiguous or noncontiguous BLM-administered land. The size and arrangement of habitat within a block will provide effective habitat to the extent possible.

Schedule regeneration harvests on a 150-year area control rotation.

Retain at least 12 to 18 green conifer trees per acre in regeneration harvest units.

Management Actions/Direction - All Land Use Allocations

To mitigate damage caused by *Phytophthora lateralis*, an introduced root disease that is fatal to Port-orford cedar, all management activities occurring within the range of Port-orford cedar will conform to the guidelines described in the BLM Port-Orford Cedar Management Plan. Site specific analyses for projects within the range of Port-orford cedar will consider possible effects on the species.

Special Forest Products

Objectives

Manage for the production and sale of special forest products (SFPs) when demand is present and where actions taken are consistent with primary objectives for the land use allocation.

Use the principles of ecosystem management to guide the management and harvest of special forest products.

Land Use Allocations

No land use allocations are made specifically for special forest products.

Management Actions/Direction

Management Actions/Direction - Riparian Reserves

Where catastrophic events result in degraded riparian conditions, allow fuelwood cutting if required to attain Aquatic Conservation Strategy and riparian reserve objectives.

Management Actions/Direction - Late- Successional Reserves

Table 9. General Features of Silvicultural Systems¹

Allocation	Northern General Forest Management Area		Matrix Connectivity/ Diversity Blocks		Matrix Southern Forest Management Area		Adaptive Management Areas ²	Reserves (Late-Successional, Riparian)	Other
	In general	Modified Even-Aged	Modified Even-Aged	Shelterwood Retention	Structural Retention	Structural Retention			
Silvicultural System	Modified Even-Aged	Modified Even-Aged	Modified Even-Aged	Shelterwood Retention	Structural Retention	Structural Retention	Structural Retention	Consistent with objectives	Consistent with objectives
Features:									
Target stand	Large tree retention	Large tree retention	Large tree retention	Large tree retention	Minimum ecological old growth	Varied	Varied	Ecological old growth	Varied
Target landscape	Mix of stand and seral conditions	Mix of stand and seral conditions	Connectivity within allocation	Mix of stand and seral conditions	General connectivity	General connectivity	General connectivity	Functional arrangement	Varied
Harvest constraints	Reforestation	Reforestation	Landscape arrangement	Frost, soils, visuals	Reforestation, enhanced stand vigor	Reforestation enhanced stand vigor	Reforestation enhanced stand vigor	N/A	N/A
Size of regeneration patch cuts	N/A	N/A	N/A	N/A	< 5 acres	Variable	Variable	N/A	N/A
Trees left/arrangement in regeneration harvest units	6-8 trees/acre, scattered or grouped	6-8 trees/acre, scattered or grouped	12-18 trees/acre, scattered or grouped	12-25 trees/acre then 6-8 acre, scattered or grouped	16-25 trees/acre scattered or grouped	16-25 trees/acre scattered or grouped	16-25 trees/acre scattered or grouped	N/A	N/A
Size of retained trees	20" +	20" +	20" +	20" +	Variable	Variable	Variable	N/A	N/A
Snag retention	40% habitat	40% habitat	40% habitat	40% habitat	40% habitat	40% habitat	40% habitat	As determined by subsequent analysis	Consistent with objectives
Coarse woody debris			120 linear feet of material > 16 inches in diameter and 16 feet long					As determined by subsequent analysis	Consistent with objectives
Minimum regeneration harvests (years)	100	100	100	100	120	None	None	N/A	N/A
Interval between regeneration harvests (years)	100	100	150 (area control)	100	120	120	120	N/A	N/A
Provision for salvage	yes	yes	yes	yes	yes	yes	yes	yes	Consistent with objectives

¹Future targets may vary based on the results of watershed analysis.

²Silvicultural system is generally expected to be one of structural retention. Management is expected to be similar to that of the southern GFMA. However, systems and practices as well as the resulting stands and landscape may vary to meet the objectives of the Adaptive Management Area. There are no specific standards and guidelines for snag and green-tree retention and coarse woody debris in the AMA, however, the intent of the Matrix standards and guidelines for these structures must be met.

Permit fuelwood gathering only in existing cull decks, in areas where green trees are marked by silviculturists for thinning, in areas where blowdown is blocking roads, and in recently harvested timber sale units where down material will impede scheduled post-sale activities or pose an unacceptable risk of future large scale disturbance. In all cases, these activities will comply with management actions/direction for late-successional reserves.

Evaluate whether special forest product harvest activities have adverse effects on late-successional reserve objectives.

Design the sale of special forest products to ensure the protection of other resource values such as special status plants or animal species.

Where special forest product activities are intensive, evaluate whether they have significant effects on late-successional habitat. Restrictions may be appropriate in some cases.

Management Actions/Direction - All Land Use Allocations

Allow harvest of SFPs throughout the district, but apply area and plant species/group restrictions as specified below.

Establish specific guidelines for the management of individual SFPs using interdisciplinary review as needed. Management guidelines would be based on the ecological characteristics of the SFP species and the requirements of associated plant, animal, and fungal species. Guidelines will include provisions that minimize changes in site productivity. Monitoring of harvest activities and the effects of harvest would be part of SFP management. Feasibility to harvest newly identified SFP species would receive interdisciplinary review.

Area	Limited Harvest	No Harvest
Areas of critical environmental concern		X
Research natural areas		X
Outstanding natural areas		X
Environmental education areas		X
Special habitats	X	
White oak woodlands	X	
Developed recreation sites	X	
Area	Limited Harvest	No Harvest
Known cultural resource sites	X	
Designated wetlands		X
Fragile soils areas	X	

Special status fauna or flora sites		X
Connectivity/Diversity blocks	X	
Late-successional reserves	X	
Riparian reserves	X	
Key watersheds	X	

Plant Species or Group	Limited Harvest	No Harvest
Lily family (<i>Liliaceae</i>) except beargrass		X
Orchid family (<i>Orchidaceae</i>)		X
Iris family (<i>Iricacidae</i>) except common iris		X
Special status plant species		X
Truffles	X	
Lichens	X	
Ferns	X	
Conifer boughs	X	
Port-Orford cedar boughs	X	
Darlingtonia		X
Mosses	X	
Mushrooms	X	

Energy and Minerals

Objectives

Maintain exploration and development opportunities for leasable and locatable energy and mineral resources.

Provide opportunities for extraction of saleable minerals by the BLM, other government entities, private industry, individuals, and nonprofit organizations.

Land Use Allocations

See Table R-1 and appendices G, H, and I for energy and mineral allocations. Most BLM-administered lands will remain open to mineral exploration and development. However, various restrictions may apply.

Management Actions/Direction

See Tables 10, 11, and 12 for restrictions on energy and mineral activities, and Appendices G, H, and I for leasing stipulations and operating standards pertinent to locatable and saleable minerals.

Management Actions/Direction - Riparian Reserves

NOTE: The standards and guidelines for minerals management in riparian reserves presented on page C-34/35 of the SEIS ROD are not consistent with BLM regulations. Until regulations are modified, management of locatable minerals within riparian reserves will be governed by regulations found in 43 CFR 3809. The following guidelines consistent with 43 CFR 3809, are modifications of the standards and

guidelines presented in the SEIS ROD and apply to any locatable mineral operations requiring a plan of operations and to leasable and saleable mineral operations, where appropriate.

- Require a Plan of Operations, including a reclamation plan and reclamation bond for all mining operations in riparian reserves. Such plans and bonds will address the costs of removing facilities, equipment, and materials; recontouring of disturbed areas to an approved topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvaging and replacing topsoil; and revegetating to meet Aquatic Conservation Strategy and riparian reserve objectives.
- Locate structures, support facilities, and roads outside riparian reserves. If no alternative to siting facilities in riparian reserves exists, locate in a way compatible with Aquatic Conservation Strategy and riparian reserve objectives. Road construction will be kept to the minimum necessary for the approved mineral activity. Roads will be constructed and maintained to meet road management standards and to minimize damage to resources in riparian reserves. When a road is no longer required for mineral or land management activities, it will be reclaimed. In any case, access roads will be constructed consistent with 43 CFR 3809 and acceptable road construction standards and will minimize damage to resources in riparian reserves.
- Avoid locating solid and sanitary waste facilities in riparian reserves. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in riparian reserves exist, and if releases can be prevented and stability can be ensured:
 - Analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics.
 - Locate and design the waste facilities using best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in riparian reserves.
 - Reclaim waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy and riparian reserve objectives.

- Monitor waste and waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy and riparian reserve objectives.
- Require reclamation bonds adequate to ensure chemical and physical stability and to meet Aquatic Conservation Strategy and riparian reserve objectives.
- Where an existing operator is in noncompliance at the notice level (i.e., causing unnecessary or undue degradation), require actions similar to those stated above to meet the intent of 43 CFR 3809.

Develop inspection and monitoring requirements and include such requirements in exploration and mining plans and in leases or permits consistent with existing laws and regulations. Evaluate the results of inspection and monitoring to determine if modification of plans, leases and permits is needed to eliminate impacts that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.

For leasable mineral activity in riparian reserves, prohibit surface occupancy for oil, gas, and geothermal exploration and development activities where leases do not exist. Where possible, adjust the stipulations in existing leases to eliminate impacts that retard or prevent the attainment of Aquatic Conservation Strategy and riparian reserve objectives, consistent with existing lease terms and stipulations.

Allow development of saleable minerals, such as sand and gravel, within riparian reserves only if Aquatic Conservation Strategy and riparian reserve objectives can be met.

Management Actions/Direction - Late-Successional Reserves

Assess the impacts of ongoing and proposed mining activities in late-successional reserves.

Include stipulations in mineral leases and, when legally possible, require operational constraints for locatable mineral activities to minimize detrimental effects on late-successional habitat.

Management Actions/Direction - All Land Use Allocations

Management Actions/Direction - Leasable Minerals

Standard oil and gas lease stipulations are listed in

Table 10. Oil and Gas Lease Restrictions

Category	Management Action
Closed: Nondiscretionary ¹	22,000
Closed: Discretionary ²	0
Open: No surface occupancy ³	73,300
Open: With special stipulations ⁴	232,500
Open: Standard stipulations	539,700

¹Congressional and other agency withdrawals including corridors of designated wild rivers and wilderness study areas.

²Corridors of rivers for designation as wild.

³Proposed or existing BLM withdrawals, administrative sites including recreation sites, powersite reserves, ACECs, ONAs, R&PP Act leases, threatened and endangered plant habitat, bald eagle habitat, managed spotted owl habitat, cultural resource sites, corridors of rivers designated as or suitable for designation as scenic or recreational rivers, RIAs, off-road vehicle closures, and VRM Class I (not currently closed).

⁴Seasonal wildlife restriction, VRM Class II or III management, RMAs, community watersheds, RIAs, and federal mineral estate only. (Also see Appendix G.)

Table 11. Geothermal Lease Restrictions

Category	Management Action
Closed: Nondiscretionary ¹	22,000
Closed: Discretionary ²	0
Open: No surface occupancy ³	73,300
Open: With special stipulations ⁴	232,500
Open: Standard stipulations	539,700

¹Congressional and other agency withdrawals including corridors of designated wild rivers and wilderness study areas.

²Corridors of rivers for designation as wild.

³Proposed or existing BLM withdrawals, administrative sites including

recreation sites, powersite reserves, ACECs, ONAs, R&PP leases, threatened and endangered plant habitat, bald eagle habitat, managed spotted owl habitat, cultural resource sites, corridors of rivers designated as or suitable for designation as scenic or recreational rivers, RIAs, off-road vehicle closures, and VRM Class I (not currently closed).

⁴Seasonal wildlife restriction, VRM Class II or III management, RMAs, community watersheds, RIAs, and federal mineral estate only. (Also see

Appendix G.)

Table 12. Locatable Mineral Restrictions

Category	Management Action
Closed: Nondiscretionary ¹	16,800
Closed: Discretionary ²	20,800
Open: Additional stipulations ³	293,400
Open: Standard regulations	536,500

Section 6 of “Offer to Lease and Lease for Oil and Gas” Form 3100-1.

Special stipulations will be attached to oil and gas leases to provide additional protection for fragile areas or critical resource values. A seasonal restriction could be used to protect critical wildlife habitat or prevent excessive erosion, etc. A controlled-use stipulation could be used to protect valuable resources in very small areas. A no surface occupancy (NSO) stipulation could be used to protect valuable resources spread over a large area while still providing an opportunity for exploration and development. The NSO stipulation will be used within riparian reserves.

Special stipulations for leasable minerals are shown in Appendix G. The special stipulations regarding seasonal restrictions, controlled surface use, and prohibiting surface occupancy could be waived by authorized BLM officials if the objective of the stipulation would be met in another manner or if the resource being protected was no longer present.

Examples of special stipulations include:

- leasing designated special areas with a NSO restriction;
- leasing in big game winter range with a seasonal

restriction; and

- leasing of meadows or wetlands with a controlled surface-use restriction.

Tables 10 and 11 illustrate the Federal mineral estate in the planning area on which oil and gas and geothermal activities, respectively, would be restricted.

Management Actions/Direction - Locatable Minerals

Areas not specifically withdrawn from mineral entry will continue to be open under the mining laws. Mineral exploration and development will be regulated under 43 CFR 3802 and 3809 to prevent “unnecessary or undue degradation.”

All surface disturbance from operations, whether conducted under a notice or plan of operations, will be reclaimed at the earliest feasible time.

The standards that govern activities conducted under a notice of operations (affecting five acres or less) and those that govern activities under a plan of operations (affecting more than five acres) are shown in Appendix H.

Additional guidelines governing mining activities are discussed below.

- All instream placer mining would be closed to suction dredging for the time specified in Oregon Guidelines for “Timing of In-Water Work” to protect fish and wildlife resources. Waivers could be granted by Oregon Department of Fish and Wildlife;
- Mining operations within riparian reserves will be subject to mitigation measures whether conducted under a notice or a plan of operations. Mitigating measures will be developed to prevent degradation of water quality including siltation and water temperature and to comply with Executive Order 11190 (Protection of Wetlands). Road construction, clearing vegetation, hazard tree removal, mining waste disposal, and other surface-disturbing activities that would degrade water quality or riparian/wetland habitat will either be prohibited or require special mitigation. These activities within riparian reserves will be considered unnecessary or undue degradation unless acceptable mitigation measures are approved in advance. Mining activities will conform to best management practices (BMPs) to protect water quality (see Appendix D, and Aquatic Conservation Strategy and Riparian Reserve objectives);

- Mining activities within LSRs will be designed to mitigate detrimental effects;
- Mining operations will be allowed in designated ACECs but only in a manner that would not impair or degrade those significant resource values that lead to area of critical environmental concern (ACEC) designation. A plan of operations will be required in all designated ACECs. A plan of operations will not be approved if operations would irreparably damage those resource values for which the ACEC was designated;
- Mining operations will not be allowed to disturb lands classified fragile nonsuitable woodlands under the timber production capability classification (TPCC) unless adequate mitigation measures are implemented to prevent slope failures, damage to soil productivity, or erosion;
- Mining operations in lands classified VRM Class II will maintain the existing visual characteristics of the landscape. Evidence of exploration and development activities will be reclaimed to meet VRM Class II management objectives. All disturbed lands will be graded to near natural contours where practical and revegetated with native plants;
- All mining activity employing suction dredges will comply with Oregon State Department of Environmental Quality Permit No. 0700; and
- All mining activities discharging waste water will comply with Oregon State Department of Environmental Quality Permit No. 0600.

A number of areas/sites have been proposed to be withdrawn from mineral entry under the mining laws. These areas/sites will also be closed to disposal of saleable minerals and be made available for exploration and development of leasable minerals with NSO stipulation or not at all. Withdrawals from mineral entry would be pursued for the areas/sites discussed below.

- All existing withdrawals carried forward are listed in Table 13;
- Withdrawals from mineral entry will be pursued for research natural areas (RNAs) to protect the ecosystems being monitored as baseline data;
- Rivers or streams eligible for inclusion in the Wild and Scenic Rivers Systems and proposed for designation as Wild, will be withdrawn from mineral entry to conform with the Wild and Scenic Rivers Act, upon designation;

- A withdrawal from mineral entry will be pursued for that portion of the recreation section of the Rogue River downstream from Yew Wood Creek, not presently withdrawn from mineral entry, to conform with other segments of the designated river section and to conform with the existing management plan;
- Mineral withdrawals will be pursued for all sites with significant capital improvements such as administrative sites, reaches of streams with fish improvements, and developed recreation sites following initiation of the investment;
- A withdrawal from mineral entry will be pursued for the Jacksonville Trail System. BLM and the city of Jacksonville plan to establish a trail system for recreation purposes. Any mining would impair the trail improvements and scenic values;
- A withdrawal from mineral entry will be pursued for Agate Flat, a well-known agate collecting area frequented by rock clubs and collectors, to keep the area open to the public; and
- A withdrawal from mineral entry will be pursued for Galice Creek for recreational and cultural values.

Management Actions/Direction - Salable Minerals

Saleable minerals, including common varieties of sand, gravel, rock, and stone, will be made available for local governments, private industry, individuals, and nonprofit organizations consistent with management objectives of other resources and consistent with the requirement that undue or unnecessary degradation be prevented. Most of these needs will be met from community pits located throughout the planning area.

Rock quarries will continue to be used to provide rock for use in construction and maintenance of timber sale access roads and for other purposes. New quarry sites will be developed as needed if they are consistent with the management objectives of other resource values. All quarry development will include development and reclamation plans. Long-term regional quarry use will be emphasized. A districtwide quarry management plan will be developed to address development standards and reclamation goals.

Saleable mineral activities within riparian reserves will occur only if Aquatic Conservation Strategy objectives can be met. Activities within LSRs will be designed to mitigate detrimental effects.

Guidelines and restrictions for development of saleable minerals are presented in Appendix I.

Management Actions/Direction - Reserved Federal Mineral Estate

The reserved Federal mineral estate (Federal minerals underlying nonfederal surface) would continue to be open for mineral development in the same manner and degree as adjacent BLM-administered land. Conveyances of mineral interest owned by the United States where the surface is or will be in nonfederal ownership could be made to the existing or proposed owner of the surface estate consistent with FLPMA Section 209(b).

Socioeconomic Conditions

Objectives

Contribute to local, State, national, and international economies through sustainable use of BLM-managed lands and resources and use of innovative contracting and other implementation strategies.

Provide amenities (e.g., recreation facilities, protected special areas, and high quality fisheries) that enhance communities as places to live, work, and visit.

Land Use Allocations

There are no specific land use allocations related to socioeconomic conditions. However, allocations such as the general forest management area, the Applegate adaptive management area, special area designations, and provision of recreation opportunities can assist in meeting socioeconomic objectives.

Management Actions/Direction

Support and assist the State of Oregon Economic Development Department's efforts to help rural, resource-based communities develop and implement alternative economic strategies as a partial substitute for declining timber-based economies. Aid and support could include: increased coordination with State and local governments and citizens to prioritize BLM management and development activities, increased emphasis on management of special forest products, and recreation development and other activities identified by BLM and the involved communities as benefiting identified economic strategies.

Improve wildlife and fish habitat to enhance hunting and fishing opportunities and to increase the economic returns generated by these activities.

Improve viewing opportunities for watchable wildlife within the planning area.

Designate new viewing areas for wildlife and wildflowers.

Design and implement forest management activities to produce a sustained yield of products to support local and regional economic activity. A diversity of forest products (timber and nontimber) will be offered to support large and small commercial operations and provide for personal use. Service contracts will include opportunities for both large and small contractors.

Land Tenure Adjustments

Objectives

Make land tenure adjustments to benefit a variety of uses and values. Emphasize opportunities that conserve biological diversity or enhance timber management opportunities. As a matter of practice, O&C forestlands allocated to timber management would only be exchanged for lands to be managed for multiple-use purposes.

Meet the following objectives for the three land tenure adjustment zones:

- Zone 1: generally, retain these lands under BLM administration.
- Zone 2: block up areas in Zone 2 with significant resource values and exchange other lands in Zone 2 to block up areas in Zones 1 and 2 with significant resource values.
- Zone 3: retain lands with unique resource values; dispose of other lands in this zone using appropriate disposal mechanisms, including sale.

Make BLM-administered lands in Zones 1, 2, and 3 available for a variety of uses as authorized by section 302 of the Federal Land Policy and Management Act, the Recreation and Public Purposes Act, and special recreation permits.

Manage newly acquired lands for the purpose for which they are acquired or consistent with the management objectives for adjacent BLM-administered lands. If lands with unique or fragile

resource values are acquired, protect those values until the next plan revision.

Land Use Allocations

<u>Zone</u>	<u>Acres</u>
Zone 1	292,100
Zone 2	558,600
Zone 3	7,600

See Map 11 for location of land tenure zones and Appendix J for legal descriptions of Zone 3 lands.

Management Actions/Direction

Management Actions/Direction - Riparian Reserves

Use land acquisition, exchange, and conservation easements to meet Aquatic Conservation Strategy and riparian reserve objectives, and facilitate restoration of fish stocks and other species at risk of extinction.

Management Actions/Direction - Late-Successional Reserves

Consider land exchanges when they will provide benefits equal to or better than current conditions.

Consider land exchanges especially to improve area, distribution, and quality (e.g., connectivity, shape, and contribution to biological diversity) of late-successional reserves where public and private lands are intermingled.

Management Actions/Direction - All Land Use Allocations

Use the land tenure adjustment criteria shown in Appendix K when conducting environmental analyses for site-specific exchange, sale, transfer, or acquisition proposals. Application of these criteria may result in retention of some Zone 3 lands.

Maintain or increase public land holdings in Zone 1 by retaining public lands and acquiring nonfederal lands with high public resource values. The primary mode of acquisition will be through exchange of BLM-administered lands in Zones 2 and 3. Utilize purchases and donations if exchange is not feasible. All fee acquisitions will be with willing sellers.

Consult with county governments prior to any exchange, especially those involving O&C land.

Consider the effect of land tenure adjustments on the mineral estate. If the lands are not known to have mineral potential, the mineral estate will normally be transferred simultaneously with the surface estate.

Minimize impact on local tax base by emphasizing exchanges rather than fee purchase.

Make exchanges to enhance public resource values and/or improve land patterns and management capabilities of both private and BLM-administered land within the planning area by consolidating ownership and reducing the potential for land use conflict.

Consider transfer of BLM-administered land to other Federal agencies or acquisition of other Federal lands where consistent with public land management policy and where improved management efficiency will result.

Prohibit disposal of Zone 2 lands through sales under Section 203(a) of FLPMA. Zone 2 lands may be transferred to other public agencies or managed under some form of cooperative agreement. However, Zone 2 lands will generally remain under BLM-administration.

Dispose of Zone 3 lands through sale under Section 203(a) of FLPMA if no viable exchange proposals can be identified. Zone 3 lands could also be transferred to another Federal agency or State or local government as needed, to accommodate community expansion or other public purposes.

Realign the Coos Bay/Medford district boundaries and sustained yield unit boundaries to administratively transfer jurisdiction of the land in the O'Brien-Takilma area from the Coos Bay District to the Medford District.

Adjust landownership patterns with the Rogue and Siskiyou National Forests to enhance management efficiency.

Continue the Hyatt Lake homesite leasing program as currently managed.

Rights-of-Way

Objectives

Continue to make BLM-administered lands available for needed rights-of-way where consistent with local comprehensive plans, Oregon statewide planning goals and rules, and the exclusion and avoidance areas identified in this RMP.

Ensure that all rights-of-way for hydroelectric developments are consistent with the Northwest Power Planning Council guidance, which recommends prohibiting future hydroelectric development on certain rivers and streams with significant fisheries and wildlife values.

Land Use Allocations

Allocation of lands to existing rights-of-way corridors and communication sites will continue (see Map 12).

Subject to valid existing rights and with the exception of buried lines in rights-of-way of existing roads, exclude rights-of way in the following areas:

- Research natural areas;
- Wild rivers (those found suitable for designation and those already designated);
- Wilderness study areas;
- Wilderness areas;
- Visual resource management Class I Areas; and
- Known special status plant species sites.

With the exception of buried lines in rights-of-way of existing roads, avoid locating rights-of-way in the following areas:

- Recreation sites (existing and proposed);
- Areas of critical environmental concern (not designated as research natural areas);
- Scenic and recreational rivers (those found suitable for designation and those already designated);
- Sensitive species habitat;
- Visual resource management Class II areas;
- Known wetlands; and
- Late-successional reserves.

Rights-of-way may be granted in avoidance areas when no feasible alternate route or designated rights-of-way corridor is available.

Management Actions/Direction

Management Actions/Direction - Riparian Reserves

Issue rights-of-way to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. Where legally possible, adjust existing rights-of-way to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy and riparian reserve objectives. If adjustments are not effective and where legally possible, eliminate the activity. Priority for modifying existing rights-of-way will be based on the actual or potential impact and the ecological value of the riparian resources affected.

For proposed hydroelectric projects under the jurisdiction of the Federal Energy Regulatory Commission (the Commission), provide timely, written comments regarding maintenance of instream flows and habitat conditions and maintenance/restoration of riparian resources and stream channel integrity. Request the Commission to locate proposed support facilities outside of riparian reserves. For existing support facilities inside riparian reserves that are essential to proper management, provide recommendations to the Commission that ensure Aquatic Conservation Strategy and riparian reserve objectives are met. Where these objectives cannot be met, provide recommendations to the Commission that such support facilities should be relocated. Existing support facilities that must be located in the riparian reserves should be located, operated, and maintained with an emphasis to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.

For other hydroelectric and surface water development proposals in Tier One key watersheds, require instream flows and habitat conditions that maintain or restore riparian resources, favorable channel conditions, and fish passage. Coordinate this process with the appropriate State agencies. For other hydroelectric and surface water development proposals in all other watersheds, give priority emphasis to instream flows and habitat conditions that maintain or restore riparian resources, favorable channel conditions, and fish passage. Coordinate this process with the appropriate State agencies.

Management Actions/Direction - Late-Successional Reserves

Retain and maintain existing developments, such as utility corridors and electronic sites, consistent with other management actions/direction for late-successional reserves.

Neither construct nor authorize new facilities that may adversely affect late-successional reserves.

Review on a case-by-case basis new development proposals. They may be approved when adverse effects can be minimized and mitigated.

Locate new developments to avoid degradation of habitat and adverse effects on identified late-successional species.

Remove hazard trees along utility rights-of-way and in other developed areas.

Management Actions/Direction - Other Land Use Allocations

Encourage location of major new rights-of-way projects in existing utility/transportation routes and other previously designated corridors.

Encourage applicants to consult the Western Regional Corridor Study in planning route locations.

Consider new locations for rights-of-way projects on a case-by-case basis. Applications may be approved where the applicant can demonstrate that use of an existing route or corridor would not be technically or economically feasible; and the proposed project would otherwise be consistent with this resource management plan and would minimize damage to the environment.

Allow expansion of communications facilities on existing communication sites consistent with protection of threatened and endangered species.

Consider new communication sites on a case-by-case basis. Applications may be approved where the applicant can demonstrate that use of an existing, developed communication site would not be technically feasible; and the proposed facility would otherwise be consistent with this proposed resource management plan and would minimize damage to the environment.

Access

Objectives

Acquire access to public lands to assist various programs to meet management objectives.

Land Use Allocations

None.

Management Actions/Direction

Acquire access by obtaining easements, entering into new reciprocal rights-of-way agreements, or amending existing reciprocal rights-of-way agreements. Condemnation for access will be pursued when necessary.

Acquire perpetual exclusive easements whenever possible to provide for public access and BLM control. Acquire nonexclusive easements, which do not provide for public access, consistent with management objectives and where no public access is needed. Acquire temporary easements only when other options are not available.

Continue to obtain access across lands of private companies or individuals who are a party (permittee) to existing reciprocal rights-of-way agreements through appropriate agreements. Whenever a willing permittee is identified and it is determined there is a need for public access, negotiations could be started to provide for the acquisition of public access rights.

Emphasize acquisition for public access on major travel routes.

Withdrawals

Objectives

Protect lands with important resource values and/or significant levels of investment by withdrawing them from the operation of public land and mineral laws. Withdrawal is necessary to avoid irreparable damage that may be caused by nondiscretionary activities.

Land Use Allocations

Recommendations for revocation or continuation of existing withdrawals are shown in Table 13.

Management Actions/Direction

Complete the review of existing withdrawals to determine whether continuation of the withdrawal is consistent with the statutory objectives of the programs for which the lands were dedicated and with other important programs.

Terminate unnecessary or duplicative withdrawals and continue those that still meet the intent of the withdrawal.

Implement the BLM-proposed withdrawals listed under land use allocations. This will involve recommendations to and approval by the Secretary of

the Interior.

Evaluate future withdrawal proposals for compliance with program objectives and Federal law and recommend appropriate action to the Secretary of the Interior.

Limit withdrawals to the minimum area needed and restrict only those activities that would be detrimental to the purposes of the withdrawal.

Pursue mineral withdrawals in all resource natural areas.

Also see Management of Newly Acquired Lands located near the end of this chapter.

Roads

Objectives

Develop and maintain a transportation system that serves the needs of users in an environmentally sound manner. Arterial and major collector roads will form the backbone of the transportation system in the planning area.

Correct problems associated with high road density by emphasizing the reduction of minor collector and local road densities where those problems exist.

Manage roads to meet the needs identified under other resource programs (e.g., seasonal road closures for wildlife). Road management is mentioned or implied primarily under Aquatic Conservation Strategy and riparian reserve, late-successional reserves, Water and Soil, Wildlife, Fish Habitat, Special Status and SEIS Special Attention Species Habitat, Timber Resources and Recreation.

Land Use Allocations

There are approximately 24,000 acres (4,455 miles) of roads on BLM-administered land in the district.

Management Actions/Direction

Management Actions/Direction - Riparian Reserves

Cooperate with Federal, State, and county agencies and work with parties with road use agreements to achieve consistency in road design, operation, and maintenance necessary to attain Aquatic Conservation Strategy and riparian reserve objectives.

For each existing or planned road, meet Aquatic

Conservation Strategy and riparian reserve objectives by:

- completing watershed analyses, including appropriate geotechnical analyses (i.e., examining soil and rock conditions in riparian and stream crossings) prior to construction of new roads or landings in riparian reserves;
- minimizing road and landing locations in riparian reserves;
- preparing road design criteria, elements, and standards that govern construction and reconstruction;
- preparing operation and maintenance criteria that govern road operation, maintenance, and management;
- minimizing disruption of natural hydrologic flow paths, including diversion of streamflow and interception of surface and subsurface flow;
- restricting sidecasting as necessary to prevent the introduction of sediment to streams; and
- avoiding wetlands entirely when constructing new roads.

Determine the influence of each road on the Aquatic Conservation Strategy and riparian reserve objectives through watershed analysis. Meet Aquatic Conservation Strategy and riparian reserve objectives by:

- reconstructing roads and associated drainage features that pose a substantial risk;
- prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected; and
- closing and stabilizing, or obliterating and stabilizing roads based on the ongoing and potential effects to Aquatic Conservation Strategy and riparian reserve objectives and considering short-term and long-term transportation needs.

New culverts, bridges, and other stream crossings shall be constructed; and existing culverts, bridges, and other stream crossings determined to pose a substantial risk to riparian conditions will be improved to accommodate at least the 100-year flood, including associated bedload and debris. Priority for upgrading will be based on the potential impact and the

ecological value of the riparian resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.

Minimize sediment delivery to streams from roads. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe. Route road drainage away from potentially unstable channels, fills, and hill slopes.

Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams (e.g., streams that can be made available to anadromous fish by removing obstacles to passage).

Develop and implement a Road Management Plan or a Transportation Management Plan that meets the Aquatic Conservation Strategy and riparian reserve objectives. As a minimum, this plan will include provisions for the following activities:

- inspections and maintenance during storm events;
- inspections and maintenance after storm events;
- road operation and maintenance giving high priority to identifying and correcting road drainage problems that contribute to degrading riparian resources;
- traffic regulation during wet periods to prevent damage to riparian resources; and
- establishing the purpose of each road by developing the road management objective.

Management Actions/Direction - Late-Successional Reserves

Construct roads in Late-successional reserves if the potential benefits of silviculture, salvage, and other activities exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines, they will be kept to a minimum, routed through unsuitable habitat where possible, and designed to minimize adverse impacts. Alternate access, such as aerial logging, should be considered to provide access for activities in reserves.

Remove trees along rights-of-way if they are a hazard to public safety. Consider leaving material on site if existing coarse woody debris is inadequate. Consider topping of trees as an alternative to felling.

Table 13. Existing Land Classifications and Withdrawals

Authority¹	Acreage	Purpose	Effect²	Segregative Recommendation Maintain/Revoke
PLO 5105	2,483.48	Lost Ck. Reservoir	B	Revoke 716.88 ac.
PLO 6373	840.59	Elk Creek Reservoir	B	Maintain all
PLO 4132	200.00	Sprague Seed Orchard	B	Maintain all
PLO 5481	160.00	Sprague Seed Orchard	B	Maintain all
PLO 1726	15,481.14	Recreation area	B ³	Revoke 519.80 ac.
PLO 3165	174.21	Recreation area	B	To be determined
PLO 3869	444.35	Recreation site	B	Revoke 90 ac.
WPD 3 ⁴	5,631.54	Water power	C	Revoke all
WPD 10	12,228.88	Water power	C	Under review
WPD 13	127.27	Water power	C	Revoke all
WPD 18	872.35	Water power	C	Under review
PSR 161	157.49	Power site	C	Under review
PSR 167	495.38	Power site	C	Under review
PSR 258	1,573.16	Power site	C	Revoke 400 ac.
PSR 528	2.17	Power site	C	Under review
PSR 579	313.95	Power site	C	Revoke all
PSR 582	3,632.57	Power site	C	Revoke all
PSR 583	1,799.03	Power site	C	Revoke all
PSR 584	160.00	Power site	C	Revoke all
PSR 619	3,360.34	Power site	C	Under review
PSR 621	5,379.40	Power site	C	Under review
PSR 625	80.00	Power site	C	Revoke all
PSR 635	40.00	Power site	C	Under review
PSR 653	127.00	Power site	C	Revoke all
PSR 686	158.72	Power site	C	Revoke all
PSC 2	6.42	Power site	C	Under review
PSC 143	22,948.95	Power site	C	Under review
PSC 158	71.80	Power site	C	Under review
PSC 196	5.94	Power site	C	Revoke all
PSC 218	1,482.21	Power site	C	Revoke all
PSC 330	1,151.73	Power site	C	Under review
PSC 340	5,207.45	Power site	C	Under review
PLO 3530	210.36	Brewer Spruce RNA	B	Maintain all
Bureau Order of 1/24/1956	875.93	Rogue River Basin project	B	Under review
PLO 4289	1,132.39	Rogue River Basin project	C	Maintain all
PLO 4037	162.50	Rogue River Basin project	B	Maintain all
Secretarial Order of 1/28/1905 ⁵	22,138.52	Klamath project	B	Maintain 48.67 ac. ⁵ Revoke 1799.29
Secretarial Order of 2/20/1943	84.64	Medford/SV project	B	Revoke all
Bureau Order of 8/18/1950	80.00	Air navigation site	B	Maintain all
PLO 1189	395.50	Recreation site	B	Revoke all
R&PP OR 139	3.90	Sanitary lagoon	B	Maintain all
R&PP OR 651	200.00	Sanitary landfill	B	Maintain all
R&PP ORE 13905	4.20	River access	B	Maintain all
R&PP ORE 010635	80.00	River park	B	Maintain all

Table 13. Existing Land Classifications and Withdrawals

Authority ¹	Acreage	Purpose	Effect ²	Segregative Recommendation Maintain/Revoke
R&PP ORE 012309	82.69	Josephine Co. Park	B	Maintain all
R&PP ORE 013232	400.00	Cathedral Hills Park	B	Maintain all
R&PP ORE 013626	6.63	Pinehurst Elem. School	B	Maintain all
R&PP ORE 015451	12.12	Jackson Co. Park	B	Maintain all
R&PP ORE 018320	41.48	Recreation area	B	Maintain all
R&PP ORE 010368	48.56	Josephine Co. Park	B	Maintain all
R&PP ORE 012765	46.76	R&PP classification	B	Revoke
R&PP ORE 016993	35.00	Recreation area	B	Maintain all

¹PLO: Public land order
²PSR: Power site reserve
³PSC: Power site classification
⁴R&PP: Recreation and public purpose
⁵WPD: Water power designation

²A: Withdrawn from operation of the general land laws, the mining law, and the Mineral Leasing Act.
²B: Withdrawn from operations of the General Land and Mining Laws.
²C: Withdrawn from operation of the General Land Law.

³2,322.75 acres opened to mineral entry.
⁴Acreage for WPD, PSR, PSC, and Klamath project may include lands managed by other BLM districts.
⁵Recommendation on 20,290.56 acres are still under review.

Management Actions/Direction - Key Watersheds

Reduce existing road mileage within key watersheds. If funding is insufficient to implement reductions, neither construct nor authorize through discretionary permits a net increase in road mileage in key watersheds.

Management Actions/Direction - All Land Use Allocations

Prepare a districtwide road management plan. The management plan will specifically address recreation use, road densities, road closures, wildlife protection, water quality, Port-Orford cedar management, timber management, construction and maintenance standards, fire suppression access, and coordination with adjacent landowners. Address road management planning on a watershed basis consistent with late-successional reserves, riparian reserves, and other major allocations. Specific road closures would be determined using standard analysis, public involvement, and notification procedures.

Determine standards for new road construction during the project planning process. Standards will be the minimum necessary to meet resource and allocation objectives (e.g., recreation site, timber sale, key

watershed, etc.) while having minimal impacts on the environment.

Minimize new road construction in areas with fragile soils (granitic, schist, and pyroclastic soils) to reduce impacts to soils, water quality, and fisheries. Stabilize existing roads where they contribute to significant adverse effects on these resources.

Locate, design, construct, and maintain roads to standards that meet management objectives in accordance with the district road management plan.

Follow best management practices (see Appendix D) for water quality and soil productivity to mitigate adverse effects on soils, water quality, fish, and riparian habitat during road construction and maintenance.

Reduce road density by closing minor collector and local roads in areas or watersheds where water quality degradation, big game harassment, or other road related resource problems have been identified.

Acquire water rights for road management purposes.

Specifically address, either in the road management plan or in a watershed analysis, stabilizing existing

roads located on fragile granitic, schist, and pyroclastic soils (e.g., West Evans Creek and the Upper Lake Creek drainages), watersheds with water quality limited streams, and other areas of the district where soil/water quality problems are known to exist.

Avoid road construction in special areas and special habitats.

Manage and design road systems to reduce public health and safety hazards, fire risks, and vandalism to public and private property. Of particular concern is unauthorized public use of nonthrough or "local" roads within rural interface areas and within one-quarter mile of existing dwellings. Gates and other types of traffic barriers such as guardrails, berms, ditches, and log barricades will be used as appropriate.

Reduce the further spread of blackstain fungus through proper timing of roadside brushing.

Determine necessity of road systems to meet initial wildfire suppression objectives prior to any prepared closure or modification.

Rural Interface Areas

Objectives

Consider the interests of adjacent and nearby rural residential land owners during analysis, planning and monitoring activities occurring within managed rural interface areas (RIAs). These interests include personal health and safety, improvements to property, and quality of life. Determine how land owners might be or are affected by activities on BLM-administered lands.

Land Use Allocations

Managed rural interface areas encompass approximately 136,000 acres of BLM-administered land within one-quarter mile of private lands zoned for 1-5 acre or 5-20 acre lots located throughout the Medford District (see Map 13 for locations).

Management Actions/Direction

Work with local governments to improve management of activities within RIA.

As a part of watershed analysis and project planning, work with local individuals and groups including fire protection districts to identify and address concerns related to possible impacts of proposed management activities on rural interface areas.

Use design features and mitigation measures to avoid/minimize impacts to health, life and property, and quality of life. Examples include different harvest regimes, hand application rather than aerial application of herbicides and pesticides, and hand piling slash for burning as opposed to broadcast burning. Monitor the effectiveness of design features and mitigation measures.

Eliminate or mitigate public hazards such as abandoned mine tunnels and quarries.

Manage rural interface areas using visual resource management Class III standards (unless an area is otherwise classified as visual resource management Class I or II).

Manage and design road systems to reduce public health and safety hazards, fire risks, and vandalism to public and private property. Of particular concern is unauthorized public use of nonthrough or "local" roads within rural interface areas and within one-quarter mile of existing dwellings. Gates and other types of traffic barriers such as guardrails, berms, ditches, and log barricades will be used as appropriate.

Use dust abatement measures on roads during BLM timber harvest operations or other BLM commodity hauling. Encourage and enforce the use of dust abatement measures when haulers use BLM roads under permits and rights-of-way agreements.

Reduce natural fuel hazards on BLM-administered lands in rural interface areas.

Protect resources on BLM-administered land from potential wildfires originating on adjacent private land by using prescribed fire to reduce fuel hazards. The use of low intensity underburning is the preferred technique.

Fire Management

Objectives

Provide appropriate wildfire suppression responses that will help meet resource management objectives.

Use prescribed fire to meet resource management objectives. This will include but not be limited to fuels management for wildfire hazard reduction, restoration of desired vegetation conditions, management of habitat, and silvicultural treatments.

Adhere to smoke management and air quality standards of the Clean Air Act and State Implementation Plan for prescribed burning.

Land Use Allocations

None.

Management Actions/Direction

Management Actions/Direction - General

Apply the management actions/direction in the Special Status and SEIS Special Attention Species section.

Address fire/fuels management for all land use allocations as part of watershed analysis. This will include determinations of the role of fire and the risk of large-scale, high intensity wildfires at the landscape level.

Coordinate fire management activities in rural interface areas with local governments, agencies, and landowners. During watershed analysis, identify additional factors that may effect hazard reduction goals. Minimize the impacts of wildfire suppression actions.

Management Actions/Direction - Riparian Reserves

Determine the probable risk of large-scale, high intensity wildfires, which would prevent or delay the attainment of Aquatic Conservation Strategy and riparian reserve objectives through the period established for retention. Describe the need to use prescribed fire to reduce fuel hazards and the risk of large-scale, high intensity wildfires.

Design fuel treatment and fire suppression strategies, practices, and activities to meet Aquatic Conservation Strategy and riparian reserve objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies will recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management activities could be damaging to long-term ecosystem function.

Locate incident bases, camps, helibases, staging areas, helispots and other centers for incident activities outside of riparian reserves. If the only suitable location for such activities is within the riparian reserve, an exemption may be granted following a review and recommendation by a resource advisor. The Area Manager, through the resource advisor, will prescribe the location, use conditions, and rehabilitation requirements. Normally these activities will be included with the Wildfire Situation Analysis.

Minimize delivery of chemical retardant, foam, or other additives to surface waters. An exception may be warranted in situations when immediate safety imperatives exist, or, following a review and recommendation by a resource advisor, increases in fire size would cause substantial long-term, unacceptable resource damage.

Establish an emergency team to develop a rehabilitation treatment plan to attain Aquatic Conservation Strategy and riparian reserve objectives whenever the reserves are significantly damaged by a wildfire or a prescribed fire burning outside of prescribed parameters.

Consider allowing some natural fires to burn when they are identified as being consistent with Aquatic Conservation Strategy and riparian reserve objectives, and upon completion and approval of a fire management plan. Until watershed analysis is completed suppress wildfires to avoid loss of habitat and to maintain future management options.

Mop-up plans for both prescribed and wildfires should consider rapidly extinguishing smoldering coarse woody debris and duff.

Locate and manage water drafting sites (sites where water is pumped to suppress fires) to minimize adverse effects on riparian habitat and water quality consistent with Aquatic Conservation Strategy and riparian reserve objectives.

Management Actions/Direction - Late-Successional Reserves

Determine the probable risk of large-scale, high intensity wildfires, which would prevent or delay the attainment of resource management objectives through the period established for retention. Describe the need to use prescribed fire to reduce fuel hazards and the risk of large-scale, high intensity wildfires.

Emphasize maintaining late-successional habitat in wildfire suppression plans.

Manage fuels in accordance with guidelines for reducing risks of large-scale disturbances. Use risk assessment as a tool to allow for interdisciplinary decision making such seeks to prioritize fuel treatment need based on potential loss of critical habitat.

During fire suppression activities, ensure that unacceptable habitat damage from suppression activities is minimized.

Until a fire management plan is completed for a reserve or group of reserves, suppress wildfire

to avoid loss of habitat and to maintain future management options. Under an approved fire management plan, allow some natural fires to burn when they are identified as being consistent with resource management objectives.

Prepare a fire management plan as a component of the late-successional reserve assessment, prior to any habitat manipulation activities. Specify fire suppression, fuels management and prescribed fire use to meet resource objectives.

Apply prescribed fire based on the role of fire within each landscape in a manner consistent with ecosystem management objectives, including fuel hazard reduction and retention of coarse woody debris.

Consider allowing some natural fires to burn under prescribed conditions. This decision will be based on additional analysis and planning.

During wildfire suppression operations, consider rapidly extinguishing smoldering coarse woody debris, snags, and duff in areas that are deficient of crucial stand components.

Table 14. Management of Identified Rural Interface Areas (Acres)

Rural Interface Area	BLM Acres
Bear Creek	3,400
Big Butte Creek	4,000
Camp Creek	42
Cottonwood Creek	1,700
Cow Creek-Galesville	-
Cow Creek-Glendale	900
Deer Creek	4,200
Elk Creek	1,900
Evans Creek	8,300
Grave Creek	6,500
Jenny Creek	5,200
Jumpoff-Joe Creek	8,900
Little Applegate	5,500
Little Butte Creek	8,300
Lost Creek	2,600
Lower Applegate	8,200
Middle Applegate	12,700
North Fork Silver Creek	-
Rogue-Gold Hill	15,800
Rogue-Grants Pass	8,000
Rogue-Rec. Section	5,100
Rogue-Trail Creek	9,600
Rogue-Wild Section	-
Upper Applegate	970
Upper Illinois	11,400
West Fork Cow Creek	-
Williams Creek	3,900

Management Actions/Direction - Adaptive Management Areas

Explore and support opportunities to research the role and effects of fire management on ecosystem functions. Test the concepts of using prescribed fire to mitigate long term risk of conflagration type wildfires.

Emphasize fire/fuels management cooperation across agency and ownership boundaries.

Management Actions/Direction - Matrix

Plan and implement prescribed fire treatments designed to minimize:

- intensive burning, unless appropriate for specific habitats, communities, or stand conditions;
- consumption of litter and coarse woody debris;
- disturbance to soil and litter that may occur as a result of heavy equipment operations; and
- the frequency of treatments.

Management Actions/Direction - Wildfire Suppression

Minimize the direct negative impacts to wildfire suppression on ecosystem management objectives.

Respond to all wildfires by taking appropriate suppression responses. In most cases, responses will consist of aggressive initial attack to extinguish fires at the smallest size possible.

For wildfires that escape initial attack, perform a Wildfire Situation Analysis to develop a suppression strategy to evaluate the damage induced by suppression activities compared to expected wildfire

damage.

Rehabilitation plans should consider the use of available soil seed banks, the use of native species, and/or sterile aliens for both emergency and large scale wildfire rehabilitation work.

Management Actions/Direction - Fuels Management (including Hazard Reduction)

Using prescribed fire throughout the planning area, identify the need for prescribed fire to restore and/or maintain crucial wildlife habitat, key plant associations, plant communities, and fire dependent/ adapted species emphasizing special status plant and animal habitat need.

Modify fuel profiles in order to lower the potential of fire ignition and rate of spread; protect and support land use allocation objectives by lowering the risk of high intensity, stand-replacing wildfires; and adhere to smoke management and air quality standards.

Reduce both natural and activity based fuel hazards through methods such as prescribed burning, mechanical or manual manipulation of forest vegetation and debris, removal of forest vegetation and debris, and combinations of these methods.

Management Actions/Direction - Prescribed Fire Use for Ecosystem Maintenance and Restoration

Base the use of prescribed fire on the risk of high intensity wildfire and the associated cost and environmental impacts of using prescribed underburning to meet protection, restoration, and maintenance of crucial stands that are current susceptible to large-scale catastrophic wildfire.

Reintroduce underburning across large areas of the landscape over a period of time to create a mosaic of stand conditions. Treatments should be site-specific because some species with limited distributions are fire intolerant.

Identify opportunities to use prescribed fire to make stands more resistant to wildfire.

Revise, where appropriate, landscape objectives for coarse woody debris, down logs, green-tree retention, and snags, consistent with the natural role of fire and protection standards through the Watershed Analysis Process.

Livestock Grazing

Objectives

Provide for livestock grazing in an environmentally sensitive manner, consistent with management objectives and land use allocations.

Provide for rangeland improvement projects and management practices, consistent with management objectives and land use allocations.

Land Use Allocations

Land use allocations for livestock grazing are described in the Medford District Grazing Environmental Impact Statement and Rangeland Program Summary (see Appendix B).

Management Actions/Direction

Management Actions/Direction - Riparian Reserves

Through a planning and environmental analysis process appropriate to the action, adjust or eliminate grazing practices that prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Locate new livestock handling and/or management facilities outside riparian reserves. For existing livestock handling facilities inside riparian reserves, ensure that Aquatic Conservation Strategy and riparian reserve objectives are met. Where these objectives cannot be met, require relocation or removal of such facilities.

Limit livestock trailing, bedding, watering, loading, and other handling efforts to those areas and times that will ensure Aquatic Conservation Strategy and riparian reserve objectives are met.

Management Actions/Direction - Late-Successional Reserves

Implement range-related management activities that do not adversely effect late-successional habitat.

Through a planning and environmental analysis process appropriate to the action, adjust or eliminate grazing practices that retard or prevent attainment of late-successional reserve objectives.

Evaluate effects of existing and proposed livestock management and handling facilities in late-successional reserves to determine if riparian reserve objectives are met. Where objectives cannot be met, relocate livestock management and/or handling facilities.

Management Actions/Direction - All Land Use Allocations

Apply the management actions/direction in the Special Status and SEIS Special Attention Species section.

Evaluate, and take appropriate action, the following concerns when an operator applies to fill the grazing permit to its upper limits of grazing preference following several years of consecutive nonuse:

- Resource conflicts that could require modification of historical grazing use or practices;
- Condition of existing range improvements to accommodate grazing (i.e., fences, water facilities, seedings); and
- Consistency with objectives identified for the allotment or area.

Noxious Weeds

Objectives

Contain and/or reduce noxious weed infestations on BLM-administered land using an integrated pest management approach. Some noxious weeds expected to be subject to control are:

<u>Common Name</u>	<u>Scientific Name</u>
Rush skeleton weed	<i>Chondrilla juncea</i>
Tansy ragwort	<i>Senecio jacobaea</i>
Yellow star thistle	<i>Centaurea solstitialis</i>
Scotch broom	<i>Cytisus scoparius</i>
Puncturevine	<i>Tribulus terrestris</i>
Canada thistle	<i>Cirsium arvense</i>
Leafy spurge	<i>Euphorbia esula</i>
Diffuse knapweed	<i>Centaurea diffusa</i>
Purple loosestrife	<i>Lythrum salicaria</i>

Avoid introducing or spreading noxious weed infestations in any areas. Reduce infestations where possible.

Land Use Allocations

None

Management Actions/Direction

Management Actions/Direction - Late-Successional Reserves

Evaluate impacts of nonnative plants (weeds) growing in late-successional reserves.

Develop plans and recommendations for eliminating or controlling nonnative plants (weeds) which adversely affect late-successional reserve objectives. Include an analysis of effects of implementing such programs on other species or habitats within late-successional reserves.

Management Actions/Direction - All Land Use Allocations

Continue to survey BLM-administered land for noxious weed infestations, report infestations to the Oregon Department of Agriculture (the department), and work with the department to reduce infestations.

Use control methods that do not retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.

Apply integrated pest management methods (e.g., chemical, mechanical, manual and/or biological) in accordance with BLM's multistate environmental impact statement, Northwest Area Noxious Weed Control Program, 1986, as supplemented in 1987, and the related ROD.

Place priority on elimination or reduction of noxious weeds occurring within special areas.

Hazardous Materials

Objectives

Minimize use of hazardous materials and eliminate known hazardous waste on BLM-administered lands.

Land Use Allocations

None.

Management Actions/Direction

Identify, investigate, and arrange for removal of hazardous substances on BLM-administered land in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act. Emergency response will be as specified in the

District Hazardous Materials Contingency Plan. The response will include cleanup, proper notifications, criminal investigations, risk assessment, and other actions consistent with the Act and the nature of the emergency.

Store, treat, and dispose of hazardous materials in accordance with the Resource Conservation and Recovery Act and other appropriate regulations.

Follow guidelines in the Emergency Planning and Community Right-To-Know Act to coordinate emergency planning with State and local jurisdictions concerning hazardous materials, emergency notifications, and routine reporting of hazardous material inventories.

Remove and replace, if appropriate, all existing underground storage tanks with above ground storage facilities following State and Federal regulations.

Until hazardous materials on BLM-administered land are removed, protect employees and the public from exposure to these materials.

Provide information to the public regarding the need to properly dispose of hazardous materials and the danger of becoming exposed to hazardous materials.

Coordination and Consultation

The implementation of this RMP and the overriding SEIS ROD calls for a high level of coordination and cooperation among agencies. A formal procedure for interagency coordination has been created by a Memorandum of Understanding for Forest Ecosystem Management that has been entered into by the White House Office on Environmental Policy, the Department of the Interior, the Department of Agriculture, the Department of Commerce, and the Environmental Protection Agency. The Memorandum of Understanding created several interagency groups, including the Interagency Steering Committee, Regional Interagency Executive Committee, and Regional Ecosystem Office. A detailed description of these groups is included in Attachment A, Section E, Implementation, of the SEIS ROD.

Consultation under the Endangered Species Act will emphasize an integrated ecosystem approach. This will include involving the Fish and Wildlife Service and the National Marine Fisheries Service in all relevant implementation planning, so their views can be made known. For covered species, actions proposed to

implement this RMP will undergo consultation, either formal or informal, as appropriate. Consultation for the northern spotted owl on activities that are consistent with the standards and guidelines of the SEIS ROD and that would not result in "take" of a listed species is expected to be informal. If take would result, incidental take statements will be provided through formal consultation.

Concurrent coordination with the Environmental Protection Agency (EPA) and Oregon Department of Environmental Quality (DEQ) on water quality standards and beneficial use requirements of the Clean Water Act will minimize project impacts. Similar coordination with the EPA, DEQ and U.S. Forest Service on minimizing impacts of emissions from prescribed burning will occur.

Use of the Completed Plan

Many of the management activities described in this RMP can be accomplished through contracts and permits. Performance standards are developed and included in a contract or permit. They require the contractor or permittee to comply with applicable laws, regulations, policies and plans. Selection of performance standards is governed by the scope of the action to be undertaken and the physical characteristics of the specific site. The standards, which include design features and mitigating measures, must be followed in carrying out an action.

Site-specific planning by interdisciplinary teams (IDTs) will precede most on-the-ground management activities. Interdisciplinary teams are comprised of relevant resource management disciplines. The IDT process includes, as appropriate, field examination of resources, selection of alternative management actions, analysis of alternatives, and documentation to meet National Environmental Policy Act requirements. Adjacent land uses will be considered during site-specific land management planning.

In addition to being routinely monitored, the RMP will be formally evaluated at the end of every third year after implementation begins, until such time as preparation of new plans, which would supersede the RMP over a substantial majority of its area, is well under way. The reason for the formal evaluation is to determine whether there is significant cause for an amendment or revision of the plan. Evaluation

includes a cumulative analysis of monitoring records, with the broader purpose of determining if the plan's goals and objectives are being or are likely to be met, and whether the goals and objectives were realistic and achievable in the first place.

Evaluation will also assess whether changed circumstances (such as changes in the plans of other government agencies or American Indian tribes) or new information so altered the levels or methods of activities or the expected impacts (on water, wildlife, socioeconomic conditions, etc.), that the environmental consequences of the plan may paint a seriously different picture than those anticipated in the RMP/FEIS.

As part of these third year evaluations, the allowable sale quantity will be reevaluated, to incorporate the results of watershed analyses; monitoring; further inventory; and site-specific, watershed-specific or province-level decisions.

If an evaluation concludes that the plan's goals are not achievable, a plan amendment or revision will be initiated. If the evaluation concludes that land use allocations or management direction needs to be modified, a plan amendment or revision may be appropriate. An analysis will address the need for either. If the analysis determines that amending the plan is appropriate, the amendment process set forth in 43 CFR 1610.5-5 or 1610.5-6 would be followed. If amendment is not appropriate, NEPA procedures will still be followed before the modification is approved, along with coordination through the Regional Ecosystem Office and the Regional Interagency Executive Committee if SEIS ROD standards and guidelines or land-use allocations would be modified.

No additional evaluations of this type will be done unless some changed circumstance or unusual event causes the continuing validity of the plan to be questioned. Following completion of each plan evaluation, a summary of its findings will be included in the district's annual program summary.

In future years, after preparation of new plans that would substantially supersede the RMP is well under way, if some circumstances change or unusual events occur of a magnitude that question BLM's ability to meet some of the remaining plan objectives, interim management adjustments may be made to meet those objectives, without a plan amendment. The kind of circumstance that could lead to such an adjustment might be an announcement of research findings which clearly establish that some of the plan's goals and objectives are unlikely to be met. The kind of unusual event that could lead to such an adjustment might be

a major catastrophe such as a wildfire or windstorm causing extensive damage to forest stands. Similar interim adjustments can be made at any time during the life of the plan, pending evaluation and possible plan amendment.

Potential minor changes, refinements or clarifications in the plan may take the form of maintenance actions. Maintenance actions respond to minor data changes and incorporation of activity plans. Such maintenance is limited to further refining or documenting a previously approved decision incorporated in the plan. Plan maintenance will not result in expansion of the scope of resource uses or restrictions or change the terms, conditions and decisions of the approved RMP. Maintenance actions are not considered a plan amendment and do not require the formal public involvement and interagency coordination process undertaken for plan amendments. Important plan maintenance will be documented in the annual District Planning Progress Report or its equivalent. A plan amendment may be initiated because of the need to consider monitoring findings, new data, new or revised policy, a change in circumstances, or a proposed action that may result in the scope of resource uses or a change in the terms, conditions and decisions of the approved plan.

Adaptive Management

Adaptive management is a continuing process of action-based monitoring, researching, evaluating and adjusting with the objective of improving the implementation and achieving the goals of the RMP. This approach to evaluation and interim adjustment will frame a process of adaptive management, permitting effective response to changing knowledge. The RMP is based on current scientific knowledge. To be successful, it must have the flexibility to adapt and respond to new information. Under the concept of adaptive management, new information will be evaluated and a decision will be made whether to make adjustments or changes. The adaptive management approach will enable resource managers to determine how well management actions meet their objectives and what steps are needed to modify activities to increase success or improve results.

The adaptive management process will be implemented to maximize the benefits and efficiency of the RMP. This may result in the refinement of management direction or land-use allocations which may require amendment of the RMP. Adaptive management decisions may vary in scale

from individual watersheds, specific forest types, physiographic provinces, or the entire planning area. Many adaptive management modifications may not require formal changes to the RMP.

The model displayed in Figure 1 identifies the various steps, activities, and outline of a procedure for the adaptive management process. This diagram conveys the general concept, and is valuable as a starting point, for understanding adaptive management. A full and detailed explanation of the model, which is beyond the scope of this discussion, would require that each step be further broken down and defined.

New information that could direct an adjustment of strategy may come from monitoring, research, statutory or regulatory changes, organizational or process assessments, or any number of additional sources. During the evaluation process the information will be analyzed to determine the nature, scope, and importance of the new information.

Adaptive management could entail modification of silvicultural prescriptions to respond to increasing knowledge providing greater certainty about anticipated climate change or to respond to increasing knowledge about the habitat needs of northern spotted owls, to cite examples that could have widespread application. Adaptive management could equally entail modification of rather localized management practices to respond to the results of monitoring.

Any potential new management actions identified after RMP/ROD approval will be analyzed before BLM moves to implement them. For example, if a new ACEC proposal meets BLM criteria for consideration, the District Manager may prescribe interim management measures for the remaining life of the plan or until addressed in a plan amendment.

Watershed Analysis

Watershed analysis is one of the principle analyses that will be used to meet the ecosystem management objectives of this RMP. Watershed analyses will be a mechanism to support ecosystem management at approximately the 20 to 200 square mile watershed level. Watershed analysis, as described here, focuses on its broad role in implementing the ecosystem management objectives prescribed by these standards and guidelines. The use of watershed analysis, as described in the Aquatic Conservation Strategy (see Appendix A), is a more narrow focus and is just one aspect of its role. While not required by

the ROD on the SEIS or this document, it is assumed that watershed analysis will eventually be completed for the entire planning area. Watershed analysis will help guide implementation of the RMP in many important aspects.

Watershed analysis will focus on collecting and compiling information within the watershed that is essential for making sound management decisions. It will be an analytical process, not a decision-making process with a proposed action requiring NEPA documentation. It will serve as the basis for developing project-specific proposals, and determining monitoring and restoration needs for a watershed. Some analysis of issues or resources may be included in broader scale analyses because of their scope. The information from the watershed analyses will contribute to decision making at all levels. Project-specific NEPA planning will use information developed from watershed analysis. For example, if watershed analysis shows that restoring certain resources within a watershed could contribute to achieving landscape or ecosystem management objectives, then subsequent decisions will need to address that information.

The results of watershed analyses may include a description of the resource needs, issues, the range of natural variability, spatially explicit information that will facilitate environmental and cumulative effects analyses to comply with NEPA regulations, and the processes and functions operating within the watershed. Watershed analysis will identify potentially disjunct approaches and conflicting objectives within watersheds. The information from watershed analysis will be used to develop priorities for funding and implementing actions and projects, and will be used to develop monitoring strategies and objectives. The participation in watershed analysis of adjacent landowners, private citizens, interest groups, industry, government agencies, and others will be encouraged.

Watershed analysis will be an ongoing, iterative process that will help define important resource and information needs. As watershed analysis is further developed and refined, it will describe the processes and interactions for all applicable resources. It will be an information-gathering and analysis process, but will not be a comprehensive inventory process. It will build on information collected from detailed, site-specific analyses. Information gathering and analysis will be related to management needs, and not be performed for their own sake. While generally watershed analysis will be used to organize, collate, and describe existing information, there may be critical information needs that must be met before completing the analysis. In those instances, the additional information will be

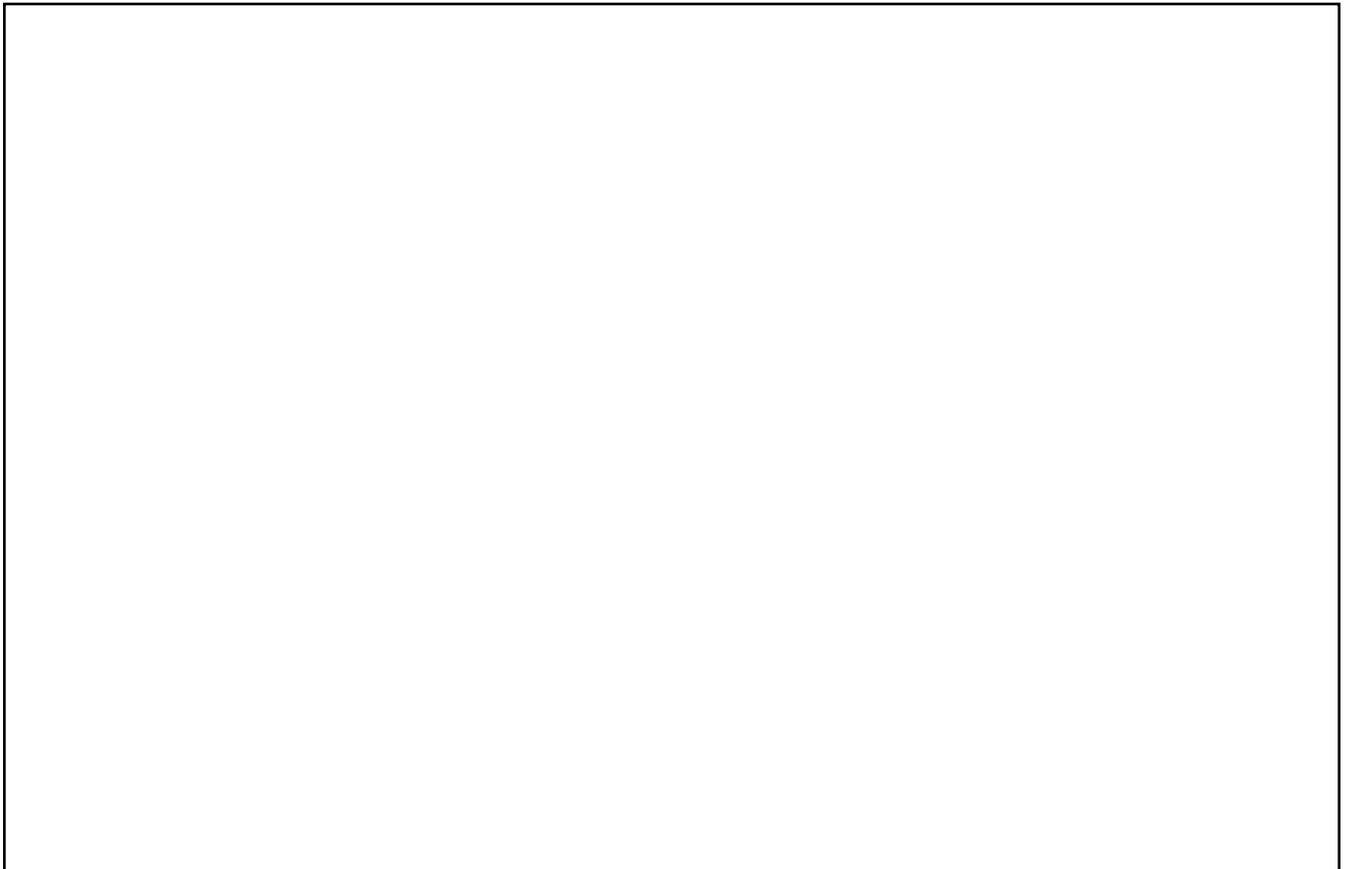
collected before completing the watershed analysis. In other instances, information needs may be identified that are not required for completing the watershed analysis but should be met for subsequent analyses, planning, or decisions.

Watershed analysis is a technically rigorous procedure with the purpose of developing and documenting a scientifically-based understanding of the ecological structures, functions, processes and interactions occurring within a watershed. The scope of the analysis for implementing the ecosystem management objectives of these standards and guidelines may include all aspects of the ecosystem. Some of these aspects include beneficial uses; vegetative patterns and distribution; flow phenomena such as vegetation corridors, streams, and riparian corridors; wind; fire (wild and prescribed fire, and fire suppression); wildlife migration routes; dispersal habitat; terrestrial vertebrate distribution; locally significant habitats; human use patterns throughout the ecosystem; cumulative effects; and hydrology. The number and detail of these aspects considered will depend on the issues pertaining to a given watershed.

In the initial years of implementation, the process

for watershed analysis is expected to evolve to meet long-term objectives. However, some projects proposed for the first few years of implementation are in areas that require watershed analysis prior to approval of the projects (i.e., key watersheds and riparian reserves). In Fiscal Years 1995-96, watershed analysis done for these projects may be less detailed than analyses that are completed in later years. Regardless, analysis done during the initial years (Fiscal Years 1995-96) will comply with the following guidance:

- The goal of the analysis is to determine whether the proposed actions are consistent with the objectives, land-use allocations and management direction of the RMP;
- Existing information will be used to the greatest extent possible, with new information collected, to the maximum practicable extent, to fill crucial data gaps;
- Analysis will address the entire watershed, even though some areas may be analyzed at a lower level of precision, and the analysis of issues may



be prioritized;

- Information from the analysis will flow into the NEPA documentation for specific projects, and will be used where practicable to facilitate Endangered Species Act and Clean Water Act compliance; and
- Restoration opportunities will be identified.

A portion of the Applegate River drainage, has been designated a regional pilot watershed analysis program, to develop and test an effective long-term process. A scientifically peer-reviewed Watershed Analysis Guide will be finalized based on experiences gained in the pilot program and other watershed analyses.

The results of watershed analysis will influence final decisions both on timing of land-disturbing activities such as timber sales and on application of design features and mitigating measures, including best management practices (BMPs) for water quality protection. Monitoring and evaluating the effectiveness of BMPs is required by Oregon's Nonpoint Source Management Plan to ensure that water quality standards are achieved and that beneficial uses are maintained. When monitoring identifies previously unanticipated impacts, the information gained from that monitoring will be used in subsequent development of mitigating measures, including BMPs, and considered in future watershed analyses.

Factored into these decisions on land-disturbing activities, where appropriate, will be an assessment of compliance with the anti-degradation policy of Oregon's Water Quality Standards (OAR 340-41-026(1) (a). These standards apply to existing high quality waters that exceed those levels necessary to support recreation and the propagation of fish, shellfish and wildlife.

Proposed timber sales and other land-disturbing activities will incorporate the interactive (adaptive management) process for developing, implementing and evaluating nonpoint source pollution control (BMPs) to determine if water quality goals have been met. Modification of non-point-source controls, including BMPs, will be adjusted based upon sound scientific evidence. Where necessary, appropriate actions to mitigate adverse effects on water quality will be taken to protect designated beneficial uses.

Requirement for Further Environmental Analysis

Site-specific planning by Interdisciplinary Teams (IDTs) will precede most on-the-ground management activities. Interdisciplinary Teams are comprised of relevant resource management disciplines. The IDT process includes, as appropriate, field examination of resources, identification of alternative management actions, and analysis. Adjacent land uses would be considered during site-specific land management planning. Although the RMP implementing actions are described by individual resources, most activities will be consolidated and considered in interdisciplinary, multi-resource activity plans and based on watershed analyses.

Site-specific environmental analysis and documentation (including Environmental Assessments (EAs), categorical exclusions or administrative determinations where appropriate, and RMP conformance determination) will be accomplished for each action or type of treatment under consideration. Where the action is to be accomplished by a contractor or timber sale purchaser, the EA or other environmental analysis is a primary means for determining appropriate contract stipulations. Where the action is to be accomplished by BLM personnel, the environmental analysis is a primary means for determining how it will be conducted. When determining whether activities retard or prevent attainment of Aquatic Conservation Strategy objectives, the scale of analysis typically will be BLM analytical watersheds or similar units.

Watershed analysis or province analysis will often precede environmental analysis of specific proposals, and the findings of such preceding analyses will be addressed in documentation of the environmental analyses. Similarly, late-successional reserve assessments will precede activities in those reserves and their findings will be addressed in environmental analysis of those activities. Ultimately, watershed analysis will serve as the basis for developing project-specific proposals and determining monitoring and restoration needs for a watershed. Project-specific NEPA planning will use information developed from watershed analysis. By improving understanding of the ecological structures, functions, processes and interactions occurring within a watershed, watershed analysis will enhance the ability to predict direct, indirect and cumulative impacts of specific proposals in that watershed.

Analyses of proposals for the use of prescribed fire will adhere to the requirements of the Clean Air Act and the State Implementation Plan (including the Visibility Protection Plan and Smoke Management Plan).

Interdisciplinary impact analysis will be tiered within the framework of applicable environmental analyses. Tiering is used to prepare more specific documents without duplicating relevant parts of previously prepared general documents. The more specific EA or EIS cannot lead directly to a change in the decisions based on the more general EIS to which it is tiered. It could, however, result in some interim management direction pending plan revision, or a proposal to amend the plan. If an EA indicates potential for significant impacts that are seriously different from those described in an existing EIS, a new EIS (or supplement to an existing EIS) may be required.

Specific proposals for treatment to manage competing vegetation and for control of noxious weeds will be addressed in site-specific environmental assessments.

Availability of EAs for public review will be announced in a minimum of one, and generally all, of the following ways:

- News release distributed to the newsroom of area newspapers, TV, and radio stations;
- Notices posted in the public area at the District Office;
- Mailings to known interested/affected people, groups, Tribal units, governmental agencies and businesses. These mailings may include, but are not limited to, District Program Periodic District Planning and Project Update progress reports; and
- Legal notices in one or more newspapers circulated in the project area.

Management of Newly Acquired Lands

Lands may come under BLM administration after completion of the RMP/ROD through exchange, donation, purchase, revocation of withdrawals of other Federal agencies, or relinquishment of Recreation and Public Purpose Act leases. Newly acquired or administered lands or interests in lands will be managed for their highest potential or for the purposes for which they are acquired. For example, lands acquired within “special management areas” with congressional or RMP allocation/direction will be managed in conformance with guidelines for those areas. If lands with unique or fragile resource values are acquired, it may be appropriate to protect those values until the next plan revision.

Lands acquired with no identified special values or management goals will be managed in the same manner as surrounding or comparable BLM-administered land. This implies timber harvest opportunities, intensive timber management practices, management of the mineral estate, standard operating procedures and precommitted mitigation measures.

The Budget Link

The initial annual cost of implementing the RMP is reflected in the Presidents’ Fiscal Year 1995 budget, approximately \$24,100,000 for the Medford District. However, there is not yet a clear understanding of what the management needs and costs of the ecosystem management approach will be, so future year budget estimates may differ as experience is gained in implementing the RMP. Timber sale levels and associated programs will be reduced if annual funding is not sufficient to support the relevant actions assumed in the plan, including mitigation and monitoring. The extent of the reduction will be based on the principle of program balance as envisioned in the plan. For example, if funding in a given year is sufficient only to support half of the planned annual investments in pre-commercial thinning on lands allocated to timber production, the otherwise anticipated timber sale volume for that year would be reduced by half of the portion of the declared probable sale quantity (PSQ) attributable to pre-commercial thinning. If, in subsequent years, budget levels permit BLM to eliminate the backlog of unfunded investments that have accumulated, timber sale levels will be adjusted upward to the extent that the work can be accomplished. If subsequent budget levels create a cumulative shortfall over a few years, the PSQ will be adjusted downward.

This principle will apply similarly to management of roads and other facilities. If maintenance of such facilities is not adequately funded, some of them may be closed to scale back management commitments to the level that is budgeted.

Monitoring and Evaluation of the Approved RMP

The BLM planning regulations (43 CFR 1610.4-9) call for the monitoring and evaluation of resource management plans at appropriate intervals.

Monitoring is an essential component of natural resource management because it provides information on the relative success of management strategies. The implementation of the RMP will be monitored to ensure that management actions, follow prescribed management direction (implementation monitoring), meet desired objectives (effectiveness monitoring), and are based on accurate assumptions (validation monitoring) (see Appendix L). Some effectiveness and most validation monitoring will be accomplished by formal research.

Monitoring will be an integral component of many new management approaches such as adaptive management and ecosystem management.

Adaptive management is based on monitoring that is sufficiently sensitive to detect relevant ecological changes. In addition, the success of adaptive management depends on the accuracy and credibility of information obtained through inventories and monitoring. Close coordination and interaction between monitoring and research are essential for the adaptive management process to succeed. Data obtained through systematic and statistically valid monitoring can be used by scientists to develop research hypotheses related to priority issues. Conversely, the results obtained through research can be used to further refine the protocols and strategies used to monitor and evaluate the effectiveness of RMP implementation.

Monitoring results will provide managers with the information to determine whether an objective has been met, and whether to continue or modify the management direction. Findings obtained through monitoring, together with research and other new information, will provide a basis for adaptive management changes to the plan. The processes of monitoring and adaptive management share the goal of improving effectiveness and permitting dynamic response to increased knowledge and a changing landscape. The monitoring program itself will not remain static. The monitoring plan will be periodically evaluated to ascertain that the monitoring questions and standards are still relevant, and will be adjusted as appropriate. Some monitoring items may be discontinued and others may be added as knowledge and issues change with implementation. Priorities will be given for monitoring mandated by legislation.

Watershed analysis is one of the principal analyses that will be used to meet the ecosystem management objectives. Information from watershed analysis will also be used in developing monitoring strategies and objectives. Specific to monitoring, the results

and findings from watershed analysis are used to reveal the most useful indicators for monitoring environmental change, detect magnitude and duration of changes in conditions, formulate and test hypotheses about the causes of the changes, understand these causes and predict impacts, and manage the ecosystem for desired outcomes. Watershed analysis will provide information about patterns and processes within a watershed and provide information for monitoring at that scale.

The monitoring process will collect information in the most cost-effective manner possible, and may involve sampling or remote sensing. Monitoring could be so costly as to be prohibitive if it is not carefully and reasonably designed. Therefore, it will not be necessary or desirable to monitor every management action or direction. Unnecessary detail and unacceptable costs will be avoided by focusing on key monitoring questions and proper sampling methods. The level and intensity of monitoring will vary, depending on the sensitivity of the resource or area and the scope of the proposed management activity.

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

Monitoring will be coordinated with other appropriate agencies and organizations in order to enhance the efficiency and usefulness of the results across a variety of administrative units and provinces. The approach will build on past and present monitoring work. In addition, specific monitoring protocols, criteria, goals, and reporting formats will be developed, subject to review and guidance of the Regional Ecosystem Office. This guidance will be used to augment and revise the monitoring plan and facilitate the process of aggregating and analyzing information on provincial or regional levels.

Monitoring results will be reported in an "Annual Program Summary," which will be published starting the second year following initial implementation of this RMP. The Annual Program Summary will track and assess the progress of plan implementation, state the findings made through monitoring, specifically address the Implementation Monitoring Questions

posed in each section of this Monitoring Plan and serve as a report to the public.

Each resource area will be responsible for the collection, compilation, and analysis of much of the data gained through monitoring activities. Resource areas will report their findings and recommendations to the district for consolidation and publication in the Annual Program Summary.

The monitoring plan for the resource management plan is tiered to the monitoring and evaluation plan for the SEIS ROD. The SEIS monitoring and evaluation plan is not yet fully refined. Therefore, the resource management plan monitoring plan is not complete. As components of the regional (SEIS) monitoring and evaluation plan are completed or refined, the resource management plan, monitoring plan will be conformed to the regional plan. BLM has been, and will continue to be, a full participant in the development of the SEIS monitoring and evaluation plan. Ongoing BLM effectiveness and validation monitoring will continue where it is relevant to resource management plan direction (e.g. stocking surveys, threatened and endangered species studies and water quality measurements.)

The SEIS and RMP monitoring plans will not identify all the monitoring the Medford District will do. Activity and project plans may identify monitoring needs of their own.

Research

A research plan will be developed by the Research and Monitoring Committee identified in the SEIS ROD.

Ongoing research in riparian reserves will be analyzed to ensure that significant risk to the watershed does not exist. If significant risk is present and cannot be mitigated, study sites will be relocated. Some activities not otherwise consistent with the objectives may be appropriate, particularly if the activities will test critical assumptions of the President's Forest Plan; will produce results important for establishing or accelerating vegetation and structural characteristics for maintaining or restoring aquatic and riparian ecosystems; or the activities represent continuation of long-term research. These activities will be considered only if there are no equivalent opportunities outside of riparian reserves and key watersheds.

Glossary

Activity Plan - A document which describes management objectives, actions, and projects to implement decisions of the RMP or other planning documents. Usually prepared for one or more resources in a specific area.

Adaptive Management Areas - Landscape units designated for development and testing of technical and social approaches to achieving desired ecological, economic, and other social objectives.

Age Class - One of the intervals into which the age range of trees is divided for classification or use.

Airshed - A geographical area which shares the same air mass due to topography, meteorology, and climate.

Allowable Sale Quantity (ASQ) - The gross amount of timber volume, including salvage, that may be sold annually from a specified area over a stated period of time in accordance with the management plan. Formerly referred to as "allowable cut."

Anadromous Fish - Fish that are born and reared in freshwater, move to the ocean to grow and mature, and return to freshwater to reproduce. Salmon, steelhead, and shad are examples.

Analysis of the Management Situation (AMS) - A document that summarizes important information about existing resource conditions, uses and demands, as well as existing management activities. It provides the baseline for subsequent steps in the planning process, such as the design of alternatives and affected environment.

Analytical Watershed - For planning purposes, a drainage basin subdivision of the planning area used for analyzing cumulative impacts on resources.

Animal Damage - Injuries inflicted upon forest tree seed, seedlings, and young trees through seed foraging, browsing, cutting, rubbing, or trampling; usually by mammals and birds.

Animal Unit Month (AUM) - The amount of forage necessary for the sustenance of one cow or its equivalent for one month.

Aquatic Ecosystem - Any body of water, such as a stream, lake, or estuary, and all organisms and nonliving components within it, functioning as a natural system.

Aquatic Habitat - Habitat that occurs in free water.

Archaeological Site - A geographic locale that contains the material remains of prehistoric and/or historic human activity.

Area of Critical Environmental Concern (ACEC) - An area of BLM-administered lands where special management attention is needed to protect and prevent irreparable damage to important historic, cultural or scenic values, fish and wildlife resources or other natural systems or processes; or to protect life and provide safety from natural hazards. (Also see Potential Area of Critical Environmental Concern.)

Area of Critical Mineral Potential - An area nominated by the public as having mineral resources or potential important to the local, regional, or national economy.

Area Regulation - A method of scheduling timber harvest based on dividing the total acres by an assumed rotation.

Automated Resource Data (ARD) - Computerized map data used for the management of resources.

Available Forest Land - That portion of the forested acres for which timber production is planned and included within the acres contributing to the allowable sale quantity (ASQ). This includes both lands allocated primarily to timber production and lands on which timber production is a secondary objective.

Back Country Byway - A road segment designated as part of the National Scenic Byway System.

Basin Programs - Sets of state administrative rules that establish types and amounts of water uses allowed in the state's major river basins and form the basis for issuing water rights.

Beneficial Use - The reasonable use of water for a purpose consistent with the laws and best interest of the peoples of the state. Such uses include, but are not limited to, the following: instream, out of stream and groundwater uses, domestic, municipal, industrial water supply, mining, irrigation, livestock watering, fish and aquatic life, wildlife, fishing, water contact recreation, aesthetics and scenic attraction, hydropower, and commercial navigation.

Best Management Practices (BMP) - Methods, measures, or practices designed to prevent or reduce water pollution. Not limited to structural and nonstructural controls, and procedures

for operations and maintenance. Usually, Best Management Practices are applied as a system of practices rather than a single practice.

Best Practicable Technology - Current water pollution treatment technology established for water quality limited streams within the constraints imposed by economic factors.

Biological Corridor - A habitat band linking areas reserved from substantial disturbance.

Biological Diversity - The variety of life and its processes.

Biological Legacies - Large trees, down logs, snags, and other components of the forest stand left after harvesting for the purpose of maintaining site productivity and providing structures and ecological functions in subsequent stands.

Board Foot (BF) - A unit of solid wood, one foot square and one inch thick.

Broadcast Burning - Allowing a prescribed fire to burn over a designated area within well defined boundaries for reduction of fuel hazard or as a silvicultural treatment, or both.

Bureau Assessment Species - Plant and animal species on List 2 of the Oregon Natural Heritage Data Base, or those species on the Oregon List of Sensitive Wildlife Species (OAR 635-100-040), which are identified in BLM Instruction Memo No. OR-91-57, and are not included as federal candidate, state listed or Bureau sensitive species.

Bureau Sensitive Species - Plant or animal species eligible for federal listed, federal candidate, state listed, or state candidate (plant) status, or on List 1 in the Oregon Natural Heritage Data Base, or approved for this category by the State Director.

Candidate Species - Those plants and animals included in Federal Register "Notices of Review" that are being considered by the Fish and Wildlife Service (FWS) for listing as threatened or endangered. There are two categories that are of primary concern to BLM. These are:

Category 1. Taxa for which the Fish and Wildlife Service has substantial information on hand to support proposing the species for listing as threatened or endangered. Listing proposals are either being prepared or have been delayed by higher priority listing work.

Category 2. Taxa for which the Fish and Wildlife Service has information to indicate that listing is possibly appropriate. Additional information is being collected.

Canopy - The more or less continuous cover of branches and foliage formed collectively by adjacent trees and other woody species in a forest stand. Where significant height differences occur between trees within a stand, formation of a multiple canopy (multi-layered) condition can result.

Casual Use - Activities ordinarily resulting in negligible disturbance of federal lands and resources.

Cavity Excavator - A wildlife species that digs or chips out cavities in wood to provide a nesting, roosting, or foraging site.

Cavity Nester - Wildlife species, most frequently birds, that require cavities (holes) in trees for nesting and reproduction.

Characteristic Landscape - The established landscape within an area being viewed. This does not necessarily mean a naturalistic character. It could refer to an agricultural setting, an urban landscape, a primarily natural environment, or a combination of these types.

Class I (air quality) Areas - Special areas (i.e., national parks, certain wilderness areas) protected for their air quality related values.

Clearcut Harvest - A timber harvest method in which all trees are removed in a single entry from a designated area, with the exception of wildlife trees or snags, to create an even-aged stand.

Climax Plant Community - The theoretical, final stable, self-sustaining, and self reproducing state of plant community development that culminates plant succession on any given site. Given a long period of time between disturbances, plant associations on similar sites under similar climatic conditions approach the same species mixture and structure. Under natural conditions, disturbance events of various intensities and frequencies result in succession usually ending as sub-climax with the theoretical end point occurring rarely if at all.

Closed Discretionary - Areas closed to mineral exploration and development by authority of law or regulation, but where such lands can be opened by action of BLM without legislation, regulation change, Secretarial decision of Executive Order.

Closed Nondiscretionary - Areas specifically closed to mineral exploration and development by authority of law, regulation, Secretarial decision (including Public Land Orders), or Executive Order.

Coarse Woody Debris - Portion of tree that has fallen or been cut and left in the woods. Usually refers to pieces at least 20 inches in diameter. FEMAT

Commercial Forest Land - Land declared suitable for producing timber crops and not withdrawn from timber production for other reasons.

Commercial Thinning - The removal of merchantable trees from an even-aged stand to encourage growth of the remaining trees.

Commercial Tree Species - Conifer species used to calculate the commercial forest land ASQ. They are typically utilized as saw timber and include species such as Douglas-fir, hemlock, spruce, fir, pine and cedar. (Also see Noncommercial Tree Species).

Commodity Resources - Goods or products of economic use or value.

Community Stability - The capacity of a community (incorporated town or county) to absorb and cope with change without major hardship to institutions or groups within the community.

Community Water System - See Public Water System.

Congressionally Reserved Areas - Areas that require Congressional enactment for their establishment, such as national parks, wilderness and wild and scenic rivers.

Connectivity - A measure of the extent to which conditions between late-successional/old-growth forest areas provide habitat for breeding, feeding, dispersal, and movement of late-successional/old-growth-associated wildlife and fish species.

Coos Bay Wagon Road (CBWR) Lands - Public lands granted to the Southern Oregon Company and subsequently reconveyed to the United States.

Core Area - That area of habitat essential in the breeding, nesting and rearing of young, up to the point of dispersal of the young.

Cover - Vegetation used by wildlife for protection from predators, or to mitigate weather conditions, or to reproduce. May also refer to the protection of the soil and the shading provided to herbs and forbs by vegetation.

Critical Habitat - Under the Endangered Species Act, (1) the specific areas within the geographic area occupied by a federally listed species on which are found physical and biological features essential to the conservation of the species, and that may require special management considerations or protection; and (2) specific areas outside the geographic area occupied by a listed species when it is determined that such areas are essential for the conservation of the species.

Crucial Habitat - Habitat which is basic to maintaining viable populations of fish or wildlife during certain seasons of the year or specific reproduction periods.

Cubic Foot - A unit of solid wood, one foot square and one foot thick.

Cull - A tree or log which does not meet merchantable specifications.

Culmination of Mean Annual Increment (CMAI) - The peak of average yearly growth in volume of a forest stand (total volume divided by age of stand).

Cultural Resource - Any definite location of past human activity identifiable through field survey, historical documentation, or oral evidence; includes archaeological or architectural sites, structures, or places, and places of traditional cultural or religious importance to specified groups whether or not represented by physical remains.

Cultural Site - Any location that includes prehistoric and/or historic evidence of human use or that has important sociocultural value.

Cumulative Effect - The impact which results from identified actions when they are added to other past, present, and reasonably foreseeable future actions regardless of who undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Debris Torrent - Rapid movement of a large quantity of materials (wood and sediment) down a stream channel during storms or floods. This generally occurs in smaller streams and results in scouring of streambed.

Density Management - Cutting of trees for the primary purpose of widening their spacing so that growth of remaining trees can be accelerated. Density management harvest can also be used to improve forest health, to open the forest canopy, or to

accelerate the attainment of old growth characteristics if maintenance or restoration of biological diversity is the objective.

Designated Area - An area identified in the Oregon Smoke Management Plan as a principal population center requiring protection under state air quality laws or regulations.

Developed Recreation Site - A site developed with permanent facilities designed to accommodate recreation use.

Diameter At Breast Height (dbh) - The diameter of a tree 4.5 feet above the ground on the uphill side of the tree.

District Defined Reserves - Areas designated for the protection of specific resources, flora and fauna, and other values. These areas are not included in other land use allocations nor in the calculation of the Probable Sale Quantity.

Dispersed Recreation - Outdoor recreation in which visitors are diffused over relatively large areas. Where facilities or developments are provided, they are primarily for access and protection of the environment rather than comfort or convenience of the user.

Domestic Water Supply - Water used for human consumption.

Early Seral Stage - See Seral Stages.

Ecological Site - Land with specific potential natural communities and specific physical site characteristics differing from other land in its ability to produce vegetation and respond to management.

Ecological Forestry - A set of forest management concepts which seek to maintain or recreate timber stand and landscape biological diversity. Also termed "New Perspectives", "New Forestry" and "Sustainable Forestry."

Ecological Health - The condition of an ecosystem in which processes and functions are adequate to maintain diversity of biotic communities commensurate with those initially found there.

Ecosystem Diversity - The variety of species and ecological processes that occur in different physical settings.

Ecosystem Management - The management of lands and their resources to meet objectives based on their whole ecosystem function rather than on their

character in isolation. Management objectives blend long-term needs of people and environmental values in such a way that the lands will support diverse, healthy, productive and sustainable ecosystems.

Economically Feasible - Having costs and revenues with a present net value greater than zero.

Effective Old Growth Habitat - Old growth forest largely unmodified by external environmental influences (e.g., wind, temperature, and encroachment of non resident species from nearby, younger forest stands. Also referred to as interior habitat. For analysis purposes, assumed to be at least 400 feet from an edge with an adjacent stand younger than age class 70.

Eligible River - A river or river segment found, through interdisciplinary team and, in some cases, interagency review, to meet Wild and Scenic River Act criteria of being free-flowing and possessing one or more outstandingly remarkable values.

Endangered Species - Any species defined through the Endangered Species Act as being in danger of extinction throughout all or a significant portion of its range and published in the Federal Register.

Environmental Assessment (EA) - A systematic analysis of site-specific BLM activities used to determine whether such activities have a significant effect on the quality of the human environment and whether a formal environmental impact statement is required; and to aid an agency's compliance with National Environmental Protection Agency when no Environmental Impact Statement is necessary.

Environmental Impact - The positive or negative effect of any action upon a given area or resource.

Environmental Impact Statement (EIS) - A formal document to be filed with the Environmental Protection Agency that considers significant environmental impacts expected from implementation of a major federal action.

Ephemeral Stream - Streams that contain running water only sporadically, such as during and following storm events.

Established Stand - A reforestation unit of suitable trees which are past the time when considerable juvenile mortality occurs. The unit is no longer in need of measures to ensure survival but is evaluated for measures to enhance growth.

Even-Aged Management - A silvicultural system which creates forest stands that are primarily of a

single age or limited range of ages.

Extensive Recreation Management Areas (ERMA)

- All BLM-administered lands outside Special Recreation Management Areas. These areas may include developed and primitive recreation sites with minimal facilities.

Forest Canopy - The cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth.

Forest Health - The ability of forest ecosystems to remain productive, resilient, and stable over time and to withstand the effects of periodic natural or human-caused stresses such as drought, insect attack, disease, climatic changes, flood, resource management practices and resource demands.

Forest Land - Land that is now, or is capable of becoming, at least ten percent stocked with forest trees and that has not been developed for nontimber use.

Forest Operations Inventory - See Operations Inventory.

Forest Succession - The orderly process of change in a forest as one plant community or stand condition is replaced by another, evolving towards the climax type of vegetation.

Fragile Nonsuitable - A Timber Production Capability Classification indication forest land having fragile conditions, which, if harvested, would result in reduced future productivity; even if special harvest or restrictive measures are applied. These fragile conditions are related to soils, geologic structure, topography, and ground water.

Full Log Suspension - Suspension of the entire log above the ground during yarding operations.

General Forest Management Area - Forest land managed on a regeneration harvest cycle of 70-110 years. A biological legacy of six to eight green trees per acre would be retained to assure forest health. Commercial thinning would be applied where practicable and where research indicates there would be gains in timber production.

Genetic Diversity - The variety within populations of a species.

Green Tree Retention - A stand management practice in which live trees as well as snags and large down wood, are left as biological legacies within

harvest units to provide habitat components over the next management cycle.

Gross Yarding - Removal of all woody material of specified size from a logging unit to a landing.

Habitat Diversity - The number of different types of habitat within a given area.

Habitat Fragmentation - The breaking up of habitat into discrete islands through modification or conversion of habitat by management activities.

Habitat Management Plan - See Activity Plan.

Hardwood Site - A forest site occupied by hardwoods that is unsuitable for the production of conifer species.

Hazardous Materials - Anything that poses a substantive present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

Hiding Cover - Generally, any vegetation used by wildlife for security or to escape from danger; however, more specifically, any vegetation capable of providing concealment (e.g. hiding 90 percent of an animal) from human view at a distance of 200 feet or less.

Historic Site - A cultural resource resulting from activities or events dating to the historic period (generally post AD 1830 in western Oregon).

Home Range - The area which an animal traverses in the scope of normal activities; not to be confused with territory which is the area an animal defends.

Hyporheic Zone - The area under stream channel and floodplain that contributes to the stream.

Impact - A spatial or temporal change in the environment caused by human activity.

Improved Seed - Seed originated from a seed orchard or selected tree(s) whose genetic superiority in one or more characters important to forestry has been proven by tests conducted in specific environments.

Instant Study Area - A natural area formally identified by BLM for accelerated wilderness review by notice published before October 21, 1975.

Intact Old Growth Habitat - Older forest types

that have not been entered for logging or are lightly entered such that structural and functional characteristics of the forest are essentially unchanged, except in relation to the size of the habitat island. Typically, forests of coniferous series with crown closure above 70 percent. Also includes low site lands lacking the ecological potential to produce older forest habitat characteristics.

Integrated Pest Management - A systematic approach that uses a variety of techniques to reduce pest damage or unwanted vegetation to tolerable levels. IPM techniques may include natural predators and parasites, genetically resistant hosts, environmental modifications, and when necessary and appropriate, chemical pesticides or herbicides.

Intermittent Stream - Any nonpermanent flowing drainage feature having a definable channel and evidence of scour or deposition. This includes what are sometimes referred to as ephemeral streams if they meet these two criteria.

Intensive Forest Management Practices - The growth enhancing practices of release, precommercial thinning, commercial thinning, and fertilization, designed to obtain a high level of timber volume or quality.

Intensive Timber Production Base - All commercial forest land allocated to timber production and intensively managed to obtain a high level of timber volume or quality.

Intensively Managed Timber Stands - Forest stands managed to obtain a high level of timber volume or quality through investment in growth enhancing practices, such as precommercial thinning, commercial thinning, and fertilization. Not to be confused with the allocations of "lands available for intensive management of forest products."

Intermittent Stream - Streams that carry water most of the year and have defined channels, but may not flow during part of the summer.

Land Use Allocations - Allocations which define allowable uses/activities, restricted uses/activities, and prohibited uses/activities. They may be expressed in terms of area such as acres or miles etc. Each allocation is associated with a specific management objective.

Landing - Any place on or adjacent to the logging site where logs are assembled for further transport.

Landscape - A heterogeneous land area with

interacting ecosystems that are repeated in similar form throughout.

Landscape Block - A specific landscape unit used in analysis (example: a drainage).

Landscape Diversity - The size, shape and connectivity of different ecosystems across a large area.

Landscape Ecology - Principles and theories for understanding the structure, functioning, and change of landscapes over time. Specifically it considers (1) the development and dynamics of spatial heterogeneity, (2) interactions and exchanges across heterogeneous landscapes, (3) the influences of spatial heterogeneity on biotic and abiotic processes, and (4) the management of spatial heterogeneity. The consideration of spatial patterns distinguishes landscape ecology from traditional ecological studies, which frequently assume that systems are spatially homogeneous.

Landscape Features - The land and water form, vegetation, and structures which compose the characteristic landscape.

Landscape Grain - The finest level of spatial resolution possible with a given data set or the smallest habitat unit significant for the study or analysis of a specific ecological processes. (Example: a spotted owl nest grove or an individual canopy gap.) Habitat grains are often referred to as "fine scale" or "broad scale".

Landscape Pattern - The number, frequency, size, and juxtaposition of landscape elements (patches) which are important to the determination or interpretation of ecological processes.

Landscape Scale - The spatial dimension of an object or process, characterized by both grain and extent (example: the scale used in this analysis consisted of landscape blocks of 20,000 acres in extent with the finest level of spatial resolution being canopy gaps of 1/4 acre in size).

Late Seral Stage - See Seral Stages.

Late-Successional Forests - Forest seral stages which include mature and old-growth age classes.

Late-Successional Reserve - A forest in its mature and/or old-growth stages that has been reserved.

Leasable Minerals - Minerals which may be leased to private interests by the federal government. Includes oil, gas, geothermal resources, and coal.

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 valuable deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

Log Decomposition Class - Any of five stages of deterioration of logs in the forest; stages range from essentially sound (class 1) to almost total decomposition (class 5).

Long-Term - The period starting ten years following implementation of the Resource Management Plan. For most analyses, long-term impacts are defined as those existing 100 years after implementation.

Long-Term Soil Productivity - The capability of soil to sustain inherent, natural growth potential of plants and plant communities over time.

Long-Term Sustained Yield (LTSY) - Estimated timber harvest that can be maintained indefinitely, once all stands have been converted to a managed state under a specific management intensity.

Major Plant Grouping - An aggregation of plant associations with similar management potential and with the same dominant late seral conifer species and the same major early seral species. Late seral rather than climax species are used because late seral species are usually present rather than climax communities and because most old-growth plant communities on BLM-administered lands are made up of late seral species rather than climax species in the upper canopy.

Management Actions/Direction - Measures planned to achieve the stated objective(s).

Management Activity - An activity undertaken for the purpose of harvesting, traversing, transporting, protecting, changing, replenishing, or otherwise using resources.

Management Framework Plan (MFP) - A land use plan that established coordinated land use allocations for all resource and support activities for a specific land area within a BLM district. It established objectives and constraints for each resource and support activity and provided data for consideration in program planning. This process has been replaced by the Resource Management Planning process.

Mass Movement - The downslope movement of earth caused by gravity. Includes but is not limited to landslides, rock falls, debris avalanches, and creep. It

does not include surface erosion.

Master Title Plat - A graphic representation of each township showing all actions affecting title.

Matrix Lands - Federal land outside of reserves and special management areas that will be available for timber harvest at varying levels.

Mature Seral Stage - See Seral Stages.

Mature Stand - A mappable stand of trees for which the annual net rate of growth has peaked. Stands are generally greater than 80-100 years old and less than 180-200 years old. Stand age, diameter of dominant trees, and stand structure at maturity vary by forest cover types and local site conditions. Mature stands generally contain trees with a small average diameter, less age class variation, and less structural complexity than old-growth stands of the same forest type. Mature stages of some forest types are suitable habitat for spotted owls. However, mature forests are not always spotted owl habitat, and spotted owl habitat is not always mature forest.

Micro*Storms - A micro-computer database system providing background information and recommended treatment for each operations inventory unit.

Mid Seral Stage - See Seral Stages.

Mineral Estate - The ownership of the minerals at or beneath the surface of the land.

Mineral Potential Classification System - Method for assessing the potential for the presence of a concentration of one or more energy and/or mineral resources.

Minimum Harvest Age - The lowest age of a forest stand to be scheduled for final harvest.

Minimum Stocking - Reforestation level lower than target stocking. Does not achieve full site occupancy in young stands but is capable of achieving optimal final harvest yield and reduced commercial thinning yield.

Minimum Streamflow - The quantity of water needed to maintain the existing and planned in-place uses of water in or along a stream channel or other water body and to maintain the natural character of the aquatic system and its dependent systems.

Mining Claims - Portions of public lands claimed for possession of locatable mineral deposits, by locating and recording under established rules and pursuant to

the 1872 Mining Law.

Mitigating Measures - Modifications of actions which (a) avoid impacts by not taking a certain action or parts of an action; (b) minimize impacts by limiting the degree or magnitude of the action and its implementation; (c) rectify impacts by repairing, rehabilitating or restoring the affected environment; (d) reduce or eliminate impacts over time by preservation and maintenance operations during the life of the action; or (e) compensate for impacts by replacing or providing substitute resources or environments.

Monitoring - The process of collecting information to evaluate if objectives and anticipated or assumed results of a management plan are being realized or if implementation is proceeding as planned.

Mortality Salvage - The harvest of dead and dying timber.

Multi-aged Stand - A forest stand which has more than one distinct age class arising from specific disturbance and regeneration events at various times. These stands normally will have multi-layered structure.

Multi-layered Canopy - Forest stands with two or more distinct tree layers in the canopy; also called multi-storied stands.

Multiple Use - 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. 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, fish, and natural scenic, scientific and historical values.

National Ambient Air Quality Standards (NAAQS) - Standards designed to protect public health and welfare, allowing an adequate margin of safety. For particulate matter less than ten microns in size (PM₁₀), 50 micrograms per cubic meter annual average and 150 micrograms per cubic meter, 24-hour average, not to be exceeded more than once per year.

National Register of Historic Places - A formal list established by the National Historic Preservation Act of 1966 of cultural resources worthy of preservation. The Register is maintained by the National Park Service; and lists archaeological, historic, and architectural properties.

Neotropical migrants - a wide variety of bird species, which breed in temperate North America but migrate to tropical habitats in Central and South America during winter.

Nonattainment - Failure of a geographical area to attain or maintain compliance with ambient air quality standards.

Nonattainment Area - A geographical area that has failed to attain or maintain compliance with air quality standards. Nonattainment area boundaries are commonly the same as city, standard metropolitan statistical area or county boundaries.

Nonchargeable Volume - Timber harvest not included in the allowable sale quantity calculations.

Noncommercial Forest Land - Land incapable of yielding at least 20 cubic feet of wood per acre per year of commercial species; or land which is capable of producing only noncommercial tree species.

Noncommercial Tree Species - Minor conifer and hardwood species whose yields are not reflected in the commercial conifer forest land ASQ. Some species may be managed and sold under a suitable woodland ASQ and, therefore, may be commercial as a woodland species.

Nonforest Land - Land developed for nontimber uses or land incapable of being ten percent stocked with forest trees.

Nonpoint Source Pollution - Water pollution that does not result from a discharge at a specific, single location (such as a single pipe) but generally results from land runoff, precipitation, atmospheric deposition or percolation, and normally is associated with agricultural, silvicultural and urban runoff, runoff from construction activities, etc. Such pollution results in the human-made or human-induced alteration of the chemical, physical, biological, radiological integrity of water.

Nonsuitable Commercial Forest Land - Sites that would take longer than 15 years to meet or exceed minimum stocking levels of commercial species. Further classified as suitable woodland.

Nonsuitable Woodland - All fragile nonsuitable forest land.

Noxious Plant - A plant specified by law as being especially undesirable, troublesome, and difficult to control.

Noxious Weed - See Noxious Plant.

O&C Lands - Public lands granted to the Oregon and California Railroad Company and subsequently reverted to the United States.

Objectives - Expressions of what are the desired end results of management efforts.

Obligate Species - A plant or animal that occurs only in a narrowly defined habitat such as tree cavity, rock cave, or wet meadow.

Off Highway Vehicle (OHV) - Any motorized vehicle capable of, or designed for, travel on land, water, or natural terrain. The term "Off Highway Vehicle" will be used in place of the term "Off Road Vehicle" to comply with the Purposes of Executive Orders 11644 and 11989. The definition for both terms is the same.

Off Highway Vehicle Designations:

Open Area - An area where all types of vehicle use is permitted at all times, anywhere in the area subject to the operating regulations and vehicle standards set forth in 43 CFR, subparts 8341 and 8342.

Limited Area - An area restricted at certain times, in certain areas, and/or to certain vehicular use.

Closed Area - An area where off-highway vehicle use is prohibited. Use may be allowed for certain reasons with the approval of the authorized officer.

Old-Growth Conifer Stand - Older forests occurring on western hemlock, mixed conifer, or mixed evergreen sites which differ significantly from younger forests in structure, ecological function, and species composition. Old growth characteristics begin to appear in unmanaged forests at 175-250 years of age. These characteristics include (a) a patchy, multi-layered canopy with trees of several age classes; (b) the presence of large living trees; (c) the presence of larger standing dead trees (snags) and down woody debris, and (d) the presence of species and functional processes which are representative of the potential natural community.

For purposes of inventory, old-growth stands on BLM-administered lands are only identified if they are at least ten percent stocked with trees of 200

years or older and are ten acres or more in size. For purposes of habitat or biological diversity, the BLM uses the appropriate minimum and average definitions provided by Pacific Northwest Experiment Station publications 447 and GTR-285. This definition is summarized from the 1986 interim definitions of the Old-Growth Definitions Task Group.

Old-Growth Forest - A forest stand usually at least 180-220 years old with moderate-high canopy closure; a multilayered, multispecies canopy dominated by large overstory trees; high incidence of large trees, some with broken tops and other indications of old and decaying wood (decadence); numerous large snags; and heavy accumulations of wood, including large logs on the ground.

Old-Growth Seral Stage - See Seral Stages.

Old-Growth-Dependent Species - An animal species so adapted that it exists primarily in old growth forests or is dependent on certain attributes provided in older forests.

Open Additional Restrictions - Areas open to mineral exploration and development subject to additional restrictions that can be legally required by BLM pursuant to law, regulation, or other legal authority such as Area of Critical Environmental Concern designation, Off Highway Vehicle or other closure order, community pit designation, etc.

Open Standard Requirements - Areas open to mineral exploration and development subject only to requirements over which BLM has no discretionary control such as the Clean Air/Clean Water Acts, National Environmental Policy Act, Resource Conservation and Recovery Act, Coastal Zone Management Act, Endangered Species Act, National Historic Preservation Act, etc.

Operations Inventory (OI) (also Forest Operations Inventory - FOI) - An intensive, site-specific forest inventory of forest stand location, size, silvicultural needs, and recommended treatment based on individual stand conditions and productivity.

Operations Inventory Unit - An aggregation of trees occupying an area that is sufficiently uniform in composition, age, arrangement and condition to be distinguishable from vegetation on adjoining areas.

Optimal Cover - For elk, cover used to hide from predators and avoid disturbances, including man. It consists of a forest stand with four layers and an overstory canopy which can intercept and hold a

substantial amount of snow, yet has dispersed, small openings. It is generally achieved when the dominant trees average 21 inches dbh or greater and have 70 percent or greater crown closure.

Outstanding Natural Area (ONA) - An area that contains unusual natural characteristics and is managed primarily for educational and recreational purposes.

Outstandingly Remarkable Values (ORVs) - Values among those listed in Section 1 (b) of the Wild and Scenic Rivers Act: "scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values...". Other similar values that may be considered include ecological, biological or paleontological, hydrological, scientific or research.

Overstory - That portion of trees which form the uppermost layer in a forest stand which consists of more than one distinct layer (canopy).

Overstory Removal - The final stage of cutting where the remaining overstory trees are removed to allow the understory to grow. Overstory removal is generally accomplished three to five years after reforestation and when adequate stocking has been achieved.

Partial Cutting - Removal of selected trees from a forest stand.

Partial Log Suspension - During yarding operations, suspension of one end of the log above the ground.

Particulates - Finely divided solid or liquid (other than water) particles in the air.

Peak Flow - The highest amount of stream or river flow occurring in a year or from a single storm event.

Perennial Stream - A stream that has running water on a year-round basis under normal climatic conditions.

Plan Amendment - A change in the terms, conditions or decisions of a resource management plan.

Plan Maintenance - Any documented minor change which interprets, clarifies, or refines a decision within a resource management plan but does not change the scope or conditions of that decision.

Plan Revision - A new resource management plan prepared by following all steps required by the regulations for preparing an original resource management plan.

Planning Area - All of the lands within the BLM management boundary addressed in a BLM resource management plan; however, BLM planning decisions apply only to BLM-administered lands and mineral estate.

Plant Association - A plant community type based on land management potential, successional patterns, and species composition.

Plant Community - An association of plants of various species found growing together in different areas with similar site characteristics.

Plantation Maintenance - Actions in an unestablished forest stand to promote the survival of desired crop trees.

Plantation Release - All activities associated with promoting the dominance and/or growth of desired tree species within an established forest stand.

Potential Area of Critical Environmental Concern

- An area of BLM-administered land that meets the relevance and importance criteria for Area of Critical Environmental Concern designation, as follows:

(1) Relevance. There shall be present a significant historic, cultural, or scenic value; a fish or wildlife resource or other natural system or process; or natural hazard.

(2) Importance. The above described value, resource, system, process, or hazard shall have substantial significance and values. This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern. A natural hazard can be important if it is a significant threat to human life or property.

Precommercial Thinning - The practice of removing some of the trees less than merchantable size from a stand so that remaining trees will grow faster.

Prescribed Fire - A fire burning under specified conditions that will accomplish certain planned objectives.

Prevention Strategy - The amelioration of conditions that cause or favor the presence of competing or unwanted vegetation.

Priority Animal Taxa - Species or subspecies having

special significance for management. They include endangered, threatened and special status species; species of high economic or recreation value; and species of significant public interest.

Priority Habitats - Aquatic, wetland and riparian habitats, and habitats of priority animal taxa.

Probable Sale Quantity (PSQ) - Probable sale quantity estimates the allowable harvest levels for the various alternatives that could be maintained without decline over the long term if the schedule of harvests and regeneration were followed. "Allowable" was changed to "probable" to reflect uncertainty in the calculations for some alternatives. Probable sale quantity is otherwise comparable to allowable sale quantity (ASQ). However, probable sale quantity does not reflect a commitment to a specific cut level. Probable sale quantity includes only scheduled or regulated yields and does not include "other wood" or volume of cull and other products that are not normally part of allowable sale quantity calculations.

Progeny Test Site - A test area for evaluating parent seed trees by comparing the growth of their offspring seedlings.

Proposed Threatened or Endangered Species - Plant or animal species proposed by the U.S. Fish & Wildlife Service or National Marine Fisheries Service to be biologically appropriate for listing as threatened or endangered, and published in the Federal Register. It is not a final designation.

Public Domain Lands - Original holdings of the United States never granted or conveyed to other jurisdictions, or reacquired by exchange for other public domain lands.

Public Water System - A system providing piped water for public consumption. Such a system has at least fifteen service connections or regularly serves at least twenty-five individuals.

Rearing Habitat - Areas in rivers or streams where juvenile salmon and trout find food and shelter to live and grow.

Recovery Plan - A plan for the conservation and survival of an endangered species or a threatened species listed under the Endangered Species Act, to improve the status of the species to make continued listing unnecessary.

Recreational River - See Wild and Scenic River System.

Reforestation - The natural or artificial restocking of an area with forest trees; most commonly used in reference to artificial stocking.

Regeneration Harvest - Timber harvest conducted with the partial objective of opening a forest stand to the point where favored tree species will be reestablished.

Regional Ecosystem Office (REO) - The main function of this office is to provide staff work and support to the Regional Interagency Executive Committee so the standards and guidelines in the forest management plan can be successfully implemented.

Regional Interagency Executive Committee (RIEC) - This group serves as the senior regional entity to assure the prompt, coordinated and successful implementation of the forest management plan standards and guidelines at the regional level.

Research Natural Area (RNA) - An area that contains natural resource values of scientific interest and is managed primarily for research and educational purposes.

Reserved Federal Mineral Estate - Land on which the federal government has ownership of minerals but the surface estate is private or other nonfederal ownership.

Resource Management Plan (RMP) - A land use plan prepared by the BLM under current regulations in accordance with the Federal Land Policy and Management Act.

Right-of-Way - A permit or an easement that authorizes the use of public lands for specified purposes, such as pipelines, roads, telephone lines, electric lines, reservoirs, and the lands covered by such an easement or permit.

Riparian Reserves - Designated riparian areas found outside Late-Successional Reserves.

Riparian Zone - Those terrestrial areas where the vegetation complex and microclimate conditions are products of the combined presence and influence of perennial and/or intermittent water, associated high water tables and soils which exhibit some wetness characteristics. Normally used to refer to the zone within which plants grow rooted in the water table of these rivers, streams, lakes, ponds, reservoirs, springs, marshes, seeps, bogs and wet meadows.

Ripping - The process of breaking up or loosening compacted soil to assure better penetration of roots, lower soil density, and increased microbial and invertebrate activity.

Road - A vehicle route which has been improved and maintained by mechanical means to ensure relatively regular and continuous use. A route maintained solely by the passage of vehicles does not constitute a road.

Rotation - The planned number of years between establishment of a forest stand and its regeneration harvest.

Rural Interface Areas - Areas where BLM-administered lands are adjacent to or intermingled with privately owned lands zoned for 1 to 20-acre lots or that already have residential development.

Salable Minerals - High volume, low value mineral resources including common varieties of rock, clay, decorative stone, sand, and gravel.

Sanitation-Salvage Cuttings - Combination of sanitation and salvage cuttings. In sanitation cuts trees either killed or injured by fire, insects, disease, etc., are removed for the purpose of preventing the spread of insect or disease. Salvage cut remove trees that are either filled or severely injured before merchantable material becomes unmerchantable.

Scarification - Mechanical removal of competing vegetation or interfering debris prior to planting.

Scenic Quality - The relative worth of a landscape from a visual perception point of view which is used in determining the Visual Resource Management Classification.

Scenic River - See Wild and Scenic River System.

Scribner Short Log - A log measurement rule constructed from diagrams which shows the number of 1-inch boards that can be drawn in a circle representing the small end of a 16-foot-long log, assumes a 1/4-inch saw kerf groove, makes a liberal allowance for slabs, and disregards log taper.

Seed Tree Cutting Method - An even-aged reproductive cutting method in which all mature timber from an area is harvested in one entry except for a small number of trees left as a seed source for the harvested area.

Seed Orchard - A plantation of clones or seedlings

from selected trees; isolated to reduce pollination from outside sources, weeded of undesirables, and cultured for early and abundant production of seed.

Selection Cutting - A method of uneven-aged management involving the harvesting of single trees from stands (single-tree selection) or in groups (group selection) without harvesting the entire stand at any one time.

Sensitivity Analysis - A process of examining specific trade-offs which would result from making changes in single elements of a plan alternative.

Sensitivity Levels - Measures (e.g., high, medium, and low) of public concern for the maintenance of scenic quality.

Seral Stages - The series of relatively transitory plant communities that develop during ecological succession from bare ground to the climax stage. There are five stages:

Early Seral Stage - The period from disturbance to the time when crowns close and conifers or hardwoods dominate the site. Under the current forest management regime, the duration is approximately 0 to 10 years. This stage may be dominated by grasses and forbs or by sprouting brush or hardwoods. Conifers develop slowly at first and gradually replace grasses, forbs, or brush as the dominant vegetation. Forage may be present; hiding or thermal cover may not be present except in rapidly sprouting brush communities.

Mid-Seral Stage - The mid-seral stage occurs from crown closure to the time when conifers would begin to die from competition; approximately age 10 to 40. Stands are dense and dominated by conifers, hardwoods, or dense brush. Grass, forbs, and herbaceous vegetation decrease. Hiding cover for big game is usually present.

Late Seral Stage - Late seral stage occurs when conifers would begin to die from competition to the time when stand growth slows; approximately age 40 to 80. Forest stands are dominated by conifers or hardwoods; canopy closure often approaches 100 percent. Stand diversity is minimal; conifer mortality rates and snag formation are rapid. Big game hiding and thermal cover is present. Forage and understory vegetation is minimal except in understocked

stands or in meadow inclusions.

Mature Seral Stage - This stage exists from the point where stand growth slows to the time when the forest develops structural diversity; approximately age 80 to 200. Conifer and hardwood growth gradually decline. Developmental change slows. Larger trees increase significantly in size. Stand diversity gradually increases. Big game hiding cover, thermal cover, and some forage are present. With slowing growth, insect damage increases and stand breakup may begin on drier sites. Understory development is significant in response to openings in the canopy created by disease, insects, and windthrow. Vertical diversity increases. Larger snags are formed.

Old Growth - This stage constitutes the potential plant community capable of existing on a site given the frequency of natural disturbance events. For forest communities, this stage exists from approximately age 200 until when stand replacement occurs and secondary succession begins again. (Also see definitions of old-growth conifer stand and potential natural community.)

These definitions are used by BLM to separate age classes for analysis of impacts.

Shelterwood Cutting - A regeneration method under an even-aged silvicultural system. With this method a portion of the mature stand is retained as a source of seed and/or protection during the regeneration period. The retained trees are usually removed in one or more cuttings. In the irregular shelterwood variation of this method, the retained trees are usually not removed until the end of the next harvest rotation.

Shelterwood Retention - The practice of retaining trees left in a shelterwood regeneration harvest for varying period of time beyond that needed for seedling survival. Overstory trees are retained to protect visual quality or to protect understory conifers from frost. Most or all trees left in shelterwood retention harvests would eventually be removed when visual or other objectives are met by the understory alone. Also called an irregular shelterwood or modified shelterwood system.

Short-Term - The period of time during which the RMP will be implemented; assumed to be ten years.

Silvicultural Prescription - A professional plan for controlling the establishment, composition, constitution and growth of forests.

Silvicultural System - A planned sequence of treatments over the entire life of a forest stand needed to meet management objectives.

Site Class - A measure of an area's relative capacity for producing timber or other vegetation.

Site Index - A measure of forest productivity expressed as the height of the tallest trees in a stand at an index age.

Site Preparation - Any action taken in conjunction with a reforestation effort (natural or artificial) to create an environment which is favorable for survival of suitable trees during the first growing season. This environment can be created by altering ground cover, soil or microsite conditions, using biological, mechanical, or manual clearing, prescribed burns, herbicides or a combination of methods.

Skid Trail - A pathway created by dragging logs to a landing (gathering point).

Skyline Yarding - A cable yarding system using one of the cables to support a carriage from which logs are suspended and then pulled to a landing.

Slash - The branches, bark, tops, cull logs, and broken or uprooted trees left on the ground after logging.

Slope Failure - See Mass Movement.

Smoke Management - Conducting a prescribed fire under suitable fuel moisture and meteorological conditions with firing techniques that keep smoke impact on the environment within designated limits.

Smoke Management Program - A program designed to ensure that smoke impacts on air quality from agricultural or forestry burning operations are minimized; that impacts do not exceed, or significantly contribute to, violations of air quality standards or visibility protection guidelines; and that necessary open burning can be accomplished to achieve land management goals.

Smoke Sensitive Area - An area identified by the Oregon Smoke Management Plan that may be negatively affected by smoke but is not classified as a designated area.

Snag - Any standing dead, partially-dead, or defective (cull) tree at least ten inches in diameter at breast

height (dbh) and at least six feet tall. A hard snag is composed primarily of sound wood, generally merchantable. A soft snag is composed primarily of wood in advanced stages of decay and deterioration, generally not merchantable.

Snag Dependent Species - Birds and animals dependent on snags for nesting, roosting, or foraging habitat.

Soil Compaction - An increase in bulk density (weight per unit volume) and a decrease in soil porosity resulting from applied loads, vibration, or pressure.

Soil Displacement - The removal and horizontal movement of soil from one place to another by mechanical forces such as a blade.

Soil Productivity - Capacity or suitability of a soil for establishment and growth of a specified crop or plant species, primarily through nutrient availability.

Soil Series - A group of soils developed from a particular type of parent material having naturally developed horizons that, except for texture of the surface layer, are similar in differentiating characteristics and in arrangement of the profile.

Special Areas - Areas that may need special management, which may include management as an Area of Critical Environmental Concern, Research Natural Area, Outstanding Natural Area, Environmental Education Area, or other special category.

Special Forest Products - Firewood, shake bolts, mushrooms, ferns, floral greens, berries, mosses, bark, grasses etc., that could be harvested in accordance with the objectives and guidelines in the proposed resource management plan.

Special Habitat Features - Habitats of special importance due to their uniqueness or high value.

Special Habitat - A forested or nonforested habitat which contributes to overall biological diversity within the District. Special habitats may include: ponds, bogs, springs, swamps, marshes, dunes, meadows, balds, cliffs, salt licks, and mineral springs.

Special Recreation Management Area (SRMA) - An area where a commitment has been to provide specific recreation activity and experience opportunities. These areas usually require a high level of recreation investment and/or management. They include recreation sites but recreation

sites alone do not constitute Special Recreation Management Areas.

Special Status Species - Plant or animal species falling in any of the following categories (see separate glossary definitions for each):

- Threatened or Endangered Species
- Proposed Threatened or Endangered Species
- Candidate Species
- State Listed Species
- Bureau Sensitive Species
- Bureau Assessment Species

Species Diversity - The number, different kinds, and relative abundance of species.

Split Estate - An area of land where the surface is nonfederally owned and the subsurface mineral resources are federally owned or vice versa.

Stand Conversion - A process in which vegetation that currently dominates a site is removed and is replaced with species that better meets timber management objectives. Typically, on sites that will support commercial conifers, vegetation such as hardwoods, grass, and shrubs are removed and are replaced with a mixture of commercial conifer species such as Douglas-fir, ponderosa pine, or other species.

Stand (Tree Stand) - An aggregation of trees occupying a specific area and sufficiently uniform in composition, age, arrangement, and condition so that it is distinguishable from the forest in adjoining areas.

Stand Density - An expression of the number and size of trees on a forest site. May be expressed in terms of numbers of trees per acre, basal area, stand density index, or relative density index.

Stand Density Index - A measure of stand density independent of site quality and age. From the stand density index, an approximate number of trees, of a chosen diameter, capable of being supported on an acre can be determined.

Stand-replacement Wildfire - A wildfire that kills nearly 100 percent of the stand.

State Historic Preservation Officer - The state official authorized to act as a liaison to the Secretary of the Interior for purposes of implementing the National Historic Preservation Act of 1966.

State Implementation Plan (SIP) - A state document, required by the Clean Air Act. It describes a comprehensive plan of action for achieving specified

air quality objectives and standards for a particular locality or region within a specified time, as enforced by the state and approved by the Environmental Protection Agency.

State Listed Species - Plant or animal species listed by the State of Oregon as threatened or endangered pursuant to ORS 496.004, ORS 498.026, or ORS 564.040.

Statewide Comprehensive Outdoor Recreation Plan (SCORP) - A plan prepared by the state, which describes and analyzes the organization and function of the outdoor recreation system of the state. The plan provides an analysis of the roles and responsibilities of major outdoor recreation suppliers; an analysis of demand, supply and needs; issue discussions; an action program to address the issues; and a project selection process.

Stocked/Stocking - Related to the number and spacing of trees in a forest stand.

Strategic and Critical Minerals - Minerals which supply military, industrial and essential civilian needs of the United States during a national defense emergency. They are not found or produced in this country in sufficient quantities to meet such needs. Nickel, cobalt and chromium are examples of such minerals occurring in western Oregon.

Stream Class - A system of stream classification established in the Oregon Forest Practices Act. Class I streams are those which are significant for: 1) domestic use, 2) angling, 3) water dependent recreation, and 4) spawning, rearing or migration of anadromous or game fish. All other streams are Class II. Class II special protection streams (Class II SP) are Class II streams which have a significant summertime cooling influence on downstream Class I waters which are at or near a temperature at which production of anadromous or game fish is limited. Revised Forest Practices Act may have a new system within a year.

Stream Order - A hydrologic system of stream classification based on stream branching. Each small unbranched tributary is a first order stream. Two first order streams join to make a second order stream. Two second order streams join to form a third order stream and so forth.

Stream Reach - An individual first order stream or a segment of another stream that has beginning and ending points at a stream confluence. Reach end points are normally designated where a tributary confluence changes the channel character or order. Although reaches identified by BLM are variable in

length, they normally have a range of 1/2 to 1-1/2 miles in length unless channel character, confluence distribution, or management considerations require variance.

Structural Diversity - Variety in a forest stand that results from layering or tiering of the canopy and the die-back, death and ultimate decay of trees. In aquatic habitats, the presence of a variety of structural features such as logs and boulders that create a variety of habitat.

Succession - A series of dynamic changes by which one group of organisms succeeds another through stages leading to potential natural community or climax. An example is the development of series of plant communities (called seral stages) following a major disturbance.

Suitable Commercial Forest Land - Commercial forest land capable of sustained long-term timber production.

Suitable River - A river segment found, through administrative study by an appropriate agency, to meet the criteria for designation as a component of the National Wild and Scenic Rivers system, specified in Section 4(a) of the Wild and Scenic Rivers Act,

Suitable Woodland - Forest land occupied by minor conifer and hardwood species not considered in the commercial forest land ASQ determination and referred to as noncommercial species. These species may be considered commercial for fuelwood, etc. under woodland management. Also included are low site and nonsuitable commercial forest land. These lands must be biologically and environmentally capable of supporting a sustained yield of forest products.

Surface Erosion - The detachment and transport of soil particles by wind, water, or gravity. Surface erosion can occur as the loss of soil in a uniform layer (sheet erosion), in many rills, or by dry ravel.

Suspended Sediment - Sediment suspended in a fluid by the upward components of turbulent currents or by colloidal suspension.

Sustained Yield - The yield that a forest can produce continuously at a given intensity of management.

Sustained Yield Unit (SYU) - An administrative division for which an allowable sale quantity is calculated.

Target Stocking - The desirable number of well-

spaced trees per acre at age of first commercial thinning.

Thermal Cover - Cover used by animals to lessen the effects of weather. For elk, a stand of conifer trees which are 40 feet or more tall with an average crown closure of 70 percent or more. For deer, cover may include saplings, shrubs or trees at least five feet tall with 75 percent crown closure.

Threatened Species - Any species defined through the Endangered Species Act as likely to become endangered within the foreseeable future throughout all or a significant portion of its range and published in the Federal Register.

Timber Management Plan - An activity plan that specifically addresses procedures related to the offering and sale of timber volume consistent with the approved allowable sale quantity.

Timber Production Capability Classification (TPCC) - The process of partitioning forestland into major classes indicating relative suitability to produce timber on a sustained yield basis.

Transportation System - Network of roads used to manage BLM-administered lands. Includes BLM controlled roads and some privately controlled roads. Does not include Oregon Department of Transportation, county and municipal roads.

Understocked - The condition when a plantation of trees fails to meet the minimum requirements for number of well spaced trees per acre.

Understory - That portion of trees or other woody vegetation which form the lower layer in a forest stand which consists of more than one distinct layer (canopy).

Uneven-aged Management - A combination of actions that simultaneously maintains continuous tall forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection.

Unnecessary or Undue Degradation - Surface disturbance greater than what would normally result when a mineral exploration or development activity regulated under 43 CFR 3809 is being accomplished by a prudent operator in usual, customary and proficient operations of similar character and taking into consideration the effects of operations on

other resources and land uses, outside the area of operations. Failure to initiate and complete reasonable mitigation measures, including reclamation of disturbed areas; or failure to prevent the creation of a nuisance, which may constitute unnecessary or undue degradation. Failure to comply with applicable environmental protection statutes and regulations thereunder will constitute unnecessary or undue degradation.

Utility Corridor - A linear strip of land identified for the present or future location of utility lines within its boundaries.

Viable Population - A wildlife or plant population that contains an adequate number of reproductive individuals to appropriately ensure the long-term existence of the species.

Viewshed - The landscape that can be directly seen from a viewpoint or along a transportation corridor.

Visibility Protection Plan - A plan that implements the requirements of the Clean Air Act by establishing programs for visibility monitoring; short and long term control strategies; and procedures for program review, coordination, and consultation.

Visual Resources - The visible physical features of a landscape.

Visual Resource Management (VRM) - The inventory and planning actions to identify visual values and establish objectives for managing those values and the management actions to achieve visual management objectives.

Visual Resource Management Classes - Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes. Each class has an objective that prescribes the amount of modification allowed in the landscape.

Water Quality - The chemical, physical, and biological characteristics of water.

Water Yield - The quantity of water derived from a unit area of watershed.

Western Oregon Digital Data Base (WODDB) - A very high resolution (1"=400') geographic digital (computer) data base derived from aerial photography for BLM lands in western Oregon.

Wetlands or Wetland Habitat - Those areas that are inundated or saturated by surface or ground water at a

frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include, but are not limited to, swamps, marshes, bogs, and similar areas.

Wet Meadows - Areas where grasses predominate. Normally waterlogged within a few inches of the ground surface.

Wild and Scenic River System - A national system of rivers or river segments that have been designated by Congress and the President as part of the National Wild and Scenic Rivers System (Public Law 90-542, 1968). Each designated river is classified as one of the following:

Wild River - A river or section of a river free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. Designated wild as part of the National Wild and Scenic Rivers System.

Scenic River - A river or section of a river free of impoundments, with shorelines or watersheds still largely primitive and undeveloped but accessible in places by roads. Designated scenic as part of the National Wild and Scenic Rivers System.

Recreational River - A river or section of a river readily accessible by road or railroad, that may have some development along its shorelines, and that may have undergone some impoundment or diversion in the past. Designated recreational as part of the National Wild and Scenic Rivers System.

Wilderness Study Area (WSA) - A roadless area inventoried and found to be wilderness in character, having few human developments and providing outstanding opportunities for solitude and primitive recreation, as described in Section 603 of the Federal Land Policy and Management Act and in Section 2(c) of the Wilderness Act of 1964.

Wildlife Tree - A live tree retained to become future snag habitat.

Wild River - See Wild and Scenic River System

Windthrow - A tree or trees uprooted or felled by the wind.

Withdrawal - A designation which restricts or closes public lands from the operation of land or mineral disposal laws.

Woodland - Forest land producing trees not typically used as saw timber products and not included in calculation of the commercial forest land ASQ.

Yarding - The act or process of moving logs to a landing set of conditions.

Yield Table - A table of timber volumes expected to be produced under a certain set of conditions.

Acronyms

ACEC	Area of Critical Environmental Concern	OSMP	Oregon Smoke Management Plan
ACOE	Army Corps of Engineers	OSO	Oregon State Office
AMA	Adaptive Management Area	PCT	Pacific Crest Trail
AMS	Analysis of the Management Situation	PCT	Precommercial Thinning
ARD	Automated Resource Data	PD	Public Domain
ARPA	Archeological Resources Protection Act	PM	Particulate Matter
AUM	Animal Unit Month	PNV	Present Net Value
BLM	Bureau of Land Management	PRMP	Proposed Resource Management Plan
BMP	Best Management Practices	PSC	Power Site Classification
BRU	Basic Resource Unit	PSQ	Probable Sale Quantity
CEQ	Council on Environmental Quality	QMA	Quality Management Area
CFI	Continuous Forest Inventory	R&PP	Recreation and Public Purposes
CFR	Code of Federal Regulations	RA	Resource Area
CMAI	Culmination of Mean Annual Increment	RAMP	Recreation Area Management Plan
CRMP	Coordinated Resource Management Plan	RIA	Rural Interface Area
CSU	Controlled Surface Use	RMA	Riparian Management Areas
CWD	Coarse Woody Debris	RMP	Resource Management Plan
DBH	Diameter at Breast Height	RNA	Research Natural Area
DEQ	Oregon Department of Environmental Quality	ROD	Record of Decision
EA	Environmental Assessment	RPS	Rangeland Program Summary
EEA	Environmental Education Area	SCFL	Suitable Commercial Forestland
EIS	Environmental Impact Statement	SIP	State Implementation Plan
ESA	Endangered Species Act	SRMA	Special Recreation Management Areas
ESC	Existing Stand Condition	SYU	Sustained Yield Units
FEIS	Final Environmental Impact Statement	T&E	Threatened and Endangered (species)
FLPMA	Federal Land Policy and Management Act	TPCC	Timber Production Capability Classification
GFMA	General Forest Management Area	USDA	United States Department of Agriculture
GIS	Geographic Information System	USDI	United States Department of the Interior
IFMP	Intensive Forest Management Practices	USF&WS	U.S. Fish and Wildlife Service
ISA	Instant Study Area	VRM	Visual Resource Management
LCDC	Land Conservation and Development Commission	W&SR	Wild and Scenic River
LUA	Land Use Allocation	WODDB	Western Oregon Digital Database
LSR	Late-Successional Reserve	WSA	Wilderness Study Area
MFP	Management Framework Plan		
MMBF	Million Board Feet		
MMCF	Million Cubic Feet		
MTP	Master Title Plats		
NEPA	National Environmental Policy Act		
NSO	Northern Spotted Owl		
NSO	No Surface Occupancy		
NWSRS	National Wild and Scenic Rivers System		
O&C	Oregon and California (revested lands)		
ODFW	Oregon Department of Fish and Wildlife		
OHV	Off-Highway Vehicle		
OI	Operations Inventory		
ONA	Outstanding Natural Area		
ORV	Outstandingly Remarkable Value		
OWRD	Oregon Water Resources Department		
OSHA	Occupational Safety and Health Administration		

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APPENDICES

Appendix A. Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl.

This appendix consists of the Record of Decision and its Attachment A, published in April 1994, for the *Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl*. It is referred to in this document as the SEIS ROD.

The SEIS ROD is bound separately from the RMP/ROD and is incorporated by reference. The Draft and Final SEIS and the SEIS ROD were sent to those who received copies of the Medford District Draft Resource Management Plan and Environmental Impact Statement. It was also sent to agencies, libraries, and others who requested it.

To obtain a copy of the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl, send a request in writing to:

Regional Ecosystem Office

Appendix B. Rangeland Program Summary

The following Rangeland Program Summary (RPS) is a copy of the most current version of the RPS, revised in May 1992.

Allot. Number ¹	Allot. Name	Allot. Acres	Mgt. Category ²	Initial LVST AUMs	3 Year Avg. (AUMs)	Preference		Progress Since September 1984 RPS
						Interim	Established	
Ashland Resource Area								
0102	Edge Creek ³		I					
20106	Deadwood	7,928	I	1,032	538	784		Evaluation completed in 1990. Forage is available to maintain current allocation. Distribution and utilization problems were noted which require correction. Operators to develop water and improve distribution within 3 years. Initial AUMs from RPS/ROD reflects preference and exchange-of-use.
0107	Dixie ³		I					
10108	Jenny Creek	1,303	I	120	121	120		Evaluation completed in 1990. Forage available to maintain current allocation. Livestock to be fenced from riparian zone in southern pasture to protect stream side vegetation.
10110	Soda Mt.	35,471	I	4,011	2,255	2,694		Grazing preference within allotment reduced to 2,694 AUMs by agreement with one operator in 1986. Applications for increased preference by 2 of 4 operators within the allotment were denied. The case is presently before the Interior Board of Land Appeals. The Bureau has held that the allocation will not be increased until utilization and distribution are within acceptable limits and will not jeopardize special resource considerations. Box D allotment (#0145, 200 acres) and I-5 allotment (#0139, 173 acres) have been added to this allotment.
10112	Cove Creek	1,408	I	75	74	75		Evaluation completed in 1990. Insufficient data to set stocking level. Continue monitoring one year.
10115	Keene Creek	22,863	I	3,736	954	2,457		Evaluation completed in 1990. This allotment has been in partial nonuse in recent years. An agreement was developed to stock the allotment based on incremental increases and monitor to reach an appropriate stocking level.
20117	Conde Creek	5,346	I	592	417	592		Evaluation completed in 1990. Forage available to maintain current allocation.
10118	Siskiyou	1,930	I	200	127	200		Substantial nonuse last two of three years. Insufficient data to set stocking rate.
10119	Grizzly	5,167	I	378	130	378		Substantial nonuse in two of last four years. Continue monitoring to set stocking level.

Allot. Number ¹	Allot. Name	Allot. Acres	Mgt. Category ²	Initial LVST AUMs	3 Year Avg. (AUMs)	Interim	Established	Progress Since September 1984 RPS
10124	Lake Creek Spring	4,999		478	139	478		Substantial nonuse in two of last four years. Continue monitoring to set stocking level.
10122	Lake Creek Summer	4,481	I	550	154	550		Substantial nonuse in two of last four years. Continue monitoring to set stocking level.
10125	South Heppsie	800	I	36	62			Evaluation completed in 1990. Combined with Heppsie Mountain allotment and AUMs placed in voluntary nonuse.
00126	Heppsie Mt.	4,076	I	294	277	294		Evaluation completed in 1990. South Heppsie allotment (#0125, 800 acres) combined with this allotment. Continue to collect utilization data to establish combined stocking level.
20201	Applegate	25,518	I	672				This allotment was formed by splitting the Lower Big Applegate allotment (#20206). It is currently vacant.
20203	Billy Sugarloaf	7,684	I	534	189	534		Insufficient data to set stocking level. Recommendation to split allotment due to inability to use east side. Lack of fencing. Critical period of growth conflict to be resolved.
20206	Lower Big Applegate	11,752	I	258	278	258		Insufficient data to set stocking level. Original allotment split to form Applegate allotment (#20201). Applegate allotment is not useable at this time due to a lack of fencing. Coordinated Resource Management Plan written for Lower Big Applegate in 1990.
10207	Sterling Creek	26,219	I	478				Vacant. Allotment has been in nonuse due to inability to control livestock.
10116	Howard Prairie	320	M	60	30		60	Evaluation completed in 1990. Forage available to maintain current allocation.
0101	Chase Mt. ³		C			9		
0103	Buck Mt. ³		C					
0104	Buck Lake ³		C					
0105	Johnson Prairie ³		C					
10109	Agate	97	C	918				
10111	Emigrant Creek	40	C	7	15		7	
20113	Poole Hill	1,760	C	27	0		50	Allotment was in nonuse. Recently transferred.
10114	Buck Point	3,835	C	150	88		150	
10120	Baldy	1,044	C	115	38		115	

Preference

Allot. Number ¹	Allot. Name	Allot. Acres	Mgt. Category ²	Initial LVST AUMs	3 Year Avg. (AUMs)	Interim	Established	Progress Since September 1984 RPS
10123	Lost Creek	80	C	6	20			
10124	Deer Creek	4,025	C	314	49		314	
10127	Cartwright	40	C	4				Vacant.
10129	Hunger Flat	1,679	C	220	0		220	Allotment was in nonuse. Recently transferred.
10132	Antelope Road	400	C	30	11		30	
10133	Brownsboro	160	C	15	15		15	
10134	Yankee Reservoir	200	C	24	12		24	
10136	Canal	440	C	58	52		58	
10137	Box R Ranch	160	C	5	2		5	
10139	I-5	173	C					Combined with Soda Mt. allotment (#10110).
10140	Dry Lake ³		C					
0141	Chicken Hills ³		C					
0142	Long Lake ³		C					
10143	Cove Ranch	40	C	20	20		20	
00144	Bybee Peak	321	C	36				Vacant.
10145	Box D Ranch	200	C					Combined with Soda Mt. allotment (#10110).
10147	Grubbs Spring ³		C					
10148	North Cove Creek	281	C	20	21		20	
20202	Tunnel Ridge	2,200	C	14	8		14	
0204	Timber Mt.	1,720	C	70				Vacant.
0205	Sardine & Galls Cr.	2,820	C	101				Vacant.
0208	Spencer Gulch	1,935	C	150				Vacant.
20209	Quartz Gulch	641	C	9				Vacant.
20217	Ecker	40	C	6	2		6	
20218	Stage Road	40	C	4				Vacant.

Preference

Allot. Number ¹	Allot. Name	Allot. Acres	Mgt. Category ²	Initial LVST AUMs	3 Year Avg. (AUMs)	Interim	Established	Progress Since September 1984 RPS
20219	Foots Creek	116	C	12	4		12	
20222	Lomas Road	635	C	20	9		50	Former lease (Rock Gulch) (#0221) added to this allotment. Currently vacant.
20223	Star	118	C	24				Vacant.
20213	Chapman Creek	3,309	C	81	74		81	
10154	Killeen ³		C					
10155	Laubacher ³		C					
10152	Harrington ³		C					
10153	Hopkins ³		C					
00157	Hill Creek ⁴	11	C	30	28		30	Converted to agricultural lease.
10158	Greensprings ⁴		C					
00159	Songer Butte ⁴	154	C	155	173		155	
00160	West Arm ⁴	25	C	50				Vacant.
20212	Burton Butte	5	C	2	2		2	
Butte Falls Resource Area								
10001	Lost Creek	10,130	I	350	270	382		Evaluation completed in 1990. Substantial nonuse in 4 of last 5 years. Continue monitoring to set stocking level.
00007	Straus	1,719	I	90	32	90		Evaluation completed in 1990. Nonuse in 3 of last 5 years. Continue monitoring to set stocking level. Develop grazing management plan with exchange of use credit.
10012	Upper Table Rock	560	I	65	38	66		Evaluation completed in 1990. Nonuse in 3 of last 5 years. Continue monitoring to set stocking level. Livestock distribution problem associated with vegetation stand density.
10016	Brownsboro Park	380	I	45	42	68		Evaluation completed in 1990. Licensed temporary non-renewable for 23 AUMs. Potential for increased preference.
10017	Kanutchan Fields	2,148	I	177	163		177	Evaluation completed in 1990. Forage available to maintain current allocation.
10024	Big Butte	21,595	I	1,663	301	1,663		Evaluation completed in 1990. Substantial nonuse past 5 years. Pasture reconfiguration and administration changes were made. Continue monitoring to set stocking level.

Preference

Allot. Number ¹	Allot. Name	Allot. Acres	Mgt. Category ²	Initial LVST AUMs	3 Year Avg. AUMs	Interim	Established	Progress Since September 1984 RPS
66694	Summit Prairie	25,699		1,158	927	1,165		Evaluation completed in 1990. Interim grazing agreement established: Pasture reconfiguration and administration changes were made. The Mule Creek and Parsnip pastures were combined, and the Conley pasture was dropped because of no public lands. Continue monitoring to set stocking level.
00035	Vestal Butte	1,715	I	120	80	120		Evaluation completed in 1990. Distribution problem identified. Nonuse in 2 of last 5 years. Continue monitoring to set stocking level.
10037	Bear Mt.	1,059	I	81	54	81		Evaluation completed in 1990. This allotment was created by splitting it from the Crowfoot allotment in 1987. Continue monitoring to set stocking level.
10038	Crowfoot	6,934	I	365	365		365	Evaluation completed in 1990. Forage available to maintain current allocation.
10044	Salt Creek	560	I	85	78		85	Evaluation completed in 1990. Current allotment (10044) is a combination of Salt Creek 1 (#0046), 2 (#0044), & 3 (#0045). Forage available to maintain current allocation.
00002	Flat Creek	14,499	C	308	328		328	Increased AUMs from administration of Forest Service land.
10003	Trail Creek	12,868	C	113	27		113	
10004	Longbranch	11,164	C	93	52		93	
00005	Antioch Road	40	C	4	0		4	
10006	Roundtop-Evans	27,086	C	110	101		110	
00008	Neil-Tarbell	529	C	56	56		56	
10009	N. Sams Valley	120	C	8	8		8	
00010	West Perry Road	75	C	10				Vacant.
00011	East Perry Road	40	C	7				Vacant.
10013	Clear Creek	1,760	C	45	44		45	
10014	Obenchain	120	C	12				Vacant.
00015	Lick Creek	200	C	15	15		15	
10018	Nichols Gap	280	C	18	18		18	
10019	Sugarloaf	1,340	C	15	15		15	
10020	Eagle Point Canal	465	C	55	47		55	

Preference

Allot. Number ¹	Allot. Name	Allot. Acres	Mgt. Category ²	Initial LVST AUMs	3 Year Avg. (AUMs)	Interim	Established	Progress Since September 1984 RPS
10021	Section 9	343	C	25	24	25	25	
10022	Section 7	378	C	11	10	11	11	
10023	Bull Run	40	C	5	5	5	5	
10025	Shady Branch	320	C	32				Vacant.
10026	TouVelle	30	C	20	0	0	0	This allotment is closed and now under a Recreation al and Public Purposes Act lease to Oregon Department of Fish and Wildlife.
10027	Reese Creek	40	C	7	7	7	7	
10029	Derby Rd. Sawmill	521	C	45	45	45	45	
00030	Derby Station	540	C	36	36	36	36	
10033	Lick Creek	80	C	24	23	24	24	
10034	West Derby	1120	C	45	11	83	83	The Patco Ranch allotment (#0032, 38 initial AUMs) was combined with this allotment (45 AUMs).
10039	Crowfoot Creek	576	C	69	40	70	70	Difference in AUMs is due to change in season of use.
00040	Cobleigh Road	80	C	7	9	7	7	
10041	Moser Mt.	40	C	3	3	3	3	
10043	Devon South	465	C	33	33	33	33	
20210	Stiehl	175	C	18	20	18	18	
20211	Fielder Creek	40	C	5				Vacant.
20216	Del Rio	40	C	5	5	5	5	
Grants Pass Resource Area								
00315	Glade Creek	560	C	17	17	17	17	
00316	Cherry Gulch	40	C	6	6	6	6	
10303	Jump Off Joe	40	C	8	8	8	8	
10308	Deer Creek	1,165	C	77	77	77	77	
10310	Q Bar X	15	C	3	3	3	3	

Preference

Allot. Number ¹	Allot. Name	Allot. Acres	Mgt. Category ²	Initial LVST AUMs	3 Year Avg. (AUMs)	Interim	Established	Progress Since September 1984 RPS
00002	Pickett-Mt.	920	C	80				Vacant.
0309	Reeves Creek	1,672	C	95				Vacant.
0312	Easterly Lake	4,457	C	152				Vacant.

¹Allotment numbers are changed to correspond to numbers used in the new range computer program (GABS).

²I: Intensive management.

C: Custodial.

M: Maintain.

Note: Grazing preference AUMs on "C" category allotments are considered established unless resource conflicts are noted.

³Transferred to Klamath Falls Resource Area of the Lakeview District during the 1989 reorganization.

⁴Bureau of Reclamation lease.

*AUMs: Animal unit months.

Appendix C. Special Status Species, Species to be Protected Through Survey and Manage Guidelines, and Protection Buffer Species

Introduction

Appendix C includes three tables: C-1. Special Status Plant and Animal Species for the Medford District, C-2. SEIS Species to be Protected through Survey and Management Guidelines, and Table C-3, SEIS Species to be Protected Through Protection Buffers. Lists were updated as of March 3, 1995.

C-1. Special Status Plant and Animal Species are species that consist of officially listed, proposed for listing, or are candidates for listing by the U.S. Fish and Wildlife Service. This list also includes species that the BLM considers sensitive and manages to prevent them from becoming federal candidates. These are managed by Bureau policy.

C-2. SEIS Species to be Protected Through Survey and Management Guidelines are species that are identified in Table C-3 of the SEIS ROD. The standard and guideline contains four components, and priorities differ among them. They are to manage known sites, to survey prior to ground-disturbing activities, to conduct extensive surveys, or to conduct general regional surveys. This list is all inclusive for the range of the SEIS. The Medford District has no specific data on these species with the exception of the salamanders and the vascular plants.

C-3. SEIS Species to be Protected Through Protection Buffers are additional standards and guidelines from the Scientific Analysis Team Report for specific rare and locally endemic species, and other specific species in the upland forest Matrix (ROD). When located, the occupied sites need to be protected with buffers as identified in the ROD.

Table C-1. Special Status Species¹ Medford District

Scientific Name	Common Name	Status ²
Vascular Plants		
<i>Adiantum jordanii</i>	California maiden-hair ³	BT
<i>Agrostis micropylla</i> var. <i>hendersonii</i>	Henderson's bentgrass	FC
<i>Allium bolanderi</i> var. <i>bolanderi</i>	Typical Bolander's onion ³	BT
<i>Allium bolanderi</i> var. <i>mirabile</i>	Potato bulb Bolander's onion ³	BT
<i>Allium campanulatum</i>	Sierra onion	BT
<i>Allium peninsulare</i>	Peninsular onion	BT
<i>Allium sanbornii</i> var. <i>sanbornii</i>	Sanborn's onion	BT
<i>Ammannia robusta</i>	Ammannia	BT
<i>Androsace elongata</i> ssp. <i>acuta</i>	Long-stemmed androsace	BA
<i>Arabis aculeolata</i>	Waldo rockcress ³	BT
<i>Arabis koehleri</i> var. <i>stipitata</i>	Koehler's stipitate rockcress ³	BT
<i>Arabis modesta</i>	Rogue Canyon rockcress ³	BA
<i>Arabis serpentinicola</i>	Preston Peak rockcress	FC
<i>Arabis</i> sp. <i>nov./ined.</i>	Del Norte rockcress	FC
<i>Arctostaphylos hispidula</i>	Hairy manzanita ³	BA
<i>Asarum wagneri</i>	Green-flowered ginger ³	BS
<i>Asplenium septentrionale</i>	Northern spleenwort	BA

<i>Aster brickellioides</i>	Smooth rayless aster	BT
<i>Astragalus accidens</i> var. <i>hendersonii</i>	Thicket milk-vetch ³	BA

Table C-1. Special Status Species¹ Medford District

Scientific Name	Common Name	Status ²
<i>Astragalus californicus</i>	California milk-vetch	BT
<i>Astragalus gambelianus</i>	Gambel milk-vetch	BT
<i>Astragalus umbraticus</i>	Woodland milk-vetch ³	BA
<i>Balsamorhiza sericea</i>	Silky balsamroot ³	BT
<i>Bensoniella oregana</i>	Bensonia ³	FC/SEIS
<i>Botrychium crenulatum</i>	Crenulate moonwort	FC
<i>Brodiaea californica</i>	California brodiaea	BT
<i>Callitriche marginata</i>	Winged water-starwort	BT
<i>Calochortus coxii</i>	Cox's mariposa lily	FC
<i>Calochortus greenei</i>	Greene's mariposa lily ³	FC
<i>Calochortus howellii</i>	Howell's mariposa lily ³	FC
<i>Calochortus indecorus</i>	Sexton Mt. mariposa lily	FC
<i>Calochortus monophyllus</i>	Yellow star-tulip ³	BA
<i>Calochortus umpquaensis</i>	Umpqua mariposa lily ³	FC/SEIS
<i>Camassia howellii</i>	Howell's camas ³	FC
<i>Camissonia graciliflora</i>	Slender-flowered evening-primrose	BT
<i>Camissonia ovata</i>	Golden eggs	BT
<i>Cardamine gemmata</i>	Purple toothwort ³	FC
<i>Cardamine nuttallii</i> var. <i>covilleana</i>	Coville's toothwort	BT
<i>Carex buxbaumii</i>	Buxbaum's sedge	BT
<i>Carex gigas</i>	Siskiyou sedge ³	BA
<i>Carex livida</i>	Pale sedge	BA
<i>Carex saliniformis</i>	Deceiving sedge	BT
<i>Carex serratodens</i>	Saw-tooth sedge	BT
<i>Castilleja hispida</i> ssp. <i>brevilobata</i>	Short-lobed red paintbrush ³	BT
<i>Cheilanthes intertexta</i>	Coastal lipfern	BA
<i>Chlorogalum angustifolium</i>	Narrow-leaved amole	BA
<i>Cimicifuga elata</i>	Tall bugbane ³	FC
<i>Cryptantha milobakeri</i>	Milo Baker's cryptantha	BT
<i>Cupressus bakeri</i>	Baker's cypress ³	BA
<i>Cypripedium californicum</i>	California lady's-slipper ³	BT
<i>Cypripedium fasciculatum</i>	Clustered lady's-slipper ³	FC/SEIS
<i>Cypripedium montanum</i>	Mountain lady's-slipper ³	BT/SEIS
<i>Darlingtonia californica</i>	California pitcher-plant ³	BT
<i>Delphinium nudicaule</i>	Red larkspur ³	BT
<i>Dicentra formosa</i> ssp. <i>oregana</i>	Oregon bleedingheart ³	BT
<i>Dicentra pauciflora</i>	Few-flowered bleedingheart	BA
<i>Dichelostemma ida-maia</i>	Firecracker flower ³	BT
<i>Draba howellii</i>	Howell's whitlow-grass	BA
<i>Epilobium oreganum</i>	Oregon willow herb ³	FC
<i>Epilobium rigidum</i>	Rigid willow herb ³	BT
<i>Erigeron cervinus</i>	Deer erigeron	BA
<i>Eriogonum pendulum</i>	Nodding buckwheat ³	BT
<i>Eriogonum ternatum</i>	Waldo buckwheat ³	BT
<i>Erythronium howellii</i>	Howell's adder's-tongue ³	BA
<i>Eschscholzia caespitosa</i>	Gold poppy ³	BA
<i>Euonymus occidentalis</i>	Western wahoo	BT
<i>Frasera umpquaensis</i>	Umpqua swertia ³	FC
<i>Fritillaria falcata</i>	Falcate fritillary	FC
<i>Fritillaria gentneri</i>	Gentner's fritillary ³	FC
<i>Fritillaria glauca</i>	Siskiyou fritillary ³	BA
<i>Fritillaria purdyi</i>	Purdy's fritillary	BA
<i>Gentiana plurisetosa</i>	Elegant gentian	FC

Table C-1. Special Status Species¹ Medford District

Scientific Name	Common Name	Status ²
<i>Gentiana setigera</i>	Waldo gentian ³	FC
<i>Haplopappus whitneyi</i> spp. <i>discoideus</i>	Whitney's haplopappus	BA
<i>Hastingsia atropurpurea</i>	Purple-flowered rush lily ³	FC
<i>Hastingsia bracteosa</i>	Large-flowered rush lily ³	FC
<i>Helianthus bolanderi</i>	Bolander's sunflower	BT
<i>Hesperevax acaulis</i> var. <i>robustior</i>	Robust evax	BT
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	Short-leaved evax	BT
<i>Hieracium bolanderi</i>	Bolander's hawkweed ³	BA
<i>Hieracium greenei</i>	Greene's hawksweed	BT
<i>Horkelia tridentata</i> ssp. <i>tridentata</i>	Three-toothed horkelia	BT
<i>Howellia aquatilis</i>	Howellia	FP
<i>Iliamna latibracteata</i>	Globe mallow	BA
<i>Isopyrum stipitatum</i>	Dwarf isopyrum ³	BT
<i>Juncus kelloggii</i>	Kellogg's dwarf rush	BT
<i>Kalmiopsis leachiana</i>	Kalmiopsis ³	BT
<i>Keckiella lemmonii</i>	Bush beardtongue	BT
<i>Lathyrus delnorticus</i>	Del Norte pea	BT
<i>Leucothoe davisii</i>	Sierra laurel ³	BT
<i>Lewisia cotyledon</i> var. <i>howellii</i>	Howell's lewisia ³	FC
<i>Lewisia leana</i>	Many-flowered lewisia ³	BA
<i>Lewisia oppositifolia</i>	Opposite-leaved lewisia ³	BT
<i>Lilium pardalinum</i> ssp. <i>wigginsii</i>	Wiggin's lily ³	BT
<i>Limnanthes floccosa</i> ssp. <i>bellingermana</i>	Bellinger's meadow-foam ³	FC
<i>Limnanthes floccosa</i> ssp. <i>pumila</i>	Dwarf meadow-foam ³	FC
<i>Limnanthes gracilis</i> var. <i>gracilis</i>	Slender meadow-foam ³	FC
<i>Linanthus bolanderi</i>	Bolander's linanthus	BT
<i>Lipocarpa aristulata</i>	Aristulate lipocarpa	BT
<i>Lithophragma campanulata</i>	Large-flowered hill star ³	BT
<i>Lomatium cookii</i>	Cook's parsley ³	FC/SEIS
<i>Lomatium engelmannii</i>	Engelmann's desert-parsley	BA
<i>Lomatium tracyi</i>	Tracy's desert-parsley	BA
<i>Lonicera interrupta</i>	Chaparral honeysuckle	BT
<i>Lotus stipularis</i> var. <i>stipularis</i>	Stipuled trefoil	BT
<i>Lupinus tracyi</i>	Tracy's lupine	BA
<i>Luzula subcongesta</i>	Donner wood-rush	BT
<i>Lycopodiella inundata</i>	Bog club-moss	BT
<i>Meconella oregana</i>	White meconella	FC
<i>Microseris douglasii</i> ssp. <i>douglasii</i>	Douglas' microseris	BA
<i>Microseris howellii</i>	Howell's microseris ³	FC
<i>Microseris laciniata</i> ssp. <i>detlingi</i>	Detling's microseris ³	FC
<i>Mimulus bolanderi</i>	Bolander's monkey-flower	BA
<i>Mimulus douglasii</i>	Douglas' monkeyflower ³	BT
<i>Mimulus jepsonii</i>	Jepson's monkey-flower	BA
<i>Mimulus kelloggii</i>	Kellogg's monkey-flower ³	BA
<i>Mimulus pulsiferae</i>	Candelabrum monkey-flower	BT
<i>Mimulus pygmaeus</i>	Pygmy monkey-flower ³	FC
<i>Minuartia californica</i>	California sandwort ³	BT
<i>Mirabilis greenei</i>	Siskiyou four-o'clock	BT
<i>Monardella purpurea</i>	Siskiyou monardella ³	BA
<i>Montia diffusa</i>	Branching montia	BT
<i>Montia howellii</i>	Howell's montia	FC
<i>Myosorus minimus</i> ssp. <i>apus</i> var. <i>sessiliflorus</i>	Least mouse tail	FC
<i>Nama lobbii</i>	Lobb's nama ³	BT

Table C-1. Special Status Species¹ Medford District

Scientific Name	Common Name	Status ²
<i>Navarretia heterandra</i>	Tehama navarretia ³	BA
<i>Navarretia tagetina</i>	Marigold navarretia	BT
<i>Nemacladus capillaris</i>	Common nemacladus ³	BA
<i>Orthocarpus cuspidatus ssp. cuspidatus</i>	Broad-scaled owl-clover ³	BT
<i>Oxypolis occidentalis</i>	Cow-bane	BT
<i>Perideridia erythrorhiza</i>	Red-root yampah ³	FC
<i>Perideridia howellii</i>	Howell's false-caraway ³	BA
<i>Phacelia leonis</i>	Leo's phacelia	BT
<i>Phacelia verna</i>	Spring phacelia ³	BT
<i>Pilularia americana</i>	American pillwort	BA
<i>Pinus sabiniana</i>	Digger pine	BT
<i>Plagiobothrys austiniiae</i>	Austin's plagiobothrys	BT
<i>Plagiobothrys figuratus ssp. corallicarpus</i>	Coral-seeded allocarya ³	FC
<i>Plagiobothrys glyptocarpus</i>	Sculptured allocarya	BT
<i>Poa piperi</i>	Piper's bluegrass ³	BA
<i>Poa rhizomata</i>	Timber bluegrass	BT
<i>Poa suksdorfii</i>	Suksdorf's bluegrass	BT
<i>Potamogeton diversifolius</i>	Rafinesque's pondweed	BA
<i>Potamogeton foliosus var. fibrillosus</i>	Leafy pondweed	BA
<i>Ranunculus austro-oreganus</i>	Southern Oregon buttercup ³	FC
<i>Rhamnus ilicifolia</i>	Red-berried buckthorn	BA
<i>Ribes divaricatum var. pubiflorum</i>	Straggly gooseberry	BT
<i>Romanzoffia "thompsonii," ssp. ined.</i>	Thompson's romanzoffia	BS
<i>Rosa spithamea var. spithamea</i>	Ground rose	BT
<i>Salix delnortensis</i>	Del Norte willow ³	BA
<i>Sanicula peckiana</i>	Peck's snake-root ³	BT
<i>Scirpus pendulus</i>	Drooping bulrush	BT
<i>Scribneria bolanderi</i>	Scribner's grass	BA
<i>Sedum laxum ssp. heckneri</i>	Heckner's stonecrop ³	BA
<i>Sedum moranii</i>	Rogue River stonecrop ³	FC
<i>Sedum oblancheolatum</i>	Applegate stonecrop ³	FC
<i>Sedum radiatum ssp. depauperatum</i>	Depauperate stonecrop ³	FC
<i>Sedum spathulifolium ssp. purdyi</i>	Purdy's stonecrop	BA
<i>Sedum stenopetalum</i>		BT
<i>Senecio hesperius</i>	Siskiyou butterweed ³	FC
<i>Silene californica</i>	California pink	BT
<i>Silene hookeri ssp. bolanderi</i>	Bolander's catchfly	BA
<i>Silene lemmonii</i>	Lemmon's campion ³	BT
<i>Smilax californica</i>	California smilax ³	BT
<i>Sophora leachiana</i>	Western sophora ³	FC
<i>Streptanthus glandulosus</i>	Common jewel flower	BT
<i>Streptanthus howellii</i>	Howell's streptanthus ³	BS
<i>Thlaspi montanum var. siskiyouense</i>	Siskiyou Mountain pennycress ³	BT
<i>Trillium angustipetalum</i>	Siskiyou trillium	BA
<i>Triteleia crocea</i>	Yellow brodiaea	BT
<i>Triteleia ixioides ssp. anilina</i>	Sierra brodiaea ³	BA
<i>Triteleia ixioides ssp. scabra</i>	Golden triteleia	BT
<i>Triteleia laxa</i>	Ithurial's spear	BA
<i>Utricularia minor</i>	Lesser bladderwort	BA
<i>Vancouveria chrysantha</i>	Yellow vancouveria ³	BT
<i>Veratrum insolitum</i>	Siskiyou false-hellebore ³	BT
<i>Viola primulifolia ssp. occidentalis</i>	Western bog violet ³	FC
<i>Wolffia columbiana</i>	Columbia wolffia	BA

Table C-1. Special Status Species¹ Medford District

Scientific Name	Common Name	Status ²
SEIS Vascular Plants		
<i>Allotropa virgata</i>	Candystick ³	SEIS
<i>Bensoniella oregana (California)</i>	Bensonia ³	FC/SEIS
<i>Cypripedium fasciculatum</i>	Clustered lady's-slipper ³	FC/SEIS
<i>Cypripedium montanum</i>	Mountain lady's-slipper ³	BT/SEIS
Non-Vascular Plants - Liverworts		
<i>Barbilophozia arbata</i>		BT
<i>Barbilophozia lycopodioides</i>		BT
<i>Calypogeia sphagnicola</i>		BA
<i>Cephaloziella spinigera</i>		BT
<i>Chiloscyphus gemmiparus</i>		BS
<i>Diplophyllum plicatum</i>		BT
<i>Haplomitrium hookeri</i>		BT
<i>Herbertus aduncus</i>		BT
<i>Herbertus sakuraii</i>		BA
<i>Jamesoniella autumnalis</i>		BT
<i>Lophozia laxa</i>		BA
<i>Marsupella sparsifolia</i>		BT
<i>Metzgeria temperata</i>		BT
<i>Plagiochila semidecurrens</i>		BT
<i>Radula brunnea</i>		BT
<i>Schofieldia monticola</i>		BT
<i>Sphaerocarpos hians</i>		BS
<i>Tritomaria quinquedentata</i>		BT
Non-Vascular Plants - Mosses		
<i>Andreaea schofieldian</i>		BA
<i>Bruchia bolanderi</i>		BT
<i>Campylopus schmidii</i>		BA
<i>Encalypta brevicolla var. crumiana</i>		BS
<i>Encalypta brevipes</i>		BT
<i>Funaria muhlenbergii</i>		BA
<i>Iwatsukiella leucotricha</i>		BA
<i>Limbella fryei</i>		FC
<i>Pohlia sphagnicola</i>		BA
<i>Polytrichum strictum</i>		BA
<i>Racomitrium pacificum</i>		BA
<i>Rhytidium rugosum</i>		BT
<i>Tayloria serrata</i>		BA
<i>Tetraplodon mnioides</i>		BA
<i>Trematodon boasii</i>		BT
<i>Tripterocladium leucocladulum</i>		BS
<i>Triquetrella californica</i>		BT
Non-Vascular Plants - Lichens		
<i>Bryoria bicolor</i>		BA
<i>Bryoria pseudocapillaris</i>		BA
<i>Buellia oidalea</i>		BT

Table C-1. Special Status Species¹ Medford District

Scientific Name	Common Name	Status ²
<i>Caloplaca stantonii</i>		BA
<i>Cladidium bolanderi</i>		BT
<i>Erioderma solediatum</i>		BA
<i>Hypogymnia duplicata</i>		BT
<i>Lecanora caesiorubella ssp. merrillii</i>		BT
<i>Lecanora pringlei</i>		BT
<i>Lecidea dolodes</i>		BT
<i>Leioderma solediatum</i>		BA
<i>Nephroma occultum</i>		BS
<i>Niebla cephalota</i>		BT
<i>Pseudocyphellaria aurata</i>		BT
<i>Pseudocyphellaria mougeotiana</i>		BA
<i>Schismatomma californicum</i>		BT
<i>Sulcaria badia</i>		BA
<i>Toleschistes flavicans</i>		BT
<i>Usnea hesperiana</i>		BA
<i>Usnea rubicunda</i>		BT

Animals

<i>Canis lupus</i>	Gray wolf	FE/SE
<i>Falco peregrinus</i>	Peregrine falcon	FE/SE
<i>Haliaeetus leucocephalus</i>	Bald eagle	FT/ST
<i>Strix occidentalis</i>	Northern spotted owl	FT/ST
<i>Brachyramphus marmoratum</i>	Marbled murrelet	FT/SC
<i>Oncorhynchus mykiss ssp.</i>	Redband trout	FC
<i>Catostomus rimiculus</i>	Jenny Creek sucker	FC
<i>Plethodon elongatus</i>	Del Norte salamander	FC/SV
<i>Plethodon stormi</i>	Siskiyou Mountains salamander	FC/SV
<i>Rana aurora</i>	Red-legged frog	FC
<i>Rana pretiosa</i>	Spotted Frog	FC/SC
<i>Clemmys marmorata</i>	Western pond turtle	FC/SC
<i>Accipiter gentilis</i>	Northern goshawk	FC/SC
<i>Lanius ludovicianus</i>	Loggerhead shrike	FC
<i>Oreortyx pictus</i>	Mountain quail	FC
<i>Plecotus townsendi</i>	Townsend's big eared bat	FC/SC
<i>Pisidium ultramontanum</i>	Oregon pearly mussel ³	FC
<i>Monadenia fidelis minor</i>	Oregon snail ³	FC
<i>Agapetus denningi</i>	Denning's agapetus caddisfly ³	FC
<i>Farula davisi</i>	Green springs Mtn. farulan caddisfly	FC
<i>Homoplectra schuhi</i>	Schuh's homoplectran caddisfly ³	FC
<i>Rhyacophila colonus</i>	O'Brien rhyacophilan caddisfly ³	FC
<i>Tinodes siskiyou</i>	Siskiyou caddisfly	FC
<i>Rhyacophila fenderi</i>	Fender's rhyacophilan caddisfly ³	FC
<i>Bombus franklini</i>	Franklin's bumblebee ³	FC
<i>Chloeatis aspasma</i>	Siskiyou chloealtis grasshopper	FC
<i>Myotis thysanodes</i>	Fringed myotis ³	BS/SV
<i>Rana cascadae</i>	Cascades frog ³	AS/SC
<i>Aneides ferreus</i>	Clouded salamander ³	AS/SC
<i>Aneides flavipunctatus</i>	Black salamander ³	AS/SP
<i>Martes pennanti</i>	Fisher	AS/SC
<i>Asyndesmus lewis</i>	Lewis' woodpecker ³	AS/SC

Table C-1. Special Status Species¹ Medford District

Scientific Name	Common Name	Status ²
<i>Martes americana</i>	Marten ³	AS/SC
<i>Ascaphus truei</i>	Tailed frog	AS/SV
<i>Sialia mexicana</i>	Western bluebird ³	AS/SC
<i>Dryocopus pileatus</i>	Pileated woodpecker	AS/SC
<i>Picoides arcticus</i>	Black-backed woodpecker ³	AS/SC
<i>Speotyto cunicularia</i>	Burrowing owl ³	AS/SC
<i>Lampropeltis zonata</i>	California mountain kingsnake ³	AS/SP
<i>Batrachoseps attenuatus</i>	California slender salamander ³	AS/SP
<i>Lampropeltis getulus</i>	Common kingsnake ³	AS/SP
<i>Otus flammeolus</i>	Flammulated owl ³	AS/SC
<i>Strix nebulosa</i>	Great gray owl ³	AS/SC
<i>Aegolius acadicus</i>	Northern saw-whet owl ³	AS
<i>Antrozous pallidus</i>	Pacific pallid bat ³	AS/SV
<i>Contia tenuis</i>	Sharptail snake ³	AS/SC
<i>Dendrocopos albolarvatus</i>	White-headed woodpecker ³	AS/SC
<i>Pelecanus erythrorhynchos</i>	White Pelican ³	AS/SV
<i>Grus canadensis</i>	Greater sandhill crane ³	AS/SV
<i>Picoides tridactylus</i>	Three-toed woodpecker ³	AS/SC
<i>Progne subis</i>	Purple Martin ³	AS/SC
<i>Sturnella neglecta</i>	Western meadowlark ³	AS
<i>Oncorhynchus kisutch</i>	Coho salmon	
AS/SC/SD/AFS		
<i>Oncorhynchus mykiss</i>	Steelhead trout (winter) ⁴	AFS/SD
<i>Oncorhynchus mykiss</i>	Steelhead trout (summer)	AFS/SD
<i>Oncorhynchus tshawytscha</i>	Chinook salmon (fall-run) ⁴	
AS/SD/SC/AFS		

¹ Plants: As of September 1993; Animals: As of November 1991.

² Federally listed by U.S. Fish and Wildlife Service and the National Marine Fisheries Service:

- FE: Federal endangered
- FT: Federal threatened
- FP: Federal proposed
- FC: Federal candidate

State Listed:

- SE: State endangered
- ST: State threatened
- SC: State candidate

Bureau-Sensitive:

- BS: BLM sensitive
- AS: Assessment species
- AFS: American Fisheries Society
- BS: Bureau Sensitive; ONHP List 1
- BA: Bureau Assesment; ONHP List 2
- BT: Bureau Tracking Species, ONHP lists 3 & 4

State Sensitive

- SC: State Critical
- SV: State Vulnerable
- SP: State Peripheral

³Known to exist on BLM administered land in the planning area.

⁴Illinois River basin only.

Table C-2. Species to be Protected Through Survey and Manage Guidelines (from the SEIS ROD Table C-3)

Species	Survey Strategies ¹			
	1	2	3	4
Fungi				
Mycorrhizal Fungi				
Boletes				
<i>Gastroboletus subalpinus</i>	X		X	
<i>Gastroboletus turbinatus</i>			X	
Boletes, low elevation				
<i>Boletus piperatus</i>			X	
<i>Tylopilus pseudoscaber</i>	X		X	
Rare Boletes				
<i>Boletus haematinus</i>	X		X	
<i>Boletus pulcherrimus</i>	X		X	
<i>Gastroboletus imbellus</i>	X		X	
<i>Gastroboletus ruber</i>	X		X	
False Truffles				
<i>Nivatogastrium nubigenum</i>	X		X	
<i>Rhizopogon abietis</i>			X	
<i>Rhizopogon atroviolaceus</i>			X	
<i>Rhizopogon truncatus</i>			X	
<i>Thaxterogaster pingue</i>			X	
Uncommon False Truffle				
<i>Macowanites chlorinosmus</i>	X		X	
Rare False Truffles				
<i>Alpova alexsmithii</i>	X		X	
<i>Alpova olivaceotinctus</i>	X		X	
<i>Arcangeliella crassa</i>	X		X	
<i>Arcangeliella lactarioides</i>	X		X	
<i>Destuntzia fusca</i>	X		X	
<i>Destuntzia rubra</i>	X		X	
<i>Gautieria magnicellaris</i>	X		X	
<i>Gautieria otthii</i>	X		X	
<i>Leucogaster citrinus</i>	X		X	
<i>Leucogaster microsporus</i>	X		X	
<i>Macowanites lymanensis</i>	X		X	
<i>Macowanites mollis</i>	X		X	
<i>Martellia fragrans</i>	X		X	
<i>Martellia idahoensis</i>	X		X	
<i>Martellia monticola</i>	X		X	
<i>Octavianina macrospora</i>	X		X	
<i>Octavianina papyracea</i>	X		X	
<i>Rhizopogon brunneiniger</i>	X		X	
<i>Rhizopogon evadens</i>			X	
var. <i>subalpinus</i>	X		X	
<i>Rhizopogon exiguus</i>	X		X	
<i>Rhizopogon flavofibrillosus</i>	X		X	
<i>Rhizopogon inquinatus</i>	X		X	
<i>Sedecula pulvinata</i>	X		X	

Species	Survey Strategies ¹			
	1	2	3	4
Undescribed Taxa, Rare Truffles and False Truffles				
<i>Alpova sp. nov.</i> #Trappe 9730		X		X
<i>Alpova sp. nov.</i> #Trappe 1966		X		X
<i>Arcangeliella sp. nov.</i> #Trappe 12382		X		X
<i>Arcangeliella sp. nov.</i> #Trappe 12359		X		X
<i>Chamonixia pacifica sp. nov.</i> #Trappe 12768		X		X
<i>Elaphomyces sp. nov.</i> #Trappe 1038		X		X
<i>Gastroboletus sp. nov.</i> #Trappe 2897		X		X
<i>Gastroboletus sp. nov.</i> #Trappe 7515		X		X
<i>Gastrosuillus sp. nov.</i> #Trappe 7516		X		X
<i>Gastrosuillus sp. nov.</i> #Trappe 9608		X		X
<i>Gymnomyces sp. nov.</i> #Trappe 4703,5576		X		X
<i>Gymnomyces sp. nov.</i> #Trappe 5052		X		X
<i>Gymnomyces sp. nov.</i> #Trappe 1690,1706,1710		X		X
<i>Gymnomyces sp. nov.</i> #Trappe 7545		X		X
<i>Hydnotrya sp. nov.</i> #Trappe 787,792		X		X
<i>Hydnotrya subnix sp. nov.</i> #Trappe 1861		X		X
<i>Martellia sp. nov.</i> #Trappe 649		X		X
<i>Martellia sp. nov.</i> #Trappe 1700		X		X
<i>Martellia sp. nov.</i> #Trappe 311		X		X
<i>Martellia sp. nov.</i> #Trappe 5903		X		X
<i>Octavianina sp. nov.</i> #Trappe 7502		X		X
<i>Rhizopogon sp. nov.</i> #Trappe 9432		X		X
<i>Rhizopogon sp. nov.</i> #Trappe 1692		X		X
<i>Rhizopogon sp. nov.</i> #Trappe 1698		X		X
<i>Thaxterogaster sp. nov.</i> #Trappe 4867,6242,7427,7962,8520		X		X
<i>Tuber sp. nov.</i> #Trappe 2302		X		X
<i>Tuber sp. nov.</i> #Trappe 12493		X		X
Rare Truffles				
<i>Balsamia nigra</i>		X		X
<i>Choiromyces alveolatus</i>		X		X
<i>Choiromyces venosus</i>		X		X
<i>Elaphomyces anthracinus</i>		X		X
<i>Elaphomyces subviscidus</i>		X		X

Species	Survey Strategies ¹			
	1	2	3	4
Chanterelles				
<i>Cantharellus cibarius</i>			X	X
<i>Cantharellus subalbidus</i>			X	X
<i>Cantharellus tubaeiformis</i>			X	X
Chanterelles - Gomphus				
<i>Gomphus bonarii</i>			X	
<i>Gomphus clavatus</i>			X	
<i>Gomphus floccosus</i>			X	
<i>Gomphus kauffmanii</i>			X	
Rare Chanterelle				
<i>Cantharellus formosus</i>	X		X	
<i>Polyozellus multiplex</i>	X		X	
Uncommon Coral Fungi				
<i>Ramaria abietina</i>			X	
<i>Ramaria araiospora</i>	X		X	
<i>Ramaria botryis</i>			X	
var. <i>aurantiiramosa</i>	X		X	
<i>Ramaria concolor</i> f. <i>tsugina</i>			X	
<i>Ramaria coulterae</i>			X	
<i>Ramaria fasciculata</i>			X	
var. <i>sparsiramosa</i>	X		X	
<i>Ramaria gelatiniaurantia</i>	X		X	
<i>Ramaria largentii</i>	X		X	
<i>Ramaria rubella</i> var. <i>blanda</i>	X		X	
<i>Ramaria rubrievanescens</i>	X		X	
<i>Ramaria rubripermanens</i>	X		X	
<i>Ramaria suecica</i>			X	
<i>Ramaria thiersii</i>	X		X	
Rare Coral Fungi				
<i>Ramaria amyloidea</i>	X		X	
<i>Ramaria aurantiisiccescens</i>	X		X	
<i>Ramaria celerivirescens</i>	X		X	
<i>Ramaria claviramulata</i>	X		X	
<i>Ramaria concolor</i> f. <i>marri</i>	X		X	
<i>Ramaria cyaneigranosa</i>	X		X	
<i>Ramaria hilaris</i> var. <i>olympiana</i>	X		X	
<i>Ramaria lorithamnus</i>	X		X	
<i>Ramaria maculatipes</i>	X		X	
<i>Ramaria rainierensis</i>	X		X	
<i>Ramaria rubribrunnescens</i>	X		X	
<i>Ramaria stuntzii</i>	X		X	
<i>Ramaria verlotensis</i>	X		X	
<i>Ramaria gracilis</i>	X		X	
<i>Ramaria spinulosa</i>	X		X	
Phaeocollybia				
<i>Phaeocollybia attenuata</i>			X	
<i>Phaeocollybia californica</i>	X		X	
<i>Phaeocollybia carmanahensis</i>	X		X	
<i>Phaeocollybia dissiliens</i>	X		X	
<i>Phaeocollybia fallax</i>			X	
<i>Phaeocollybia gregaria</i>	X		X	
<i>Phaeocollybia kauffmanii</i>	X		X	
<i>Phaeocollybia olivacea</i>			X	
<i>Phaeocollybia oregonensis</i>	X		X	

Species	Survey Strategies ¹			
	1	2	3	4
<i>Phaeocollybia piceae</i>	X		X	
<i>Phaeocollybia pseudofestiva</i>			X	
<i>Phaeocollybia scatesiae</i>	X		X	
<i>Phaeocollybia sipei</i>	X		X	
<i>Phaeocollybia spadicea</i>			X	
Uncommon Gilled Mushrooms				
<i>Catathelasma ventricosa</i>				X
<i>Cortinarius azureus</i>				X
<i>Cortinarius boulderensis</i>	X		X	
<i>Cortinarius cyanites</i>				X
<i>Cortinarius magnivelatus</i>	X		X	
<i>Cortinarius olympianus</i>	X		X	
<i>Cortinarius spilomius</i>				X
<i>Cortinarius tabularis</i>				X
<i>Cortinarius valgus</i>				X
<i>Dermocybe humboldtensis</i>	X		X	
<i>Hebeloma olympiana</i>	X		X	
<i>Hygrophorus caeruleus</i>	X		X	
<i>Hygrophorus karstenii</i>				X
<i>Hygrophorus vernalis</i>	X		X	
<i>Russula mustelina</i>				X
Rare Gilled Mushrooms				
<i>Chroogomphus loculatus</i>	X		X	
<i>Cortinarius canabarpa</i>	X		X	
<i>Cortinarius rainierensis</i>	X		X	
<i>Cortinarius variipes</i>	X		X	
<i>Cortinarius verrucisporus</i>	X		X	
<i>Cortinarius wiebeae</i>	X		X	
<i>Tricholoma venenatum</i>	X		X	
Uncommon Ecto-Polypores				
<i>Albatrellus ellisii</i>				X
<i>Albatrellus flettii</i>				X
Rare Ecto-Polypores				
<i>Albatrellus avellaneus</i>	X		X	
<i>Albatrellus caeruleoporus</i>	X		X	
Tooth Fungi				
<i>Hydnum repandum</i>				X
<i>Hydnum umbilicatum</i>				X
<i>Phellodon atratum</i>				X
<i>Sarcodon fuscoindicum</i>				X
<i>Sarcodon imbricatus</i>				X
Rare Zygomycetes				
<i>Endogone arcogena</i>	X		X	
<i>Endogone oregonensis</i>	X		X	
<i>Glomus radiatum</i>	X		X	
Saprobies (Decomposers)				
Uncommon Gilled Mushrooms				
<i>Baeospora myriadophylla</i>				X
<i>Chrysomphalina grossula</i>				X
<i>Collybia bakerensis</i>	X		X	

Species	Survey Strategies ¹			
	1	2	3	4
<i>Fayodia gracilipes (rainierensis)</i>			X	
<i>Gymnopilus punctifolius</i>	X		X	
<i>Marasmius applanatipes</i>	X		X	
<i>Mycena hudsoniana</i>	X		X	
<i>Mycena lilacifolia</i>			X	
<i>Mycena marginella</i>			X	
<i>Mycena monticola</i>	X		X	
<i>Mycena overholtsii</i>	X		X	
<i>Mycena quinaultensis</i>	X		X	
<i>Mycena tenax</i>			X	
<i>Mythicomyces corneipes</i>			X	
<i>Neolentinus kauffmanii</i>	X		X	
<i>Pholiota albivelata</i>	X		X	
<i>Stagnicola perplexa</i>			X	
Rare Gilled Mushrooms				
<i>Clitocybe subditopoda</i>	X		X	
<i>Clitocybe senilis</i>	X		X	
<i>Neolentinus adherens</i>	X		X	
<i>Rhodocybe nitida</i>	X		X	
<i>Rhodocybe speciosa</i>	X		X	
<i>Tricholomopsis fulvescens</i>	X		X	
Noble Polypore (rare and endangered)				
<i>Oxyporus nobilissimus</i>	X	X	X	
Bondarzewia Polypore				
<i>Bondarzewia montana</i>	X	X	X	
Rare Resupinates and Polypores				
<i>Aleurodiscus farlowii</i>	X		X	
<i>Dichostereum granulosum</i>	X		X	
Uncommon Cup Fungi				
<i>Cudonia monticola</i>			X	
<i>Gyromitra californica</i>			X	X
<i>Gyromitra esculenta</i>			X	X
<i>Gyromitra infula</i>			X	X
<i>Gyromitra melaleucoides</i>			X	X
<i>Gyromitra montana</i> (syn. <i>G. gigas</i>)			X	X
<i>Otidea leporina</i>	X		X	
<i>Otidea onotica</i>	X		X	
<i>Otidea smithii</i>	X		X	
<i>Plectania melastoma</i>			X	
<i>Podostroma alutaceum</i>			X	
<i>Sarcosoma mexicana</i>			X	
<i>Sarcosphaera eximia</i>			X	
<i>Spathularia flavida</i>			X	
Rare Cup Fungi				
<i>Aleuria rhenana</i>	X		X	
<i>Bryoglossum gracile</i>	X		X	
<i>Gelatinodiscus flavidus</i>	X		X	
<i>Helvella compressa</i>	X		X	
<i>Helvella crassitunicata</i>	X		X	
<i>Helvella elastica</i>	X		X	
<i>Helvella maculata</i>	X		X	
<i>Neourmula pouchetii</i>	X		X	

Species	Survey Strategies ¹			
	1	2	3	4
<i>Pithya vulgaris</i>	X		X	
<i>Plectania latahensis</i>	X		X	
<i>Plectania milleri</i>	X		X	
<i>Pseudaleuria quinaultiana</i>	X		X	
Club Coral Fungi				
<i>Clavariadelphus ligula</i>			X	X
<i>Clavariadelphus pistilaris</i>			X	X
<i>Clavariadelphus truncatus</i>			X	X
<i>Clavariadelphus borealis</i>			X	X
<i>Clavariadelphus lovejoyae</i>			X	X
<i>Clavariadelphus sachalinensis</i>			X	X
<i>Clavariadelphus subfastigiatus</i>			X	X
Jelly Mushroom				
<i>Phlogoitis helvelloides</i>			X	X
Branched Coral Fungi				
<i>Clavulina cinerea</i>			X	X
<i>Clavulina cristata</i>			X	X
<i>Clavulina ornatipes</i>			X	X
Mushroom Lichen				
<i>Phytoconis ericetorum</i>			X	X
Parasitic Fungi				
<i>Asterophora lycoperdoides</i>			X	
<i>Asterophora parasitica</i>			X	
<i>Collybia racemosa</i>			X	
<i>Cordyceps capitata</i>			X	
<i>Cordyceps ophioglossoides</i>			X	
<i>Hypomyces luteovirens</i>			X	
Cauliflower Mushroom				
<i>Sparassis crispa</i>			X	
Moss Dwelling Mushrooms				
<i>Cyphellostereum laeve</i>			X	
<i>Galerina atkinsoniana</i>			X	
<i>Galerina cerina</i>			X	
<i>Galerina heterocystis</i>			X	
<i>Galerina sphagnicola</i>			X	
<i>Galerina vittaeformis</i>			X	
<i>Rickenella setipes</i>			X	
Coral Fungi				
<i>Clavicornia avellanea</i>			X	
Lichens				
Rare Forage Lichen				
<i>Bryoria tortuosa</i>	X		X	

Species	Survey Strategies ¹			
	1	2	3	4
Rare Leafy (arboreal) Lichens				
<i>Hypogymnia duplicata</i>		X	X	
<i>Tholurna dissimilis</i>	X		X	
Rare Nitrogen-fixing Lichens				
<i>Dendroscopium intricatum</i>	X		X	
<i>Lobaria hallii</i>	X		X	
<i>Lobaria linita</i>	X	X	X	
<i>Nephroma occultum</i>	X		X	
<i>Pannaria rubiginosa</i>	X		X	
<i>Pseudocyphellaria rainierensis</i>	X	X	X	
Nitrogen-fixing Lichens				
<i>Lobaria oregana</i>				X
<i>Lobaria pulmonaria</i>				X
<i>Lobaria scrobiculata</i>				X
<i>Nephroma bellum</i>				X
<i>Nephroma helveticum</i>				X
<i>Nephroma laevigatum</i>				X
<i>Nephroma parile</i>				X
<i>Nephroma resupinatum</i>				X
<i>Pannaria leucostictoides</i>				X
<i>Pannaria mediterranea</i>				X
<i>Pannaria saubinetii</i>				X
<i>Peltigera collina</i>				X
<i>Peltigera neckeri</i>				X
<i>Peltigera pacifica</i>				X
<i>Pseudocyphellaria anomala</i>				X
<i>Pseudocyphellaria anthraspisi</i>				X
<i>Pseudocyphellaria crocata</i>				X
<i>Stricta beauvoisii</i>				X
<i>Stricta fuliginosa</i>				X
<i>Stricta limbata</i>				X
Pin Lichens				
<i>Calicium abietinum</i>				X
<i>Calicium adaequatum</i>				X
<i>Calicium adspersum</i>				X
<i>Calicium glaucellum</i>				X
<i>Calicium viride</i>				X
<i>Chaenotheca brunneola</i>				X
<i>Chaenotheca chrysocephala</i>				X
<i>Chaenotheca ferruginea</i>				X
<i>Chaenotheca furfuracea</i>				X
<i>Chaenotheca subroscida</i>				X
<i>Chaenotheca pusilla</i>				X
<i>Cyphelium inquinans</i>				X
<i>Microcalicium arenarium</i>				X
<i>Mycocalicium subtile</i>				X
<i>Stenocybe clavata</i>				X
<i>Stenocybe major</i>				X
Rare Rock Lichens				
<i>Pilophorus nigricaulis</i>	X		X	
<i>Stricta arctica</i>	X		X	
Riparian Lichens				
<i>Cetrelia cetrarioides</i>				X
<i>Collema nigrescens</i>				X

Species	Survey Strategies ¹			
	1	2	3	4
<i>Leptogium burnetiae</i> var. <i>hirsutum</i>				X
<i>Leptogium cyanescens</i>				X
<i>Leptogium saturninum</i>				X
<i>Leptogium teretiusculum</i>				X
<i>Platismatia lacunosa</i>				X
<i>Ramalina thrausta</i>				X
<i>Usnea longissima</i>				X
Aquatic Lichens				
<i>Dermatocarpon luridum</i>		X		X
<i>Hydrothyria venosa</i>		X		X
<i>Leptogium rivale</i>		X		X
Rare Oceanic Influenced Lichens				
<i>Bryoria pseudocapillaris</i>		X		X
<i>Bryoria spiriferata</i>		X		X
<i>Bryoria subcana</i>		X		X
<i>Buellia oidalea</i>		X		X
<i>Erioderma soledatum</i>		X		X
<i>Hypogymnia oceanica</i>		X		X
<i>Leioderma soledatum</i>		X		X
<i>Leptogium brebissonii</i>		X		X
<i>Niebla cephalota</i>		X		X
<i>Pseudocyphellaria mougeotiana</i>		X		X
<i>Teloschistes flavicans</i>		X		X
<i>Usnea hesperina</i>		X		X
Oceanic Influenced Lichens				
<i>Cetraria californica</i>		X		X
<i>Heterodermia leucomelos</i>		X		X
<i>Loxospora</i> sp. nov. "corallifera" (Brodo in dit)		X		X
<i>Pyrrhospora quereana</i>		X		X
Additional Lichen Species				
<i>Cladonia norvegica</i>				X
<i>Heterodermia sitchensis</i>				X
<i>Hygomnia vittata</i>				X
<i>Hypotrachyna revoluta</i>				X
<i>Nephroma isidiosum</i>				X
<i>Ramalina pollinaria</i>				X
Bryophytes				
<i>Antitrichia curtispindula</i>				X
<i>Bartramiopsis lescurii</i>		X		X
<i>Brotherella roelli</i>		X		X
<i>Buxbaumia piperi</i>		X		X
<i>Buxbaumia viridis</i>		X		X
<i>Diplophyllu albicans</i>		X		X
<i>Diplophyllum plicatum</i>		X	X	
<i>Douinia ovata</i>				X
<i>Encalypta brevicolla</i> var. <i>crumiana</i>		X		X
<i>Herbertus aduncus</i>		X		X
<i>Herbertus sakuraii</i>		X		X
<i>Iwatsuklella leucotricha</i>		X		X
<i>Kurzia makinoana</i>		X	X	
<i>Marsupella emarginata</i> var. <i>aquatica</i>		X	X	

Species	Survey Strategies ¹			
	1	2	3	4
<i>Orthodontium gracile</i>	X		X	
<i>Plagiochila satol</i>	X		X	
<i>Plagiochila semidecurrans</i>	X		X	
<i>Pleuroziopsis ruthenica</i>	X		X	
<i>Ptilidium californicum</i> (California only)	X	X		
<i>Racomitrium aquaticum</i>	X		X	
<i>Radula brunnea</i>	X		X	
<i>Rhizomnium nudum</i>	X		X	
<i>Schistostega pennata</i> (Washington only)	X		X	
<i>Scouleria marginata</i>				X
<i>Tetraphis geniculata</i>	X		X	
<i>Tritomaria exsectiformis</i>	X	X		
<i>Tritomaria quinquedentata</i>	X		X	
<i>Ulota meglospora</i>	X	X		
Vascular Plants				
<i>Allotropa virgata</i>	X	X		
<i>Bensoniella oregana</i> (California)	X	X		
<i>Cypripedium fasciculatum</i>	X	X		
<i>Cypripedium montanum</i>	X	X		
<i>Pedicularis howellii</i>	X	X		
Animals				
Mollusks				
<i>Ancotrema voyannum</i>	X	X		
<i>Cryptomastix devia</i>	X	X		
<i>Cryptomastix hendersoni</i>	X	X		
<i>Derocera hesperium</i>	X	X		
<i>Fluminicola n. sp. 1</i>	X	X		
<i>Fluminicola n. sp. 11</i>	X	X		
<i>Fluminicola n. sp. 14</i>	X	X		
<i>Fluminicola n. sp. 15</i>	X	X		
<i>Fluminicola n. sp. 16</i>	X	X		
<i>Fluminicola n. sp. 17</i>	X	X		
<i>Fluminicola n. sp. 18</i>	X	X		
<i>Fluminicola n. sp. 19</i>	X	X		
<i>Fluminicola n. sp. 2</i>	X	X		
<i>Fluminicola n. sp. 20</i>	X	X		
<i>Fluminicola n. sp. 3</i>	X	X		
<i>Fluminicola seminalis</i>	X	X		
<i>Helminthoglypta hertleini</i>	X	X		
<i>Helminthoglypta talmadgei</i>	X	X		
<i>Hemphillia barringtoni</i>	X	X		
<i>Hemphillia glandulosa</i>	X	X		
<i>Hemphillia malonei</i>	X	X		
<i>Hemphillia pantherina</i>	X	X		
<i>Juga (O.) n. sp. 2</i>	X	X		
<i>Juga (O.) n. sp. 3</i>	X	X		
<i>Lyogyrus n. sp. 1</i>	X	X		
<i>Lyogyrus n. sp. 2</i>	X	X		
<i>Lyogyrus n. sp. 3</i>	X	X		
<i>Megomphix hemphilli</i>	X	X		
<i>Monadenia chaceana</i>	X	X		
<i>Monadenia churchi</i>	X	X		
<i>Monadenia fidelis klamathica</i>	X	X		
<i>Monadenia fidelis minor</i>	X	X		
<i>Monadenia fidelis ochromphalus</i>	X	X		
<i>Monadenia troglodytes</i>				

Species	Survey Strategies ¹			
	1	2	3	4
<i>Monadenia troglodytes wintu</i>	X	X		
<i>Orcohelix n. sp.</i>	X	X		
<i>Pristiloma articum crateris</i>	X	X		
<i>Prophysaon coeruleum</i>	X	X		
<i>Prophysaon dubium</i>	X	X		
<i>Trilobopsis roperi</i>	X	X		
<i>Trilobopsis tehamana</i>	X	X		
<i>Vertigo n. sp.</i>	X	X		
<i>Vespericola pressleyi</i>	X	X		
<i>Vespericola shasta</i>	X	X		
<i>Vorticifex flamathensis sinitsini</i>	X	X		
<i>Vorticifex n. sp. 1</i>	X	X		
<i>Prophysaon coeruleum</i>	X	X		

Arthropods

<i>Canopy herbivores</i> (south range)				X
<i>Coarse wood chewers</i> (south range)				X
<i>Litter and soil dwelling species</i> (south range)				X
<i>Understory and forest</i> gap herbivores				X

Amphibians

Del Norte salamander	X	X		
Siskiyou Mountains salamander	X	X		

Birds

Great Gray Owl	X	X		
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Mammals

Red tree vole (<i>P. longicaudus</i>)		X		
Lynx				X
Fringed myotis	X	X		
Long-eared myotis	X	X		
Long-legged myotis	X	X		
Pallid bat	X	X		
Silver-haired bat	X	X		

¹Survey Strategies:

1: manage known sites,

2: survey prior to activities and manage sites,

3: conduct extensive surveys and manage sites, and

4: conduct general regional surveys.

**Table C-3. Medford District BLM
Protection Buffer Species Identified in the
SEIS ROD**

	Protection Buffers
Nonvascular Plants	
Moss	
<i>Ulota meglospora</i>	
Liverwort	
<i>Ptilidium californicum</i>	
Fungi	
<i>Aleuria rhenana</i>	
<i>Otidea leporina</i>	
<i>O. onotica</i>	
<i>O. smithii</i>	
Animals	
Del Norte salamander	Matrix
Siskiyou Mountain salamander	Matrix
White-headed woodpecker	Matrix
Black-backed woodpecker	Matrix
Pygmy nuthatch	Matrix
Flammulated owl	Matrix
Great gray owl	LSR

Additional species will be protected with buffers around known sites but were not referred to specifically as "Protection Buffers" in the SEIS ROD. Examples include northern spotted owls, marbled murrelets, several bat species, most special status plant species, etc. For more information and details refer to text in Chapter 2 of the PRMP/FEIS.

Appendix D. Best Management Practices

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I. Introduction

A. Purpose

Best management practices (BMPs) are required by the Federal Clean Water Act (as amended by the Water Quality Act of 1987) to reduce nonpoint source pollution to the maximum extent practicable. BMPs are considered the primary mechanisms to achieve Oregon water quality standards.

Best management practices are defined as methods, measures, or practices selected on the basis of site-specific conditions to ensure that water quality will be maintained at its highest practicable level. BMPs include, but are not limited to, structural and nonstructural controls, operations, and maintenance procedures. BMPs can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters (40 CFR 130.2, EPA Water Quality Standards Regulation).

Nonpoint sources of pollution result from natural causes, human actions, and the interactions between natural events and conditions associated with human use of the land and its resources. Nonpoint source pollution is caused by diffuse sources rather than from a discharge at a specific single location. Such pollution results in alteration of the chemical, physical, and biological integrity of water. Erosion from a harvest unit or surface erosion from a road are some examples of nonpoint sources.

The BMPs in this document are a compilation of existing policies and guidelines and commonly employed practices designed to maintain or improve water quality. Objectives identified in this BMP Appendix also include maintenance or improvement of soil productivity and fish habitat since they are closely tied to water quality. Selection of appropriate BMPs will help meet Aquatic Conservation Strategy objectives during management action implementation. Practices included in this Appendix supplement the Standards and Guidelines from the SEIS ROD and they should be used together.

B. Organization and Use

This document is organized by management activities plus separate sections that address activity planning and design, riparian reserves, wetlands, and fragile soils. Objectives are stated under each management activity followed by a list of practices designed to achieve the objectives.

BMPs are selected and implemented as necessary based on site-specific conditions to meet water quality, soil, or fish objectives for specific management actions. BMPs and Standards and Guidelines from the SEIS ROD may be modified to meet site specific situations. This Appendix does not provide an exhaustive list of BMPs. Additional nonpoint source control measures may be identified during watershed analysis or during the interdisciplinary process when evaluating site-specific management actions. Implementation and effectiveness of BMPs need to be monitored to determine whether the practices are correctly designed and applied to achieve the objectives. BMPs will be adjusted as necessary to ensure objectives are met.

Review and update of this Appendix will be an ongoing process. Updates will be made as needed to conform with changes in Bureau of Land Management policy, direction, or new information.

II. Watershed Analysis

Information on watershed analysis is found in many documents including the Standards and Guidelines on p. B-20 in the SEIS ROD, the FY 1994-96 Watershed Analysis Guidelines, A Federal Agency Guide for Pilot Watershed Analysis, and BLM Information Bulletins Nos. OR-93-478, OR-93-605, and OR-94-106. This analysis is intended to enable watershed planning that achieves Aquatic Conservation Strategy objectives. Watershed analysis will serve as the basis for BMP design during project-specific planning.

III. Project Planning and Design

A. Planning

Objective: To include soil productivity, water quality, and hydrologic considerations in project planning.

- Practices:**
1. Use information from watershed analysis to prepare project level plans.
 2. Use timber production capability classification (TPCC) inventory to identify areas classified as fragile due to slope gradient, mass movement potential, surface erosion potential, and high ground water levels.
 3. Use the planning process to identify, evaluate, and map potential problems (e.g., slump prone areas, saturated areas and slide areas) that were not addressed in the watershed analysis.
 4. Analyze watershed cumulative impacts and provide mitigation measures if necessary to meet water quality requirements (see section III.D.).
 5. Use watershed analysis information to determine potential for natural and activity-created high intensity wildfires at the project level. Reduce potential for high intensity wildfires through proposed management activities.

B. Design

Objective: To ensure that management activities maintain favorable conditions of soil productivity, water flow, water quality, and fish habitat.

- Practices:**
1. Design proposed management activities to mitigate potential adverse impacts to soil and water. Evaluate factors such as soil characteristics, watershed physiography, current watershed and stream channel conditions, proposed roads, skid trails, logging system design, etc., to determine impacts of proposed management activities.
 2. Design mitigation measures if adverse impacts to water quality/quantity or soil productivity may result from the proposed action.

C. Maps/Contract Requirements

Objective: To identify riparian reserves to be protected and to ensure their protection on the ground.

Practices: Include the following on activity maps and/or contracts:

1. Locate all stream channels, lakes, ponds, reservoirs, and wetlands (springs, bogs, etc.) with appropriate riparian reserves on project map and/or contracts.
2. Include protection required for identified water bodies on project maps and/or contracts.

D. Cumulative Impacts

Objective: To minimize detrimental impacts on water and soil resources resulting from the cumulative impact of land management activities within a watershed.

- Practices:**
1. Coordinate scheduling of management activities such as timber sales, road construction, and watershed restoration activities with other landowners in the watershed.
 2. Use watershed analysis results to identify watersheds with a high level of cumulative impacts.
 - a. Use the following general guidelines to delineate watersheds for cumulative impacts analyses.
 - 1) Natural drainage boundaries.
 - 2) Third to fifth order drainages (approximately 500 to 10,000 acres).
 - 3) Lower boundary location based on a state-designated beneficial use.
 - b. The extent to which any or all of the following criteria exist would determine which watersheds have a high risk for water quality degradation due to cumulative impacts. The criteria are not listed in order of priority.
 - 1) Highly erodible soils (i.e., subject to surface erosion, landslides, or slumps).
 - 2) Large percent of forest vegetation harvested.
 - 3) Large area of compacted soil.
 - 4) Large percent of nonrecovered openings in transient snow zone.
 - 5) High sedimentation potential.
 - 6) Poor to fair channel stability or condition.
 - 7) Poor to fair riparian condition (nonfunctional or functional-at risk with downward trend).
 - 8) High impact from catastrophic event (e.g., wildfire).
 - 9) High road density.
 - 10) Potential for adverse impact on a beneficial use.
 - 11) Monitoring data shows that water quality does not meet state water quality standards.
 - 12) Beneficial use impairment identified in DEQ's nonpoint source assessment and 305 (b) reports.
 3. For watersheds identified as having a high risk for water quality degradation, an intensive evaluation should follow the initial analysis and include the nature of the problem, the cause of the problem, and a specific plan with objectives and alternatives for recovery and mitigation. Water monitoring may also be initiated to validate the conclusion of the impact analysis and to establish baseline data.
 4. Based on site-specific conditions, select and apply special management practices such as the following to mitigate water quality impacts in high risk watersheds.
 - a. Develop and implement a watershed/riparian restoration plan and encourage coordination with landowners.
 - b. Require plans of operation for mining and rights-of-way. Require a management plan for grazing.
 - c. Defer the watershed from management activities which would potentially degrade water quality for approximately five years. Reanalyze the watershed.
 - d. Increase widths of riparian reserves.
 - e. Utilize ecosystem based concepts (as defined in the resource management plan) for timber harvest.

- f. Require helicopter logging.
- g. Require full suspension cable yarding.
- h. Require seasonal restrictions with no waivers for timber falling and yarding.
- i. Minimize existing and prevent additional road caused impacts:
 - 1) reduce road density;
 - 2) minimize road width and clearing limits;
 - 3) require transport of excavated materials to appropriate disposal site (end hauling);
 - 4) prohibit new road construction;
 - 5) no unsurfaced roads;
 - 6) require seasonal restrictions with no waivers for construction, renovation, and hauling;
 - 7) require special low impact maintenance and construction techniques;
 - 8) no roadside brushing/grubbing with excavator;
 - 9) no blading and ditch pulling in the winter unless essential to provide drainage;
 - 10) rock ditch lines;
 - 11) pull back sidecast from road construction and recontour roadway;
 - and
 - 12) remove culverts and reshape drainageway crossings.
- j. Restrict or officially close the watershed to off-highway vehicle use and enforce the closure.
- k. Implement regular compliance reviews on all activities in the watershed.
- l. Assess trade-offs between wildfire suppression impacts and wildfire damage; plan suppression levels accordingly. Limit use of heavy equipment during wildfire suppression.

IV. Riparian Reserves

Objective: To meet the Aquatic Conservation Strategy objectives in the Standards and Guidelines on p. B-11 in the SEIS ROD.

- Practices:**
1. Comply with interim riparian reserve widths described in the Standards and Guidelines on p. B-12 and p. C-30 in the SEIS ROD until completion of watershed analysis.
 2. Follow the Standards and Guidelines for riparian reserves on p. C-31 in the SEIS ROD.

V. Wetlands

Objective: To meet the Aquatic Conservation Strategy objectives in the Standards and Guidelines on p. B-11 in the SEIS ROD.

- Practices:**
1. Comply with interim riparian reserve widths described in the Standards and Guidelines on p. B-12 and p. C-30 in the SEIS ROD until completion of watershed analysis.
 2. Follow the Standards and Guidelines for riparian reserves on p. C-31 in the SEIS ROD.

VI. Fragile Soils

Objective: To minimize surface disturbance on fragile suitable commercial forestland.

The BMPs in this section are to be used in addition to those in other sections.

Four categories of fragile soils sensitive to surface-disturbing activities are identified in Medford District's timber production capability classification (TPCC):

Fragile Slope Gradient (FG) These sites consist of steep to extremely steep slopes that have a high potential for surface ravel. Gradients commonly range from 60 to greater than 100 percent.

Fragile Mass Movement (FP) These sites consist of deep seated, slump, or earth flow types of landslides with undulating topography and slope gradients generally less than 60 percent. Soils are derived from volcanic tuffs or breccias.

Fragile Surface Erosion (FM) These sites have soil surface horizons that are highly erodible. Soils are derived from granite or schist bedrock.

Fragile Groundwater (FW) These sites have high water tables where water is at or near the soil surface for sufficient periods of time that vegetation survival and growth are affected.

A. Roads

1. Planning

Practice: Avoid fragile soils when planning road systems.

2. Design

Practices:

1. Design haul roads with rock surface on FM, FP, and FW soils.
2. Use slotted risers, trash racks, or over-sized culverts to prevent culvert plugging on FM and FP soils.

3. Erosion Control

Practices:

1. Stabilize cutbanks, fillslopes, and ditchlines on FM soils using methods such as vegetation (grass seeding, deep rooted plants, etc.), terracing, rock buttressing, and rock armoring ditchlines.
2. Stabilize cutbanks on FP soils using rock buttressing.
3. Decommission or obliterate temporary spur roads as appropriate for site-specific condition using methods such as scarifying the road bed, planting tree seedlings or grass, restoring the natural ground contour, and water barring.

4. Maintenance

Practice: Minimize ditch cleaning on FM and FP soils to retard slumping of road and cutbanks.

5. Access Restrictions

Practice: Block unsurfaced roads on fragile soils to prohibit motorized vehicle use.

B. Timber Harvest

1. Yarding Methods - Cable

Practices:

1. Use full or partial suspension when yarding on FG, FM, and FW soils.
2. Construct hand waterbars in cable yarding corridors on FM soils where gouging occurs immediately after use according to guidelines in section VIII.B.1.
3. Restrict yarding and hauling to dry season (generally May 15 to October 15) on FM, FP, and FW soils.

2. Yarding Methods - Tractor

Practice: Avoid tractor yarding.

3. Yarding Methods - Helicopter

Practice: Employ helicopter yarding to avoid or minimize new road construction on fragile soils.

C. Silviculture

1. Prescribed Fire - Underburn

Practice: Prescribe cool burns and only burn in the spring on FG and FM soils.

2. Prescribed Fire - Piling

a. Hand

- Practices:**
1. Put slash in yarding corridors on FG and FM soils to control erosion, allowing adequate space to plant trees.
 2. Burn handpiles on FG and FM soils only if they prevent planter access.

b. Machine

Practice: Avoid machine piling or ripping on FM, FP, and FW soils.

D. Wildfire

1. Suppression

- Practices:**
1. Apply suppression on fragile soils based on environmental and operational conditions that exist at time of ignition.
 2. Limit the use of tractors and other major surface-disturbing activities on all fragile soils.

2. Rehabilitation

Practice: Assure prompt rehabilitation on fragile soils through seeding or planting of native species.

E. Rights-of-Way

- Practices:**
1. Avoid facility construction on FM and FP soils.
 2. Design rights-of-ways to minimize surface disturbance on FM and FP soils.

VII. Roads and Landings

A. Planning

Objective: To plan road systems that meet resource objectives and minimize detrimental impacts on water and soil resources.

- Practices:**
1. Use an interdisciplinary team to develop an overall transportation system.
 2. Establish road management objectives that minimize adverse environmental impacts.
 3. Avoid fragile and unstable areas.
 4. Encourage use of BMPs where not specifically required in reciprocal right-of-way agreements.

B. Location

Objective: To minimize soil erosion, water quality degradation, and disturbance of riparian vegetation.

- Practices:**
1. Locate roads on stable positions (e.g., ridges, natural benches, and flatter transitional slopes near ridges and valley bottoms). Implement extra mitigation measures when crossing unstable areas is necessary.
 2. Avoid headwalls, midslope locations on steep unstable slopes, seeps, old landslides, slopes in excess of 70 percent, and areas where the geologic bedding planes or weathering surfaces are inclined with the slope.
 3. Locate roads to minimize heights of cutbanks. Avoid high, steeply sloping cutbanks in highly fractured bedrock.
 4. Locate roads on well-drained soil types. Roll the grade to avoid wet areas.
 5. Locate stream crossing sites where channels are well defined, unobstructed and straight.

C. Design

1. General

Objective: To design the lowest standard of road consistent with use objectives and resource protection needs.

- Practices:**
1. Base road design standards and design criteria on road management objectives such as traffic requirements of the proposed activity and the overall transportation plan, an economic analysis, safety requirements, resource objectives, and the minimization of damage to the environment.
 2. Consider future maintenance concerns and needs when designing roads.
 3. Preferred road gradients are 2 to 10 percent with a maximum grade of 15 percent. Consider steeper grades in those situations where they will result in less environmental impact. Avoid grades less than 2 percent.
 4. Road Surface Configurations

- a. Outsloping - sloping the road prism to the outside edge for surface drainage is normally recommended for local spurs or minor collector roads where low volume traffic and lower traffic speeds are anticipated. It is also recommended in situations where long intervals between maintenance will occur and where minimum excavation is desired. Outsloping is not recommended on gradients greater than 8 to 10 percent.
 - b. Insloping - sloping the road prism to the inside edge is an acceptable practice on roads with gradients more than 10 percent and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.
 - c. Crown and Ditch - this configuration is recommended for arterial and collector roads where traffic volume, speed, intensity and user comfort are a consideration. Gradients may range from 2 to 15 percent as long as adequate drainage away from the road surface and ditchlines is maintained.
5. Minimize excavation through the following actions: use of balanced earthwork, narrow road width, and endhauling where slopes are greater than 60 percent.
 6. Locate waste areas suitable for depositing excess excavated material.
 7. Conduct slope rounding on tops of cut slopes in clayey soils to reduce sloughing and surface ravel. Avoid this practice in erosion classes I,II,VII and VIII (see Table 1).
 8. Surface roads if they will be subject to traffic during wet weather. The depth and gradation of surfacing will be determined by traffic type, frequency, weight, maintenance objectives, and the stability and strength of the road foundation and surface materials.
 9. Provide vegetative or artificial stabilization of cut and fill slopes in the design process. Avoid establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance.
 10. Prior to completion of design drawings, field check the design to assure that it fits the terrain, drainage needs have been satisfied, and all critical slope conditions have been identified and adequate design solutions applied.

2. Surface Cross Drain Design

Objective: To design road drainage systems that minimize concentrated water volume and velocity and therefore to reduce soil movement and maintain water quality.

- Practices:**
1. Design cross drains in ephemeral or intermittent channels to lay on solid ground rather than on fill material to avoid road failures.
 2. Design placement of all surface cross drains to avoid discharge onto erodible (unprotected) slopes or directly into stream channels. Provide a buffer or sediment basin between the cross drain outlet and the stream channel.
 3. Locate culverts or drainage dips in such a manner to avoid discharge onto unstable terrain such as headwalls, slumps, or block failure zones. Provide adequate spacing to avoid accumulation of water in ditches or surfaces through these areas.
 4. Provide energy dissipators (e.g., rock material) at cross drain outlets or drain dips where water is discharged onto loose material or erodible soil or steep slopes.
 5. Place protective rock at culvert entrance to streamline water flow and reduce erosion.

6. Use the guide for drainage spacing by soil erosion classes and road grade shown in Tables 1 and 2.
7. Use drainage dips in place of culverts on roads that have gradients less than 10 percent or where road management objectives result in blocking roads. Avoid drainage dips on road gradients greater than 10 percent.
8. Locate drainage dips where water might accumulate or where there is an outside berm that prevents drainage from the roadway.
9. When sediment is a problem, design cross drainage culverts or drainage dips immediately upgrade of stream crossings to prevent ditch sediment from entering the stream.
10. Rolling gradients is recommended in erodible and unstable soils to reduce surface water volume and velocities and culvert requirements.

3. Permanent Stream Crossing Design

Objective: To prevent stream crossings from being a direct source of sediment to streams thus minimizing water quality degradation; to provide unobstructed access to spawning and rearing areas for anadromous and resident fish.

- Practices:**
1. Use pipe arch culverts on most fishery streams. Use bottomless arch culverts and bridges where gradients greater than 5 percent, stream discharge, and value of the fishery resource dictate special engineering considerations necessary to ensure uninterrupted fish passage.
 2. Minimize the number of crossings on any particular stream.
 3. Where feasible, design culvert placement on a straight reach of stream to minimize erosion at both ends of the culvert. Design adequate stream bank protection (e.g., rip-rap) where scouring would occur. Avoid locations that require a stream channel to be straightened beyond the length of a culvert to facilitate installation of a road crossing.

4. Temporary Stream Crossing Design

Objective: To design temporary stream crossings that minimize disturbance of the stream and riparian environment.

- Practices:**
1. Evaluate the advantages and disadvantages of a temporary versus permanent crossing structure for access to the area during all seasons over the long term in terms of economics, maintenance, and resource requirements.
 2. Design temporary structures such as prefabricated temporary timber bridges, multiple culverts with minimum fill height, cattleguard crossings, or log cribs to keep vehicles out of the stream.
 3. Minimize the number of temporary crossings on a particular stream.
 4. Avoid temporary stream crossings on fishery streams.

5. Low Water Ford Stream Crossing Design

Objective: To design low water fords that minimize disturbance of the stream and riparian environment.

Practice: Use only when site conditions make it impractical or uneconomical to utilize a permanent or temporary crossing structure.

D. Construction

Objective: To create a stable roadway while minimizing soil erosion and potential water quality degradation.

1. Roadway Construction

- Practices:**
1. Limit road construction to the dry season (generally between May 15 and October 15). When conditions permit operations outside of the dry season, keep erosion control measures current with ground disturbance to the extent that the affected area can be rapidly closed/blocked and weatherized if weather conditions warrant.
 2. Manage road construction so that any construction can be completed and bare soil can be protected and stabilized prior to fall rains.
 3. Confine preliminary equipment access (pioneer road) to within the roadway construction limits.
 4. Construct pioneer road so as to prevent undercutting of the designated final cutslope and prevent avoidable deposition of materials outside the designated roadway limits. Conduct slope rounding at the first opportunity during construction to avoid excess amounts of soil being moved after excavation and embankment operations are completed.
 5. Use controlled blasting techniques that minimize amount of material displaced from road location.
 6. Construct embankments, including waste disposal sites, of appropriate materials (no slash or other organic matter) using one or more of the following methods:
 - a. layer placement (tractor compaction),
 - b. layer placement (roller compaction), and
 - c. controlled compaction (85 to 95 percent maximum density).

Slash and organic material may remain under waste embankment areas outside the road prism and outside units planned for broadcast burning.

7. Avoid sidecasting where it will adversely effect water quality or weaken stabilized slopes.
8. Provide surface drainage prior to fall rains.
9. Clear drainage ditches and natural watercourses of woody material deposited by construction or logging above culverts prior to fall rains.

2. Permanent Stream Crossing Construction

- Practices:**
1. Confine culvert installation to the low flow period (generally June 15 to September 15) to minimize sedimentation and the adverse effects of sediment on aquatic life.
 2. Divert the stream around the work area to minimize downstream sedimentation.
 3. Install culverts as close to zero percent slope as possible on fishery streams but

not in excess of 0.5 percent. Place culverts in the streambed at the existing slope gradient on larger nonfishery streams. Place energy dissipators (e.g., large rock) at the outfall of culverts on small nonfishery streams to reduce water velocity and minimize scour at the outlet end.

4. Countersink culvert 6 to 8 inches below the streambed to minimize scouring at the outlet. Increase culvert diameters accordingly.
5. Limit activities of mechanized equipment in the stream channel to the area necessary for installation.
6. Place permanent stream crossing structures in fishery streams before heavy equipment moves beyond the crossing area. Where this is not feasible, install temporary crossings to minimize stream disturbance.
7. Place rip-rap on fills around culvert inlets and outlets.

3. Temporary Stream Crossing Construction

- Practices:**
1. Where possible, limit the installation and removal of temporary crossing structures to only one time during the same year and within the prescribed work period. Installation and removal should occur between the low flow period (generally June 15 to September 15).
 2. Use backfill material that is as soil-free as practicable over temporary culverts. Whenever possible use washed river rock covered by pit run or one inch minus as a compacted running surface.
 3. Spread and reshape clean fill material to the original lines of the streambed after a crossing is removed to ensure the stream remains in its channel during high flow.
 4. Use log cribbing in tractor logging units when it is impractical to use a culvert and rock backfill material. Remove upon completion of logging the unit.
 5. Limit activities of mechanized equipment in the stream channel to the area that is necessary for installation and removal operations.
 6. Remove stream crossing drainage structures and in-channel fill material during low flow and prior to fall rains. Reestablish natural drainage configuration.

4. Low Water Ford Stream Crossing Construction

- Practices:**
1. Restrict construction and use to low flow period (generally June 15 to September 15).
 2. Use washed rock/gravel or concrete slab in the crossing.
 3. Apply rock on road approaches within 150 feet of each side of the ford to prevent washing and softening of the road surface.

E. Landings

Objective: To minimize soil disturbance, soil erosion, soil productivity losses, and water quality degradation.

- Practices:** 1. Locate landings at approved sites.

2. Avoid placing landings adjacent to or in meadows or other wetland areas.
3. Clear or excavate landings to minimum size needed for safe and efficient operations.
4. Select landing locations considering the least amount of excavation, erosion potential, and where sidecast will not enter drainages or damage other sensitive areas.
5. Deposit excess excavated material on stable sites where there is no erosion potential. Construct waste disposal sites according to guidelines in VII.D.1.
6. Restore landings to the natural configuration or shape to direct the runoff to preselected spots where water can be dispersed to natural, well-vegetated, gentle ground.

F. Road Erosion Control

Objective: To limit and mitigate soil erosion and sedimentation.

- Practices:**
1. Apply protective measures to all areas of disturbed, erosion-prone, unprotected ground, including waste disposal sites, prior to fall rains. Protective measures may include water bars, water dips, grass seeding, planting deep rooted vegetation, and/or mulching. Armor or buttress fill slopes and unstable areas with rock which meets construction specifications. See section VIII.B.1. for water bar (water dip) spacing and construction guidelines.
 2. Use seasonal restrictions on unsurfaced roads.

G. Road Renovation/Improvement

Objective: To restore or improve a road to a desired standard in a manner that minimizes sediment production and water quality degradation.

- Practices:**
1. Improve flat gradients to a minimum of two (2) percent or provide raised subgrade sections (turnpike) to avoid saturation of the road prism.
 2. Reconstruct culvert catchbasins to specifications. Catchbasins in solid rock need not be reconstructed provided water flow is not restricted by soil, rock, or other debris.
 3. Identify potential water problems caused by off-site disturbance and add necessary drainage facilities.
 4. Identify ditchline and outlet erosion caused by excessive flows and add necessary drainage facilities and armoring.
 5. Replace undersized culverts and repair damaged culverts and downspouts.
 6. Add additional full-rounds, half-rounds, and energy dissipators as needed.
 7. Correct special drainage problems (e.g., high water table, seeps) that effect stability of subgrade through the use of perforated drains, geotextiles, or drainage bays.
 8. Eliminate undesirable berms that retard normal surface runoff.
 9. Restore outslope or crown sections.

10. Avoid disturbing backslope while reconstructing ditches.
11. Surface inadequately surfaced roads that are to be left open to traffic during wet weather.
12. Require roadside brushing be done in a manner that prevents disturbance to root systems (i.e., avoid using excavators for brushing).

H. Road Maintenance

Objective: To maintain roads in a manner that protects water quality and minimizes erosion and sedimentation.

- Practices:**
1. Provide basic custodial care to protect the road investment and to ensure minimal damage to adjacent land and resources.
 2. Perform blading and shaping to conserve existing surface material, retain the original crowned or outsloped self-draining cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Avoid wasting loose ditch or surface material over the shoulder where it can cause stream sedimentation or weaken slump prone areas. Avoid undercutting backslopes.
 3. Keep road inlet and outlet ditches, catchbasins, and culverts free of obstructions, particularly before and during winter rainfall. However, keep routine machine cleaning of ditches to a minimum during wet weather.
 4. Promptly remove slide material when it is obstructing road surface and ditchline drainage. Save all soil or material useable for quarry reclamation and stockpile for future reclamation projects. Utilize remaining slide material for needed road improvement or place in a stable waste area. Avoid sidecasting of slide material where it can damage, overload, saturate embankments, or flow into downslope drainage courses. Reestablish vegetation in areas where more than 50 percent of vegetation has been destroyed due to sidecasting.
 5. Retain vegetation on cut slopes unless it poses a safety hazard or restricts maintenance activities. Cut roadside vegetation rather than pulling it out and disturbing the soil.
 6. Remove snow on haul roads in a manner that will protect roads and adjacent resources. Remove or place snow berms to prevent water concentration on the roadway or on erodible sideslopes or soils.
 7. Patrol areas subject to road or watershed damage during periods of high runoff.

I. Dust Abatement

Objective: To minimize movement of fine sediment from roads; to prevent introduction into waterways of chemicals applied for dust abatement.

- Practices:**
1. Use dust palliatives or surface stabilizers to reduce surfacing material loss and buildup of

fine sediment that may wash off into water courses.

2. Closely control application of dust palliatives and surface stabilizers, equipment cleanup, and disposal of excess material to prevent contamination or damage to water resources.

J. Road Access Restrictions

Objective: To reduce road surface damage and therefore minimize erosion and sedimentation.

- Practices:**
1. Barricade or block roads using gates, guard rails, earth/log barricades, boulders, logging debris, or a combination of these methods. Avoid blocking roads that will need future maintenance (i.e., culvert cleaning, slide removal, etc.) with unremovable barricades. Use guardrails, gates, or other barricades capable of being opened for roads needing future maintenance.
 2. Provide maintenance of blocked roads in accordance with design criteria.
 3. Install waterbars, cross drains, cross sloping, or drainage dips if not already on road to assure drainage.
 4. Scarify, mulch, and/or seed for erosion control.

K. Road and Landing Decommissioning

Objective: To reduce soil compaction, minimize or reduce sedimentation, and improve site productivity by decommissioning roads and landings and rehabilitating the land.

- Practices:**
1. Rip temporary spur roads and landings by an approved method to remove ruts, berms, and ditches while leaving or replacing surface cross drain structures.
 2. Return roads or landings not needed for future resource management to resource production by revegetating with native species. Apply mulch and fertilizer where appropriate.

L. Water Source Development

Objective: To supply water for various resource programs while protecting water quality and riparian vegetation.

- Practices:**
1. Design and construct durable, long-term water sources.
 2. Avoid reduction of downstream flow which would detrimentally effect aquatic resources, fish passage, or other uses.
 3. Direct overflow from water-holding developments back into the stream.
 4. Locate road approaches to instream water source developments to minimize potential impacts in the riparian zone. Apply rock to surface of these approaches to reduce the effects of sediment washing into the stream.
 5. Avoid use of road fills for water impoundment dams unless specifically designed for that purpose. Remove any blocking device prior to fall rains.
 6. Construct water sources during the dry season (generally between May 15 and October

15).

M. Rock Quarry Reclamation

Objective: To minimize sediment production from quarries and associated crusher pad developments susceptible to erosion due to steep sideslopes, lack of vegetation, or their proximity to water courses.

- Practices:**
1. Prior to excavation, remove topsoil and place at a site with minimal erosion potential. Stockpile topsoil for surface dressing during the post-operation rehabilitation.
 2. Use culverts and rip-rap for crusher pad drainage when necessary.
 3. Stabilize quarry cutbanks and general quarry area.
 4. Revegetate with native species, apply mulch, and provide adequate drainage to minimize erosion.
 5. Rip, waterbar, block, fertilize, and revegetate access roads to quarries where no future entry is planned.

VIII. Timber Harvest

A. Yarding Methods

1. Cable

Objective: To minimize soil damage and erosion caused by displacement or compaction.

- Practices:**
1. Use full or partial suspension when yarding on erodible or ravel prone areas where practical.
 2. Use full or partial suspension with seasonal restrictions on areas of high water tables.
 3. Use seasonal restriction if required suspension cannot be achieved by yarding equipment.
 4. Avoid downhill yarding.

2. Tractor

Objective: To minimize loss of soil productivity and reduce potential for surface runoff and subsequent water quality degradation.

- Practices:**
1. In previously unentered stands, use designated skid roads to limit soil compaction to less than 12 percent of the harvest area.
 2. Minimize width of skid roads.
 3. For stands previously logged with tractors, utilize existing skid roads. Rip all skid roads used in final entry harvest.

4. Rip skid roads discontinuously, preferably with winged ripper teeth when the soil is dry. Rips should be spaced no more than 36 inches apart and from 12 to 18 inches deep or to bedrock, whichever is shallower. Designated skid roads should be ripped if they will not be used again until the next rotation.
5. Avoid placement of skid roads through areas with high water tables.
6. Use appropriate seasonal restrictions that would result in no off-site damage for designated skid roads.
7. Allow logging on snow when snow depth is 18 inches or greater and negligible ground surface exposure occurs during the operation.
8. Restrict tractor operations to slopes less than 35 percent.
9. Construct waterbars on skid roads according to guidelines in section VIII.B.1.

3. Helicopter

Objective: To minimize surface disturbance on high risk watersheds.

Practice: Employ helicopter yarding to avoid or minimize new road construction in high risk watersheds.

4. Horse

Objective: To minimize soil disturbance, soil compaction, and soil erosion.

Practices: 1. Limit horse logging to slopes less than 20 percent.

2. Construct hand waterbars on horse skid trails according to guidelines in section VIII.B.1.
3. Limit harvest activity to times when soil moisture content at a six-inch depth is less than 25 percent by weight.

B. Erosion Control for Timber Harvest

1. Waterbars

Objective: To minimize soil erosion.

- Practices:**
1. Construct adequate waterbars on skid roads, yarding corridors, and fire lines prior to fall rains.
 2. Use the following table for waterbar spacing, based on gradient and erosion class.

Water Bar Spacing by Gradient and Erosion Class

Gradient(%)	Water Bar Spacing (feet) ¹		
	High	Erosion Class ² Moderate	Low ³

2-5	200	300	400
6-10	150	200	300
11-15	100	150	200
16-20	75	100	150
21-35	50	75	100
36+	50	50	50

¹Spacing is determined by slope distance and is the maximum allowed for the grade.

²The following guide lists rock types according to erosion class:

High: granite, sandstone, andesite porphyry, glacial or alluvial deposits, soft matrix conglomerate, volcanic ash, pyroclastics;

Moderate: basalt, andesite, quartzite, hard matrix conglomerate, rhyolite;

Low: metasediments, metavolcanics, hard shale.

3. Use the following techniques to construct waterbars:
 - a. Open the downslope end of the waterbar to allow free passage of water.
 - b. Construct the waterbar so that it will not deposit water where it will cause erosion.
 - c. Compact the waterbar berm to prevent water from breaching the berm.
 - d. Skew waterbars no more than 30 degrees from perpendicular to the centerline of the trail or road.

2. Revegetation of Disturbed Areas

Objective: To establish an adequate vegetative cover on disturbed sites to prevent erosion.

Practice: Use native vegetation that allows natural succession to occur. Avoid interference with reforestation operations. Include application of seed, mulch, and fertilizer as necessary. Complete prior to fall rains.

IX. Silviculture

A. Site Preparation

1. Gross Yarding

Objective: To achieve cool burn on sensitive soils and maintain protective duff layer.

Practice: Consider the following in writing a prescription for gross yarding to reduce burn intensities: long-term site productivity, ecosystem dynamics, regeneration success, prescribed fire intensities, and smoke emissions.

2. Prescribed Fire - Underburn and Concentration Burn

- a. General Guidelines

Objective: To maintain long-term site productivity of soil.

Practice: Evaluate need for burning based on soils, plant community, and site preparation criteria. Burn under conditions when a light burn can be achieved (see guidelines below) to protect soil productivity.

Category 1 Soils (highly sensitive): burn only in spring-like conditions when soil and duff are moist. Maximize retention of duff layer. Assure retention of minimum levels of coarse woody debris and recruitment snags as specified in the Standards and Guidelines on p. C-40 in the SEIS ROD.

Category 2 Soils (moderately sensitive): burn only in spring-like conditions when soil and duff are moist. Maximize retention of duff layer. Assure retention of minimum levels of coarse woody debris and recruitment snags as specified in the Standards and Guidelines on p. C-40 in the SEIS ROD. Write fire prescriptions that reduce disturbance and duration and achieve low fire intensity.

Category 3 Soils (least sensitive): burn to avoid high intensity (severe) burns to protect a large percentage of the nutrient capital. Maximize retention of duff layer. Assure retention of minimum levels of coarse woody debris and recruitment snags as specified in the Standards and Guidelines on p. C-40 in the SEIS ROD.

Guidelines for Levels of Prescribed Burn Intensity

<u>Visual Characterization</u>	<u>Site-Specific Results</u>	<u>Proportional Area</u>
Light burn	The surface duff layer is often charred by fire but not removed. Duff, crumbled wood or other woody debris is partly burned, logs not deeply charred.	Less than 2 percent is severely burned. Less than 15 percent is moderately burned.
Moderate burn	Duff, rotten wood, or other woody debris partially consumed; logs may be deeply charred but mineral soil under the ash not appreciably changed in color.	Less than 10 percent is severely burned. More than 15 percent is moderately burned.
Severe burn	Top layer of mineral soil significantly changed in color, usually to reddish color; next 1/2 inch blackened from organic matter charring by heat conducted through top layer.	More than 10 percent is severely burned. More than 80 percent is moderately burned. Remainder is lightly burned.

b. Firelines

Objective: To minimize soil disturbance, soil compaction, soil erosion, and disturbance to riparian reserves.

Practices: 1. Construct firelines by hand on all slopes greater than 35 percent.

2. Utilize one-pass construction with a brush blade for tractor firelines.
3. Construct waterbars on tractor and hand firelines according to guidelines in section VIII.B.1.
4. No machine constructed firelines in riparian reserves.

3. Prescribed Fire - Piling

a. Hand Piling

Objective:To prevent soil damage due to high burn intensity.

Practice: Burn piles when soil and duff moisture are high.

b. Tractor Piling

Objective:To protect soil productivity and to prevent soil damage due to compaction, displacement, and high burn intensity.

- Practices:**
1. Restrict tractor operations to dry conditions with less than 25 percent soil moisture content in the upper six inches of soil.
 2. Restrict tractors to slopes less than 20 percent.
 3. Construct small diameter piles or pile in windrows using brush blades.
 4. Avoid piling concentrations of large logs and stumps.
 5. Pile small material (3 to 8 inches diameter size).
 6. Burn piles when soil and duff moisture are high.
 7. Rip entire area to maintain soil productivity except that occupied by piles. Use winged ripper teeth and rip on contour to minimum depth of 12 inches. No ripping on clayey soils (i.e., soil series 706, 708, 840, 850).
 8. Avoid displacement of duff and topsoil into piles or windrows.
 9. Make only two machine passes (one round trip) over the same area wherever practical.
 10. Use the lowest ground pressure machine capable of meeting objectives.

B. Fertilization

Objective: To protect water quality and to avoid impacts that retard or prevent attainment of the Aquatic Conservation Strategy objectives.

- Practices:**
1. Avoid aerial application when wind speeds would cause drift.
 2. Locate heliports and storage areas away from riparian reserves.

3. No application within riparian reserves.
4. Avoid direct application to ephemeral stream channels.

X. Special Forest Products

A. Roads

Objective: To prevent erosion and water quality degradation.

- Practices:**
1. Utilize seasonal restriction on harvesting if access is by an unsurfaced road.
 2. Clean all road surfaces, ditches, and catchbasins of debris from harvesting.

B. Harvest

Objective: To minimize soil damage and soil erosion.

Practice: Follow practices listed in section VIII.A.

XI. Mineral Development

Objective: To protect surface and groundwater quality and to minimize disturbance to streambanks and riparian habitat within constraints of Department of Interior, Bureau of Land Management surface mining regulations.

A. Locatable Operations

- Practices:**
1. Require the claimant to obtain all required state and federal operating permits.
 2. Comply with seasonal restrictions on suction dredging identified in Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources.
 3. Locate, design, operate, and maintain sediment settling ponds in conformance with state Department of Environmental Quality (DEQ) requirements.
 4. Design, locate, and construct stream crossings in conformance with practices described in sections VII.B., VII.C. and VII.D.
 5. Use existing roads, skid trails, and stream crossings whenever possible.
 6. Apply rock to roads constructed or reconstructed for vehicular access to the mining area. Provide roads with adequate drainage.
 7. Prior to the first wet season, rip, waterbar, seed, mulch, and barricade according to BLM specifications all roads and trails constructed for exploratory purposes that are

unnecessary for the mining operation.

8. Construct waterbars and barricade on all natural surface roads and trails when an operation shuts down for the wet season. See section VIII.B.1 for guidelines on waterbar spacing and construction.
9. Rip, waterbar, seed, mulch, and barricade all natural surface roads and trails when the operation terminates.
10. Construct a berm or trench between disturbed areas and water courses.
11. Stockpile topsoil for use during reclamation of the site. Construct a berm or trench immediately downslope of the stockpile.
12. Stabilize and contour the area, replace topsoil and mulch, seed, and plant the area with tree seedlings when no further mining is contemplated.
13. During the period from October 15 to May 15, contour and mulch disturbed areas that will not be mined for at least 30 days.
14. Confine operations to bench areas rather than allow encroachment on the stream whenever possible.
15. Locate and maintain sanitation facilities in accordance with state DEQ regulations.

B. Saleable Operations

- Practices:**
1. Locate stockpile sites on stable ground where the material would not move into streams or water bodies.
 2. Locate, design, construct, and close roads, landings, and crusher pads in accordance with section VII.

XII. Livestock Grazing

Objective: To protect, maintain, or improve water quality, riparian-wetland areas and upland plant communities; to achieve properly functioning riparian ecosystems.

- Practices:**
1. Consider fencing springs, seeps, and water developments to protect water quality and riparian ecosystems.
 2. Ensure rest for plant growth and vigor during the critical growing period.
 3. Monitor, evaluate, and adjust livestock management practices to meet resource objectives.
 4. Resolve management conflicts through the development of grazing management plans.
 5. Promote ecological recovery through appropriate forage utilization levels.

6. Develop and implement recovery plans for riparian areas.

XIII. Wildfire

A. Prevention

Objective: To minimize occurrence of severe intensity wildfires in riparian reserves, on category 1 soils, and high risk watersheds.

Practice: Utilize prescribed burning to reduce both natural and management related slash (fuel) adjacent and/or within these areas.

B. Suppression

Objective: To minimize water quality degradation while achieving rapid and safe suppression of a wildfire.

- Practices:**
1. Apply the appropriate level of wildfire suppression which considers impacts of the wildfire as well as the suppression action.
 2. Construct firelines by hand within riparian reserves.
 3. Apply aerial retardant adjacent to riparian reserves by making passes parallel to riparian reserves.

C. Rehabilitation

Objective: To protect water quality and soil productivity with consideration for other resources.

- Practices:**
1. Utilize vegetation classification information as the framework for prescribing rehabilitation activities.
 2. Develop a fire rehabilitation plan through an interdisciplinary process.
 3. Select treatments on the basis of on-site values, downstream values, probability of successful implementation, social and environmental considerations (including protection of native plant community), and cost as compared to benefits.
 4. Erosion control seeding should attempt to meet the intent of ecosystem based management objectives. Use seed availability information to prioritize erosion control seeding. First priority should be native seed sources for grasses and forbs, followed by

annual grasses and forbs, and the lowest priority should be the use of perennial grasses.

5. Examples of emergency fire rehabilitation treatments include:
 - a. Seeding or planting native species or other nitrogen fixing vegetation that accomplishes necessary erosion control and meets site restoration objectives.
 - b. Mulch with straw or other suitable material.
 - c. Fertilize.
 - d. Place channel stabilization structures.
 - e. Place trash racks above road drainage structures.
 - f. Construct waterbars on firelines.

XIV. Watershed Restoration

Watershed restoration is a key component of the Aquatic Conservation Strategy and is based on watershed analysis (see the Standards and Guidelines on p. B-30 and p. C-37 in the SEIS ROD and appropriate sections in this document).

A. Roads

See sections VII.F., VII.G., and VII.K.

B. Riparian Vegetation

See the Standards and Guidelines p. B-31 and p. C-32 in the SEIS ROD.

C. In-Stream Habitat Structures

Objective: To minimize damage to streambanks and riparian habitat during construction of in-stream habitat improvement projects.

Practices: 1. Carefully plan access needs for individual work sites within a project area to minimize

exposure of bare soil, compaction, and possible damage to tree roots. Utilize existing trails to the extent practical.

2. Base design of habitat improvement structures on state-of-the-art techniques and local stream hydraulics.
3. Confine work in the stream channels to between June 15 and September 15 to minimize the area of the stream that would be affected by sedimentation during the low flow period.

Insert Table 1a

Insert Table 2a

Appendix E. Silvicultural Systems Utilized in the Design of the Resource Management Plan

In addition to dealing with land use allocations and objectives, the resource management plan (RMP) deals with the selection of and effects of different silvicultural systems and the practices used to carry out those systems.

A silvicultural system defines the sequence of management treatments that take place throughout the entire life of a forest stand. A system is designed to move a stand from its current condition along a developmental path toward a desired or target stand condition. The target stand and the attributes of the path are defined by an array of management objectives.

In the design of the proposed action, a variety of general silvicultural systems are used for the different Land Use Allocations. Differences between systems are the result of differences in resource objectives and differences in forest condition and ecological types. Reforestation or the establishment of desired vegetation is the critical part of any silvicultural system.

Silvicultural systems are resource and objective neutral. They are designed to meet a wide range of management goals that include: timber production; creation or maintenance of wildlife habitat; restoration of forest condition (health); maintenance or restoration of riparian condition; reclamation of mines, quarries, and roads; management of right of way vegetation; and maintenance or improvement of site productivity. The descriptions of silvicultural systems, therefore, are not included with any one resource category.

Silvicultural System Design

Silvicultural systems as well as individual management actions will be designed to:

- meet established land use objectives;
- maintain the health and sustainability of forest ecosystems and their processes or to restore forest condition so that management objectives can be met;
- incorporate current and developing knowledge of natural processes and the relationships between structures, landscape arrangements, and the maintenance of ecosystem function;
- involve landscape level (watershed) analysis at a variety of spatial and temporal scales; and
- consider the elements of ecosystem and landscape function, composition, and structure.

Silvicultural system design will vary from site to site and will be based on:

- consideration of stand vigor, disease, live crown ratio, and general stand condition;
- the autecological and synecological requirements of major or indicator plant and animal species and species groups;
- habitat requirements of rare or endangered species;
- requirements of avoidance (prevention) strategies for vegetation management;

- economic feasibility; and
- soil, slope, aspect, and other physical site conditions that influence reforestation potential, blowdown potential, or that otherwise influence the ability of prescribed treatments to meet target stand and landscape objectives.

Simply stated, silvicultural systems and activities should be based on the objectives of the land allocation, ecological processes, site and stand characteristics, and economic feasibility within a framework of landscape analysis.

Best management practices (BMPs) for water and soil resources (see Appendix D) would be used in designing site-specific silvicultural prescriptions consistent with the objectives of the land use allocation.

Where appropriate, silvicultural systems and individual management actions will be adapted to meet the requirements of experimental designs that permit the agency and its publics to explore the results of the application of a range of alternative management options to both stands and landscapes. Where not in direct conflict with land use allocation objectives, silvicultural systems would be designed to assure that resultant wood quality is suitable for the range of current and forecasted uses and that they would maintain or enhance log value.

Objectives, Habitat Criteria, and Management Practices Design for the Land Use Allocations

The description of the proposed action involves three separate criteria for each Land Use Allocation. These criteria are:

- A) resource condition objectives that summarize and highlight the important resource management goals for the land use allocation for the next decade,
- B) stand and landscape condition objectives that are desired in the near future and in the longer term, and
- C) management direction which set sideboards for stand and landscape composition.

Management direction described in this appendix incorporates “Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl.”

Silvicultural Systems

Silvicultural systems utilized in the design of the proposed action include modified even-aged, shelterwood retention, and structural retention systems.

Modified Even-Aged Silvicultural Systems

Modified even-aged systems involve the management of both existing even-aged or near even-aged stands and the creation of new even-aged stands through harvesting while retaining both living and dead structural elements (green trees, snags, coarse woody debris). Retained structure is at levels below those detailed for structural retention systems.

Stand Regeneration: Stand regeneration methods under this category of silvicultural systems include modified versions of the seed tree, shelterwood, and overstory removal harvest methods. Stands remaining after final harvest will generally resemble reserve seed tree cuts.

These systems harvest the majority of the stand in a single entry and permit the establishment of an even-aged stand with the fewest number of entries while retaining wildlife trees and snags. Regeneration is usually through planting following site preparation, although in southwestern Oregon there are sometimes significant quantities of advanced regeneration remaining after logging. Natural regeneration may occur through seed dispersed from retained trees or trees in adjacent timber stands. In southwestern Oregon, units harvested in this manner could require actions in addition to conifer planting to secure regeneration. These actions include seedling shading, protection from animal damage, and control of competing vegetation.

The reserved seed tree method of harvest removes the majority of a stand in a single entry except for a small number of green, seed trees that are retained to provide seed for natural regeneration, and under this plan provide biological legacies. If necessary, artificial regeneration, usually planting, would be used to reach target stocking levels. Genetically-selected stock would be used when available.

In a shelterwood method, a stand is harvested in a series of two or more partial cut entries designed to create the necessary level of disturbance and to provide shelter for the establishment of newly planted and natural seedlings. After establishment of regeneration, overstory trees that are in excess of desired levels of wildlife trees and snags would be removed. While shelterwood units are typically planted with conifer species, natural regeneration may constitute a large percentage of the regeneration present.

Forest stands in southwestern Oregon are often multiple-aged with different canopy levels resulting from past natural stand disturbances such as under-canopy fires or from past partial cut harvesting. In these stands, an understory canopy level often exists and is capable of being released. This understory canopy level may consist of seedlings, saplings, or young merchantable timber. The release and subsequent management of the understory canopy could result in a yield increase when compared to growing a new stand after a more complete stand removal. The decision to remove an overstory canopy considers the releasability and species composition of the understory canopy and the feasibility of logging the stand without significant damage to the understory. In some cases, retention of understory species could result in an undesirable seral shift, a higher level of disease in stands, and a potential loss of stand health.

Stand Management: Following the regeneration phase, modified even-aged systems are treated to produce desired stand conditions that include wood of desired quality, quantity, and value. Modified even-aged systems may be managed at different levels of intensity. In the Medford District, stands on more productive sites are planned for a higher level of management intensity than stands on lower sites.

Stand management practices include control of species composition and stand density. Release practices are employed to ensure tree growth is not slowed by competing, undesirable plants and that desired trees are not displaced. Density control through thinning assures that cubic foot volume growth is concentrated in the stems of selected trees.

On more productive sites, forest fertilization may be employed to temporarily increase stand growth. Some young stands in the planning area are in poor condition because of high densities or because of overstory competition. Stands may experience significant growth retardation called thinning shock following precommercial thinning, overstory removal, or release. The severity of this retardation may be reduced through the application of fertilizer. In addition, forest fertilization may be used to improve tree vigor and to reduce insect and drought related mortality.

Stand Harvesting: Stand harvesting may occur at any age above a minimum harvest age set to meet land use objectives as well as economic and logging-practicality requirements.

The sustainable harvest level is highest if minimum harvest age is set at the lowest economically practical age. Over time, however, rotation lengths would approach the age of culmination of mean annual increment (CMAI). CMAI varies with site quality, the kinds of silvicultural practices employed, and the timing of those practices. For most regimes and sites in southwestern Oregon, CMAI occurs near 100 years of age.

To achieve higher wood quality, larger log sizes, or to produce habitat for species that live in later seral stages, minimum harvest age may be set at an older age.

Shelterwood Retention Silvicultural Systems

Shelterwood retention refers to modified even-aged systems that have sometimes been termed “irregular shelterwoods.” In these systems, overstory trees are retained (in addition to desired living and dead structural elements) until understory conifers are large enough to fulfill management objectives such as preserving visual qualities, maintaining the integrity of specific soils, and establishing regeneration in areas with growing-season frosts. Depending upon objectives, overstory trees may be retained for 15 to 30 years. Retention of an overstory may not be successful in some areas, such as those infected with diseases or root rot and those of high blowdown hazard. A wide variety of stand conditions exist across the planning area.

Stand Regeneration: Shelterwood retention units are normally planted, but like shelterwoods, also receive varying amounts of natural regeneration. Planting stock would reflect genetic selection when such stock is available, but since the performance of genetic stock and percent representation in stands created under these regimes are uncertain, no yield gain would be claimed for this action.

Stand Management: Like other silvicultural systems, shelterwood retention stands receive treatments designed to produce desired stand characteristics. To produce economically-harvestable tree sizes in reasonable periods of time, control of species composition and stand density are as critical or more critical in shelterwood retention systems than in modified even-aged systems. Fertilization may be applied to accelerate stand development and to reduce shock and damage following overstory removal.

Stand Harvesting: Harvest of retained shelterwood trees (in excess of desired green-trees and snags) occurs in one or more entries 15 to 30 years after the regeneration harvest and when stand development has reached a point where visual, soil, or frost-tolerance requirements have been met.

Structural Retention Systems

These silvicultural systems are designed primarily to retain or recreate forest ecosystems that resemble natural systems in composition, structure, and in ecosystem function. Retained structural components include green-trees, snags, and coarse woody debris that may be clumped or distributed in various ways across the landscape. Through retention and re-creation of structure and through appropriate selection and timing of treatments, these systems attempt to retain natural ecosystem processes and habitat niches.

Structural retention systems attempt to provide for maintenance of site productivity, specific wildlife habitats, and a high level of biological diversity in a managed landscape.

Silvicultural practices used are modifications of those used in modified even-aged systems but reflect a greater attempt to redirect ecosystem processes.

Structural retention systems would usually produce a multiple-canopied, multiple-aged stand but not an all-aged stand. These systems differ in some ways from selection forestry, although many elements of selection cutting are included such as removal of individual trees (individual tree selection) or groups of trees (group selection). The objective of structural retention systems is to produce a multiple-canopied forest, not necessarily one of all ages.

Stand Regeneration: The regeneration phase of this system relies upon the use of both natural and planted conifer seedlings, together with subsequent stand management, to achieve a near-natural mixture of species in each seral stage. Stock reflecting genetic selection, whenever available, would be combined with wild-type stock. No yield increase for use of selected stock would be projected.

Stand Management: Stands created under this system receive treatments designed to meet structural, functional, and growth objectives. Density management would be used. Forest fertilization would be used as appropriate, but because of the uncertainty of its effect on diverse stands, it would not result in a claimed yield increase.

Stand Harvesting: Structural retention systems seek to retain or re-create habitat characteristics of older forests. Harvesting is expected to occur across stands and in group selections of varying sizes with structures retained in the groups.

Silvicultural Practices

Each silvicultural system is comprised of a variety of practices that are planned for specific periods in the life of the stand. These practices act to keep forest stands on desired developmental trajectories, speed the development of desired habitat components, and maintain or improve stand vigor. Silvicultural practices in this region have traditionally been applied to conifer stands and their development, however, many of the same principles and treatments have application for the growth and development of other desired vegetation.

While both the types of practices used and the timing vary between systems, most silvicultural systems require the full range of forest management tools and practices for their successful implementation. To predictably direct forest stands (ecosystems) so that structural and other objectives are met may require some level of intensive stand tending practices whatever the system employed.

Silvicultural practices include: site preparation, conifer regeneration, stand protection, stand maintenance, precommercial thinning and release, commercial thinning, fertilization, pruning, forest condition restoration treatments, and salvage. Reforestation includes the full range of silvicultural practices necessary to establish and maintain stands on forestland.

Site Preparation

If needed, site preparation procedures would be used to prepare newly harvested or inadequately stocked areas for planting, seeding, or natural regeneration. Site preparation methods would be selected to: provide physical access to planting sites; control fire hazard; provide initial physical control of the site to channel limited resources on the site into desired vegetation; influence the plant community that redevelops on the site; influence or control animal populations; and ensure the retention of site productivity.

Within the planning area, four types of site preparation techniques would be used. These are prescribed burning, mechanical and manual methods, and herbicide application.

Prescribed burning, including broadcast and pile burns, is expected to be the primary method of site preparation. To protect air quality, burning would occur under conditions consistent with the Oregon Smoke Management Plan. Burning prescriptions will be written to minimize the detrimental effects of fire on other resources. Emphasis will be placed on protecting soil properties and the retention of coarse woody debris. Prescribed fire on sensitive soils will be designed to result in low to moderate intensity burns (see Best Management Practices, Appendix D).

Mechanical site preparation consists of either tractor piling or windrowing of slash and unwanted vegetation or the use of a low ground pressure backhoe, loader, grapple, or other special equipment to move or pile slash and unwanted vegetation.

Manual site preparation consists of slash piling, shrub pulling or cutting, and hoeing or grubbing of unwanted vegetation.

Application of herbicides for site preparation purposes would occur only after careful site-specific environmental analysis and local public involvement. Decision for use would be governed by the procedures established in BLM's Record of Decision (ROD) Western Oregon Program-Management of Competing Vegetation.

Conifer Regeneration and/or Establishment of Non-Conifer Plant Species

Conifer planting would be done where appropriate to assure that reforestation objectives are promptly met. The production of planting stock requires seed (cone) collection from wild stands and/or from seed orchards and the production of planting stock in bare-root nurseries or container shadehouses.

The release and management of existing natural conifer regeneration has the potential to speed stand development. Natural conifer regeneration can, in many situations, be both adequate and relatively prompt (Lewis et. al. 1991) and of species appropriate to meet stand objectives (Williamson 1973). Relying on natural regeneration, however, results in the loss of the ability to use genetically-selected stock and the potential for delayed regeneration due to the unpredictability of seedfall. When applicable, silvicultural systems would utilize existing regeneration, natural seeding, and prompt planting of desired species to assure that regeneration targets and timeframes are met. No yield increase was assumed as a result of retention of existing regeneration following regeneration harvest or overstory removal.

Existing vegetation would be used to the extent possible in meeting management objectives dependant upon nonconiferous vegetation. Where necessary to meet objectives, nonconifer vegetation would be established through seeding or the planting of bare-root or containerized plants.

Stand Protection

Stand protection procedures would be designed to protect newly planted conifer seedlings and in some cases natural seedlings from hazards. Treatments are designed to protect seedlings from the sun or to prevent animal damage from occurring. Measures to control populations of animals such as mountain beaver, gophers, or porcupines would be initiated if populations of these animals reached levels high enough to threaten stands. Treatment acres will be determined annually in conjunction with reforestation surveys.

Similar treatments would be used when appropriate to protect planted or seeded nonconiferous vegetation.

Stands will also be managed to decrease the risk of destruction by wildfire. Management practices include treatments such as underburning, limbing, density management, or hand piling or utilization of slash. Creation of fuel breaks, especially in rural interface areas, would be a method of decreasing risks. Retention of a hardwood component in stands may result in somewhat higher level of resistance to low intensity fires.

Stand Maintenance

Maintenance treatments occur after planting or seeding and are designed to promote the survival and establishment of conifers and other vegetation by reducing competition from undesired plant species. Maintenance and other vegetation management actions would be planned so that in addition to survival goals, species diversity goals could be met.

Maintenance actions involve the implementation of preventive (or ecosystem-based) strategies or direct control actions using techniques such as mulching, cutting or pulling of unwanted species, grazing, or herbicide application. As with other vegetation management treatments, preference for stand maintenance treatments would be given to strategies that redirect natural ecosystem processes where practical and where scientific knowledge was adequate to support such strategies. The choice between methods would be made under the same decision framework listed for site preparation.

Precommercial Thinning - (Density Management) and Release

Precommercial thinning and release treatments would be designed to control stand density, influence species dominance, maintain stand vigor, and place stands on developmental paths so that desired stand characteristics result in the future. Thinning and release may occur simultaneously or separately.

Precommercial thinning and release treatments may be done either by manual methods such as falling or girdling or through herbicide application. Site specific decision-making processes for herbicide release treatments follow the same procedures as those listed for site preparation.

Commercial Thinning (Density Management)

Commercial thinnings would be designed to control stand density, maintain stand vigor, and place or maintain stands on developmental paths so that desired stand characteristics result in the future. Commercial thinnings are scheduled after developing stands reach a combination of stem diameter and surplus volume to permit an entry that is economical. Commercial thinning may be effective in increasing recoverable timber production and in meeting structural diversity objectives in stands as old as 150 years (Williamson and Price 1971) (Williamson 1982). Heavy commercial thinning has shown the ability to accelerate the development of old growth characteristics in even-aged stands (Newton et. al. 1987).

Fertilization

Stand growth is limited by the supply of available nutrients, particularly by available nitrogen. The supply of soil nutrients may be augmented through either fertilization or, in some situations, through retention of species and structural diversity in stands. Fertilization practices are designed based on extensive research, including work in southwestern Oregon. Fertilization actions are usually designed to apply 200 pounds of available nitrogen with helicopters in the form of urea-based prill (46 percent available nitrogen). Occasionally, fertilizer may be applied in a liquid urea-ammonia form or with a mixture of other nutrient elements in addition to nitrogen. Hand application is usually impractical. For optimum effectiveness, forest fertilization actions would be sequenced with thinning actions with preference given to young even-aged stands of site four and higher in the next decade.

Fertilization has the effect of accelerating stand and seral development. Since fertilizer increases the rate tree canopies expand and increase tree vigor, it has been observed to reduce thinning shock, accelerate release, and reduce susceptibility to damage from insects and drought.

Pruning

Pruning of young stands is carried out to increase wood quality through the production of clear wood on rotations shorter than would be required without the action. Pruning helps to avoid production of wood with loose knots and yielding lumber, which is tight-knotted but not necessarily clear. It is essential for the production of clear wood with grades above "common" under normal, even-aged rotations for Douglas-fir and pine (see Wood Quality, Appendix BB, Draft RMP/EIS).

Pruning appears to be necessary to produce wood of acceptable quality from stands that are managed at very low densities to meet biological diversity objectives since trees in such stands would have long crowns and would produce wood with large knots otherwise.

Salvage of Mortality Volume

All silvicultural systems provide for salvage under prescriptions designed to ensure that such actions meet the requirements of the land allocation. The manner in which salvage operations are conducted within a stand often influences or determines the silvicultural system and practices needed to achieve management objectives.

Mortality in established stands results either from competition and self-thinning or from disturbance events such as fire, windstorms, disease, or insect attack. Mortality associated with competition is generally harvested in commercial thinnings or is prevented through density management and species selection practices. Mortality of entire stands or of scattered trees that results from disturbance would be harvested in salvage operations. Only mortality above the level needed to meet snag retention and other habitat goals and provide desired levels of coarse woody debris would be harvested.

Forest Condition Restoration Treatments

Forest condition restoration treatments are silvicultural treatments that are intended to reduce tree mortality and to restore the vigor, resiliency, and stability of forest stands that are necessary to achieve resource management objectives. These treatments include:

Restoration thinning: Reducing the density of forest stands with the objective(s) of increasing stand vigor, reducing mortality of desired stand components, and/or reducing susceptibility to insect and disease attack and spread.

Understory reduction: Partial or complete removal of one or more understory canopy layers (trees and/or shrubs) for the purpose(s) of maintaining desired stand components and/or reducing the risk of stand replacement fire.

Restoration underburning: Use of fire for the specific purpose of reducing mortality of desired trees and improving stand vigor, resiliency, and stability. Hazard reduction is an incidental benefit.

Plant community restoration: Silvicultural actions, including planting, maintenance, and stand tending, designed to establish and maintain desired species (grasses, herbs, shrubs, etc.) within forest stands and to prevent the introduction of noxious weeds. Species composition can be a factor in insect and disease occurrence.

Restoration fertilization: Fertilization of forest stands, with nitrogen or with micronutrients, designed to minimize thinning shock after restoration thinning, to improve stand vigor, and/or to increase resistance to insect attack.

Matrix

Matrix lands in the Medford District are divided into the northern general forest management area, the southern general forest management area, and connectivity/diversity blocks. Collectively, these areas are referred to as the general forest management area (GFMA). The line dividing the northern and southern GFMA is meant to be flexible. Also, there will be local situations in the northern GFMA that should be managed along southern GFMA prescription guidelines and visa versa.

Northern General Forest Management Area

The general prescription would be one of modified even-aged management. For areas where growing season frosts produce regeneration hazards, pyroclastic soils, and for most areas designed for VRM Class II management, the prescription would be one of shelterwood retention to provide a form of continuous canopy cover. Granitic and schist soils would be managed under structural retention guidelines. Silvicultural practices include the full range of practices consistent with land use allocation objectives. For features of Silvicultural Systems, see Table 2-21, "General Features of Silvicultural Systems - Proposed Action Medford District," for this and other allocations.

Resource Condition Objectives

Commodity Production: Suitable commercial forestland would be managed to assure a high level of sustained timber productivity. Emphasis would be placed on use of intensive forest management practices and investments to maintain a high level of sustainable resource production while maintaining long-term site productivity, biological legacies (retained green-trees, snags, and coarse woody debris), and a biologically diverse forest matrix.

Forest Condition (Forest Health): Some stands in this allocation may not be in a condition to respond to treatments designed to meet management objectives. Management actions to improve forest condition include: density management, understory reduction operations that reduce competition, increased use of understory prescribed fire, and fertilization. It is expected that forest condition restoration treatments would occur primarily in the southern GFMA.

Habitat Retention, Restoration, and Production: Manage fifth field watersheds so that a minimum of 15 percent of the federal forestland is in late successional condition. Selection of stands for management will involve consideration of the desired blend of seral stages and stand densities. Manage landscape planning blocks to maintain desired levels and distribution of early seral vegetation.

Stand and Landscape Condition Objectives

Target Stand Conditions: Manage forests of the land use allocation so that over time landscapes would trend toward a forest composed of stands containing a variety of structures, stands containing trees of varying age and size, and stands with an assortment of canopy configurations. As stands age, within stand conditions should trend toward those characteristic of older forest types.

Seral Composition: Over time, manage for a balance of seral stages consistent with land use allocation objectives.

Landscape Composition: Manage toward a mix of stand conditions and seral patterns with consideration to three levels of scale: physiographic province (river basin / mountain range), landscape block (watershed), and within stand detail.

Management Direction for Program Implementation

Variation by ecological type: Planning and implementation of specific projects will be based on an understanding of the ecological relationships and limitations of the plant communities proposed for management.

- Douglas-fir series: Regeneration patch sizes would vary to maintain pine and other species in the stand. Mistletoe and excessive madrone regeneration will require variation in prescriptions. Retention of canopy cover and careful choice of site preparation technique should be used to maintain deerbrush and grass at levels that do not prevent target stand conditions from being reached. Deerbrush and legumes should be retained in the system.
- Tanoak series: Highest district priority for use of prescribed fire. Patch sizes and retention prescriptions should consider the autecology of tanoak and reduce understory tanoak to more natural levels.
- Hemlock and white fir series: Management actions will consider requirements of site productivity or enhancement, including use of nitrogen fixing plants.

Qualifications of stands for management deferral: Stands whose current level of large green-trees do not meet retention objectives would not be scheduled for regeneration harvests or overstory removals that removed those trees. Understory thinning and salvage of volume from these stands following partial or complete stand mortality would be permitted, provided structural objectives were met.

Structural Composition: Maintain site productivity and wildlife habitat values through the retention of structure and the design of practices required to maintain ecosystem processes throughout the management cycle. For modified even-aged systems, retain on the average 6-8 large green trees per acre in harvest units. For shelterwood retention systems, retain 12-25 trees/acre until visual, soil, or frost requirements are met then reduce to 6-8 trees/acre. For structural retention systems, retain 16-25 large trees/acre. Large conifers reserved would proportionally represent the total range of tree size classes greater than 20 inches in diameter and would represent all conifer species present. For specific standards and guidelines on coarse woody debris, green tree, and snag retention, refer to pages C-40 through C-44 of the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (sections entitled: “Provide specified amounts of coarse woody debris in matrix management,” “Emphasize green-tree and snag retention in matrix management,” “Standards and Guideline Specific to Northern Spotted Owl Habitat for Lands Administered by the Bureau of Land Management in Oregon,” and “Provide additional protection for caves, mines, and abandoned wooden bridges and buildings that are used as roost sites for bats”). In addition, a minimum of two large hardwoods, if present, would be retained per acre. Logging safety and potential tree mortality would be considered when determining the distribution of retained trees and snags.

Species Composition: Manage so that tree species trend over time toward Target Species Composition Objectives (see Table 1). Manage shrubs, forbs, and other vegetation consistent with land use allocation objectives.

Table 1. Northern GFMA Target Stand Species Composition Objectives

Desired species composition (by % conifer basal area)							
Plant Series	Douglas-fir	Ponderosa Pine	Hemlock	Sugar Pine	Incense Cedar	White Fir	#Large Hardwoods /acre
Douglas-fir	60-85	5-20	0	1-2	5-10	2-4	1-5
Hemlock	70-90	0	5-15	1-15	5-15	5-20	1-5
Tanoak	50-80	5-10	0-5	5-20	5-10	1-5	3-6
White fir	10-30	5-20	0-15	1-5	10-30	40-80	0-10

Landscape Design Elements: Manage so that continuous forest areas harvested through one or more treatments (i.e., group selections and dense-reserve patches interspersed within a thinning unit) will generally be between 20 and 120 acres in size. Retain dead and green structure within group selections consistent with meeting long-term stand composition goals. Situate harvest units to meet general landscape objectives, including minimizing fragmentation and providing general landscape connectivity. Harvest methods could vary within stand to: reflect current within-stand spatial patterns, meet stand objectives, and retain or create patches of reproduction or other habitat for key wildlife species.

Regeneration Harvests: Regeneration harvests would not be programmed for stands under 100 years of age and generally would not be programmed for stands under 120 years of age within the next decade, unless required by deteriorating stand condition, disease, or other factors that threaten the integrity of the stand. Priority for harvest in stands under 120 years of age would be commercial thinning. Practices will be strongly influenced by consideration of ecological site potential, for retention of sufficient canopy to assure control of competing vegetation, and by factors including growing season frost potential.

Commercial Thinning and Other Density Management: Stand densities would be maintained within desired ranges through a combination of planting density, precommercial thinning, commercial thinning, and management of fine-grained stand detail. Commercial thinning entries would be programmed for stands under 120 years of age, often in conjunction with limited selection harvest in stands over 80 years. Thinnings would usually be designed to assure high levels of volume productivity. Units will retain patches of denser habitat where desired to meet wildlife habitat criteria. Within the tanoak series, underburning or other vegetation management treatments would be required for tanoak control.

Activity Scheduling: Stand treatment priority would result from the watershed analysis process. General priorities for stand treatments are shown in Table 2.

Table 2. Treatment Priority by Ecological Type

Treatment Type	Plant Series			
	Douglas-fir	Hemlock	Tanoak	White Fir
Understory density control	Low	Low	High	Low
Stand density management	High	High	High	High
Density management and group selection	High	High	High	High
Regeneration harvest or overstory removal	Medium	Medium	Medium	Medium
Underburning	Low	Low	High	Low

Insect and Disease Management: Design silvicultural treatments so that within-stand endemic levels do not increase, and where possible, affected trees contribute to the achievement of land use allocation objectives. Creation of snags over time as a root rot center expands would be an example of using tree disease to meet a structural objective. Any retained mistletoe infected trees should be located in topographic positions that are not conducive to the spread of the disease.

Forest Condition (Forest Health) Restoration: Priority for restoration treatments will be determined at the stand level and will be based on the stand's ability to meet management objectives in the long-term.

Connectivity and Diversity Blocks (northern GFMA)

The general prescription would be one of modified even-aged management. For areas where growing season frosts produce regeneration hazards, pyroclastic soils, and for most areas designed for VRM Class II management, the prescription would be one of shelterwood retention to provide a form of continuous canopy cover. Granitic and schist soils would be managed under structural retention guidelines. Silvicultural practices include the full range of practices consistent with land use allocation objectives.

Resource Condition Objectives

Connectivity and Diversity: Manage to provide ecotypic richness and diversity and to provide for habitat connectivity for old growth dependent and associated species within the northern GFMA, maintain a minimum of 25 percent of each block in late-successional condition, in both long- and short-term. Late-successional stands within riparian reserves and other allocations contribute toward this percentage. Minimize fragmentation of interior habitat within block and in adjacent older stands to provide as effective habitat as possible.

Commodity Production: Suitable commercial forestland within blocks would be managed to assure a moderately high level of sustained timber production.

Stand and Landscape Condition Objectives

Target Stand Conditions: Manage forests of the land use allocation so that over time landscapes would trend toward a forest composed of stands containing a variety of structures, stands containing trees of varying age and size, and stands with an assortment of canopy configurations. As stands age, within stand conditions should trend toward those characteristic of older forest types.

Seral Composition: Over time, manage for a minimum of 25 percent late-successional condition in each block.

Landscape Composition: Incorporate connectivity and diversity blocks within landscape planning analysis. Within blocks, manage treatment unit shapes and sizes to mimic natural terrain and stand features. Maintain lowest level of fragmentation and highest level of interior habitat consistent with meeting block management objectives. Retain fine grain patterns within stands.

Management Direction for Program Implementation

Variation by ecological type: (Same as Northern GFMA) Planning and implementation of specific projects will be based on an understanding of the ecological relationships and limitations of the plant communities proposed for management.

- Douglas-fir series: Regeneration patch sizes would vary to maintain pine and other species in the stand. Mistletoe and excessive madrone regeneration will require variation in prescriptions. Retention of canopy cover and careful choice of site preparation technique should be used to maintain deerbrush and grass at levels that do not prevent target stand conditions from being reached. Deerbrush and legumes should be retained in the system.
- Tanoak series: Highest district priority for use of prescribed fire. Patch sizes and retention prescriptions should consider the autecology of tanoak and reduce understory tanoak to more natural levels.
- Hemlock and white fir series: Management actions will consider requirements of site productivity or enhancement, including use of nitrogen fixing plants.

Qualifications of stands for management deferral: Stands whose current level of large green-trees do not meet retention objectives would not be scheduled for regeneration harvests or overstory removals that removed the large trees. Understory thinning and salvage of volume from these stands following partial or complete stand mortality would be permitted provided structural objectives were met. Manage so that the best ecologically functioning stands would be seldom entered in the short term.

Stand structural and species composition: Same as northern GFMA, except for the retention of 12 to 18 green trees per acre in harvest units.

Structural composition: Maintain site productivity and wildlife habitat values through the retention of structure and the design of practices required to maintain ecosystem processes throughout the management cycle. For modified even-aged systems, retain on the average 12-18 large green trees per acre in harvest units. For shelterwood retention systems, retain 12-25 trees/acre until visual, soil, or frost requirements are met then reduce to 12-18 trees/acre. For structural retention systems, retain 16-25 large trees/acre. Large conifers reserved would proportionally represent the total range of tree size classes greater than 20 inches in diameter and would represent all conifer species present. For specific Standards and Guidelines on coarse woody debris, green tree, and snag retention refer to pages C-40 through C-44 of the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (sections entitled: "Provide specified amounts of coarse woody debris in matrix management," "Emphasize green-tree and snag retention in matrix management," "Standards and Guideline Specific to Northern Spotted Owl Habitat for Lands Administered by the Bureau of Land Management in Oregon," and "Provide additional protection for caves, mines, and abandoned wooden bridges and buildings that are used as roost sites for bats"). In addition, a minimum of two large hardwoods, if present, would be left per acre. Logging safety and potential tree mortality would be considered when determining the distribution of retained trees and snags.

Species Composition: Manage so that tree species trend overtime toward Target Species Composition Objectives (see Table 3). Manage shrubs, forbs, and other vegetation consistent with land use allocation objectives.

Table 3. Connectivity and Diversity Block Target Stand Species Composition Objectives

Desired species composition (by % conifer basal area)

Plant Series	Douglas-fir	Ponderosa Pine	Hemlock	Sugar Pine	Incense Cedar	White Fir	#Large Hardwoods /acre
Douglas-fir	60-85	5-20	0	1-2	5-10	2-4	1-5
Hemlock	70-90	0	5-15	1-15	5-15	5-20	1-5
Tanoak	50-80	5-10	0-5	5-20	5-10	1-5	3-6
White fir	10-30	5-20	0-15	1-5	10-30	40-80	0-10

Landscape Design Elements (Same as northern GFMA): Manage so that continuous forest areas harvested through one or more treatments (i.e., group selections and dense-reserve patches interspersed within a thinning unit) will generally be between 20 and 120 acres in size. Retain dead and green structure within group selections consistent with meeting long term stand composition goals. Situate harvest units to meet general landscape objectives, including minimizing fragmentation and providing general landscape connectivity. Harvest methods could vary within stand to: reflect current within-stand spatial patterns, meet stand objectives, and retain or create patches of reproductive or other habitat for key wildlife species.

Regeneration Harvests: Regeneration harvests would not be programmed for stands under 150 years of age. Priority for harvest in stands under 150 years of age would be commercial thinning. Blocks would be managed using a 150-year area control rotation.

Commercial Thinning and Other Density Management (Same as Northern GFMA Except Thinnings Up to 150 Years): Stand densities would be maintained within desired ranges through a combination of planting density, precommercial thinning, commercial thinning, and management of fine-grained stand detail. Commercial thinning entries would be programmed for stands under 150 years of age often in conjunction with limited selection harvest in stands over 80 years. Thinnings would usually be designed to assure high levels of volume productivity. Units will retain patches of denser habitat where desired to meet wildlife habitat criteria. Within the tanoak series, underburning or other vegetation management treatments would be required for tanoak control.

Activity Scheduling: Stand treatment priorities for the next decade would be dictated by stand conditions, habitat requirements, and fuel hazard.

Insect and Disease Management (Same as Northern GFMA): Design silvicultural treatments so that within-stand endemic levels do not increase, and where possible, affected trees contribute to the achievement of land use allocation objectives. Creation of snags over time as a root rot center expands would be an example of using tree disease to meet a structural objective. Any retained mistletoe infected trees should be located in topographic positions that are not conducive to the spread of the disease.

Southern General Forest Management Area (SGFMA)

The general prescription would involve management within strategies that are designed to mimic natural ecological processes and meet species diversity, structural diversity, and landscape diversity objectives. In most cases, the general prescription would be one of structural retention. Modified even-aged and shelterwood retention systems would be utilized dependant upon factors such as site quality, presence of disease, and visuals. Silvicultural practices include the full range of practices consistent with land use allocation objectives.

Resource Condition Objectives

Commodity production: Suitable commercial forestland would be managed to assure a moderately high level of sustained timber productivity.

Forest condition (Forest Health): Achievement of management objectives, including sustainability of both commodity production and wildlife habitat, requires that management emphasis be placed on treatments and harvests that restore stand condition and ecosystem productivity. Management actions include density management and understory reduction operations that reduce competition, increased use of understory prescribed fire, and fertilization. Removal of biomass from the understories of stands in the pine series to restore stand health, reduce overstory mortality, and restore habitat productivity may be a below cost operation on many sites.

Habitat retention, restoration, and production: Manage for minimal loss (including loss from wildfire) and long-term recovery of intact forest habitat over 150 years of age and toward an increase in the amount of spotted owl reproductive habitat. Manage fifth field watersheds so that a minimum of 15 percent of the federal forestland is in late successional condition. Selection of stands for management will involve consideration of the desired blend of seral stages and stand densities. Manage landscape planning blocks to maintain desired levels and distribution of early seral vegetation. Manage to retain a minimum of 40 percent canopy cover at the stand level in most regeneration harvest units, except for units of the pine series or where stand condition or site characteristics require lower levels.

Stand and Landscape Condition Objectives

Target Stand Conditions: Manage forests of the land use allocation so that over time landscapes would trend toward a forest composed of stands containing a variety of structures, stands containing trees of varying age and size, and stands with an assortment of canopy configurations. As stands age, within stand conditions should trend toward those characteristic of older forest types. Manage to provide for general connectivity. Consistent with operational and logging practicality, retain fine-grained patterns.

Seral Composition: Over time, manage for a balance of seral stages consistent with land use allocation objectives.

Landscape Composition: Manage toward a mix of stand conditions and seral patterns with consideration to three levels of scale: physiographic province (river basin / mountain range), landscape block (watershed), and within stand detail. Manage treatment unit shapes and sizes to mimic natural terrain and stand features. Minimize fragmentation and maintain the highest level of interior habitat consistent with meeting overall resource objects, except for pine series forest types where a mix of various sized seral patches may be desired.

Management Direction for Program Implementation

Variation by ecological type: Planning and implementation of specific projects will be strongly based on an understanding of the ecological relationships and limitations of the plant communities proposed for management.

- Pine series: Prescriptions would discriminate in favor of a higher proportion of ponderosa pine in the stand than current proportion and would target reduction in understory densities. Stand densities would normally be reduced to less than 160 square feet of basal area.
- Douglas-fir series: Regeneration patch sizes would vary to maintain pine and other species in the stand. Mistletoe and excessive madrone regeneration will require variation in prescriptions. Retention of canopy cover and careful choice of site preparation technique should be used to maintain deerbrush and grass at levels that do not prevent target stand conditions from being reached. Deerbrush and legumes should be retained in the system.
- Tanoak series: Highest district priority for use of prescribed fire. Patch sizes and retention prescriptions should consider the autecology of tanoak and reduce understory tanoak to more natural levels.

- White fir series: Management actions would consider limitations imposed by growing season frosts and will be designed to restore a higher proportion of pine and Douglas-fir in stands from which those components had been lost.

Qualification of stands for management deferral: Harvest entries would usually not be planned for the next decade for stands with less than 40 percent live canopy cover, except for stands of the pine series. Salvage of volume from these stands following partial or complete stand mortality would be permitted provided residual structural objectives were met.

Structural Composition: Maintain site productivity and wildlife habitat values through the retention of structure and the design of practices required to maintain ecosystem processes throughout the management cycle. For structural retention systems, retain on the average 16-25 large green trees per acre in harvest units. Large conifers reserved would proportionally represent the total range of tree size classes greater than 20 inches in diameter and would represent all conifer species present. For specific Standards and Guidelines on coarse woody debris, green tree, and snag retention refer to pages C-40 through C-44 of the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (sections entitled: "Provide specified amounts of coarse woody debris in matrix management," "Emphasize green-tree and snag retention in matrix management," "Standards and Guideline Specific to Northern Spotted Owl Habitat for Lands Administered by the Bureau of Land Management in Oregon," and "Provide additional protection for caves, mines, and abandoned wooden bridges and buildings that are used as roost sites for bats"). In addition, a minimum of two large hardwoods, if present, would be left per acre. Logging safety and potential tree mortality would be considered when determining the distribution of retained trees and snags.

Species Composition: Manage so that tree species trend over time toward Target Species Composition Objectives (see Table 4). Manage shrubs, forbs, and other vegetation consistent with land use allocation objectives.

Table 4. Southern GFMA Target Stand Species Composition Objectives

Desired species composition (by % conifer basal area)

Plant Series	Douglas-fir	Ponderosa Pine	Hemlock	Sugar Pine	Incense Cedar	White Fir	#Large Hardwoods /acre
Douglas-fir	60-85	5-20	0	1-2	5-10	2-4	1-5
Ponderosa pine	10-40	30-70	0	0-2	10-30	0	1-5
Tanoak	50-80	5-10	0-5	5-20	5-10	1-5	3-6
White fir	10-30	5-20	0-15	1-5	10-30	40-80	0-10

Landscape Design Elements: Manage so that continuous forest areas harvested through one or more treatments (i.e., group selections and dense-reserve patches interspersed within a thinning unit) will generally be between 20 and 120 acres in size. Retain dead and green structure within group selections consistent with meeting long term stand composition goals. Situate harvest units to meet general landscape objectives, including minimizing fragmentation and providing general landscape connectivity. Harvest methods could vary within stand to: reflect current within-stand spatial patterns, meet stand objectives, and retain or create patches of reproductive or other habitat for key wildlife species

Regeneration Harvests: Regeneration harvests would not be programmed for stands under 120 years of age and generally would not be programmed for stands under 150 years of age within the next decade unless required by deteriorating stand condition, disease, or other factors that threaten the integrity of the stand. Priority for harvest in stands under 150 years of age would be commercial thinning.

Regeneration strategies would be planned to produce the highest probability of success at the lowest practical cost and will include provisions for species diversity and long-term site productivity within the design. Practices will be strongly influenced by consideration of ecological site potential, by the need to retain sufficient canopy to assure control of competing vegetation, by the requirements of owl habitat connectivity at the stand level, and by factors including growing season frost potential.

Commercial Thinning: Stand densities would be maintained within desired ranges through a combination of planting density, precommercial thinning, commercial thinning, and management of fine-grained stand detail. Commercial thinning entries would be programmed for stands under 150 years of age, often in conjunction with limited selection harvest in stands over 80 years. Thinning in older stands will often result in understory regeneration and the development of multiple-canopied stands. Units will retain patches of denser habitat where desired to meet wildlife habitat criteria. Within the tanoak series, underburning or other vegetation management treatments would be required for tanoak control.

Activity Scheduling: Stand treatment priority would result from the watershed analysis process. General priorities for stand treatments are shown in Table 5.

Table 5. Treatment Priority by Ecological Type

Treatment Type	Plant Series			
	Douglas-fir	Pine	Tanoak	White Fir
Understory density control	Low	High	High	Medium
Stand density management	High	High	Medium	Medium
Density management and group selection	Medium	Medium	High	Medium
Regeneration harvest or overstory removal	Low	Low	Low	Low
Underburning	Low	Medium	High	Low

Insect and Disease Management: Design silvicultural treatments so that within-stand endemic levels do not increase, and where possible, affected trees contribute to the achievement of land use allocation objectives. Creation of snags over time as a root rot center expands would be an example of using tree disease to meet a structural objective. Any retained mistletoe infected trees should be located in topographic positions that are not conducive to the spread of the disease and which are favorable for the production of nest groves.

Forest Condition (Forest Health) Restoration: Priority for restoration treatments will be determined at the stand level and will be based on the stand's ability to meet management objectives in the long-term.

Late-Successional Reserves

Late-successional reserves would be managed to protect and enhance conditions of late-successional and old growth forest ecosystems, which serve as habitat for the northern spotted owl and other late-successional and old growth related species. Silvicultural practices and salvage should therefore be guided by the objective of

maintaining adequate amounts of suitable habitat.

Silvicultural practices within reserves would be limited to those practices beneficial to the creation of late-successional forest conditions and would include reforestation, maintenance and protection of existing young stands, density management, and fertilization. Thinning (precommercial and commercial) may occur in stands up to 80 years old regardless of the origin of the stand. In addition to practices that placed or maintain stands on desired developmental pathways, practices designed to restore forest condition (forest health), and other practices designed to reduce the risks of stand loss would be done to maintain long-term habitat viability.

“While risk-reduction efforts should generally be focused on young stands, activities in older stands may be appropriate if: (1) the proposed management activities will clearly result in greater assurance of long-term maintenance of habitat, (2) the activities are clearly needed to reduce risks, and (3) the activities will not prevent the Late-Successional Reserves from playing an effective role in the objectives for which they were established.” (“Guidelines to Reduce Risks of Large-Scale Disturbance,” page C-13, Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl).

Salvage of mortality volume is limited to stand-replacing disturbance events exceeding 10 acres under standards outlined under “Guidelines for Salvage,” page C-13, Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl.

Riparian Reserves

Silvicultural activities within Riparian Reserves will be designed to meet the objectives of the Aquatic Conservation Strategy. Generally, standards and guidelines prohibit or regulate activities in the reserves that retard or prevent attainment of Strategy objectives. Silvicultural practices would be applied within the reserves to control stocking, to reestablish and manage stands, to establish and manage desired nonconifer vegetation, and to acquire desired vegetation characteristics needed to attain objectives of the Aquatic Conservation Strategy. Forest condition (forest health) restoration would be done where required to attain objectives of the Aquatic Conservation Strategy.

Salvage operations would be done only when watershed analysis determines that present and future coarse woody debris needs are met and other Aquatic Conservation Strategy objectives are not adversely effected. Conduct salvage and fuelwood cutting if required to attain Aquatic Conservation Strategy objectives where catastrophic events such as fire, flooding, volcanic, wind, or insect damage have resulted in degraded riparian conditions.

Adaptive Management Areas (AMAs)

Standards and guidelines are to be developed to meet the objectives of the AMA and the overall strategy. Silvicultural activities within the Applegate Adaptive Management Area would emphasize the development and testing of forest management practices, including partial cutting, prescribed burning, and low impact approaches to harvest (e.g., aerial systems) that provide for a broad range of forest values, including late-successional forest and high quality riparian habitat. Activities designed to improve or maintain forest condition (health) are expected to be prevalent.

The intent of the standards and guidelines for matrix management (there is no matrix in AMAs) regarding specific measures for coarse woody debris and for green-tree and snag retention must be met in Adaptive Management Areas. Specific standards and guidelines are not prescribed for these areas.

Late-Successional Reserves Within AMAs

Silvicultural practices will be managed according to the standards and guidelines for such reserves. Management will be designed to reduce risk of loss to natural disturbance.

Riparian Reserves Within AMAs

Riparian protection in Adaptive Management Areas should be comparable to that prescribed for other federal land areas.

Other Allocations

Silvicultural practices where appropriate would be designed to be consistent with the objectives of the allocation.

Hardwoods

Manage hardwood stands for production of commodities as markets develop. Regenerate harvested stands with the same hardwood species mix. Harvest up to 1/200 of the hardwood allocation per year.

Suitable commercial forestland allocated to timber production, but dominated by grass, shrubs, and hardwoods that resulted from human activity would be restored to conifer production. Hardwood species would be retained to maintain species richness. Natural hardwood and shrub communities on suitable commercial forestland would not be converted to conifer production.

Stands on commercial forestland that are dominated by commercial conifers, which also contain a high percentage of hardwoods as a successional stage, would be managed for timber production.

Manage white oak woodlands to meet wildlife, range, and biological diversity objectives.

Port-Orford Cedar

Silvicultural activities in areas containing Port-Orford cedar would be consistent with the Port-Orford Cedar Management Plan.

Research

A variety of wildlife and other research activities may be ongoing, currently proposed, or proposed in the future in all land allocations. Provided certain requirements are satisfied, ongoing research would continue and new research would begin. For a discussion of research requirements see, "Research" page C-4, under "Standards and Guidelines Common to all Land Allocations" in Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl. Research discussions can also be found under some of the individual allocations.

Appendix F. Medford District Forest Genetics Program

This appendix describes the objectives of the forest genetics program, the present status, and proposed direction. Readers who are interested in technical details of the tree improvement program are referred to the BLM Western Oregon Tree Improvement Plan (1987), and the Northwest Tree Improvement Cooperative Handbook (1988). Additional information on genetic resource issues can be found in “The Value of Genetic Resources” (Oldfield 1984), and “Genetics and Conservation of Rare Plants” (Falk 1991).

Introduction

For thousands of years humans have selected and used the genetic variation that is naturally present in plants and animals. Genetic diversity is the foundation for plant and animal improvement programs. Modern crop and livestock improvement programs have substantially increased yields and productivity with selection and breeding. The need for food production and natural resources is increasing as the human population increases. Genetic improvement programs have and will continue to help meet these demands.

Genes within living cells of all species carry variation, or diversity, to future generations of each species. Genetic diversity is a key component of an ecosystem. Broad genetic diversity is considered to be an asset because variability is a buffer against change. Problems can occur when genetic diversity is too narrow. Genetic uniformity decreases resilience to change and increases the potential for problems due to pests and diseases. Environmental conditions influence the expression of the genetic code. The physical characteristics of an organism is dependent on the interaction of its genes with the environment. Ecosystems are dynamic communities that change over time and plants and animals are impacted by the changes. Species with wide tolerances can adapt to changes, while those with narrow tolerances can be heavily impacted.

The amount and pattern of genetic diversity in a species develops in part as an organism responds to the environment. This adaptation occurs over a long period of time as the environmental conditions select for or against specific genetic traits. Each species has a unique genetic structure. Genetic studies are conducted to describe and quantify the amount of genetic variation within a species. This information is necessary to direct management and to help guide operational projects.

Genetic diversity can be described as a natural resource. Management and conservation of genetic resources is vital for many reasons. Genetic improvement programs are a great benefit to society and materials produce by them have a large economic value. Genetic material from wild stock is an important source of variability that can be infused into existing improved varieties. Many medicinal compounds are derived from plants and there is the potential for more undiscovered uses. Conserving genetic diversity for all species allows evolutionary processes to continue within the conditions of the natural environment.

Tree improvement is the application of genetic principles and methods to select and enhance desirable traits in forest trees. The Bureau of Land Management has participated in cooperative tree improvement programs for forest trees in the Pacific Northwest since the late 1950s. The emphasis to date has been to increase growth rate and disease resistance. Ecosystem management principles are changing the focus of the tree improvement program. The existing tree improvement and seed orchard programs will be integrated into a broader based forest genetics program. Genetic diversity issues for many organisms will likely become more important in the future. A forest genetics program is consistent with ecosystem management principles and can be expanded to cover the genetics of other plants and animals.

Program Objectives

The objectives of the forest genetics program underlay a broad spectrum of land management activities. The biological foundation of ecosystem management rests upon a clear understanding of the genetic diversity present within the system. The following objectives are broadly defined and include tree improvement, gene management, and gene conservation activities.

- Provide for seed production as needed for planting species on BLM lands. Develop seed collection and seed deployment guidelines as needed.
- Develop genetically improved materials as needed to meet BLM's resource management objectives.
- Maintain and restore the genetic diversity within managed forest stands.
- Analyze needs and implement gene conservation strategies as appropriate.
- Collect information on genetic variation from important species.
- Contribute to the development of genetic information needed for landscape analysis, ecological assessments, research studies, and ecosystem management projects.
- Maintain flexibility within the program so that information fulfills the current needs and anticipates future needs.

Status of the Existing Program

The BLM tree improvement program has generated a substantial and important genetic information base for several conifer species. The data is significant to ecosystem management because it describes the nature and extent of genetic variation present for certain traits of the species.

Tree improvement programs function at a landscape level. Genetic diversity is continuous across the landscape and tree improvement programs are implemented at this level. Each program is carried out within a small ecologically similar area called a breeding unit. Most tree improvement programs are cooperatives with BLM and adjacent land owners. A cooperative structure is beneficial because it greatly increases the number of trees in the genetic base and the trees are located across a broader geographic area. Program costs are efficiently shared among cooperators. BLM is cooperating in more than 50 breeding units, which include several million acres of forest land in western Oregon.

The following accomplishments summarize the status of the program.

- Several conifer species (Douglas-fir, western white pine, sugar pine) have been selected for genetically controlled characteristics such as growth rate, tree form, and resistance to disease.
- Field tests have been established using progeny of the selected trees. These progeny test sites have been measured at regular intervals.
- Seed orchards have been established using parent trees. The orchards are producing locally adapted seed for several major species (Douglas-fir, western hemlock, western red cedar, ponderosa pine, grand fir, incense cedar).
- Each year improved seed is sown for replanting a portion of the harvested forest acres.
- The seed orchards are managed for seed production. Stimulation techniques are part of the management to

encourage cone production. Trees that have slow growth in field tests or show undesirable characteristics are removed from the orchard. This practice is known as “rogueing”.

- Second generation programs have been initiated in some breeding units. Selection and breeding work is underway.
- Facilities for cone and seed processing and greenhouses for growing custom tailored lots of many species are located at the seed orchards.

Proposed Program Direction

The future forest genetics program will be more complex under ecosystem management than under the previous management plans. Improvement of growth and disease resistance will continue as an important component of the forest genetics program. Gene conservation and gene resources management issues will be emphasized to a greater degree. Gene conservation is accomplished by specific actions taken to conserve the genetic variation of a species. The purpose is to maintain the range of natural diversity within the species. Gene management is the integration of genetic principles into resource management actions. Ecosystems are complex and genetic diversity is important for all organisms. Genetic principles must be considered when planning and implementing resource management projects so that genetic diversity is maintained.

The following is a summary of the direction for the forest genetics program.

- Progeny test sites will be maintained and measurements of growth and other characteristics will continue. Long-term management plans for the sites will be developed.
- Seed orchards will be maintained and managed to produce seed as needed for ecosystem management projects.
- Improved tree seedling stock will be planted on a portion of the harvested acres.
- Tree improvement programs have emphasized cooperative efforts for operational programs and research studies with state, private, and other government agencies. These partnerships will continue.
- Genetic expertise and genetically appropriate guidelines will be provided for ecosystem management implementation.
- A forest genetic plan will be prepared. It will include a strategy for gene conservation, maintenance of genetic diversity, and definition of a monitoring baseline to quantify genetic variation.

Ecosystem management concepts have challenged the forest genetics program with more issues than was done by the previous forest management plans. The former program must be meshed with the additional needs defined by ecosystem management so previous gains are maintained and future needs are addressed. Policy and land use allocations will likely change over time. A flexible broad based forest genetics program is the best option to accommodate changing conditions. Tree improvement, gene management, and gene conservation objectives share a common genetic basis. Each aspect of the program can compliment the others. All aspects should include provisions for maintaining and enhancing genetic diversity. Tree improvement programs are intensive management practices that can achieve higher productivity and help meet the demand for wood products. Genetic information is needed to support and guide ecosystem management projects. Conservation of genetic diversity is vital to ecosystem health and stability.

Appendix G. Restrictions on Mineral and Energy Exploration and Development Activity

This appendix discusses the leasing stipulations as they would be applied to BLM-administered lands in the planning area under each alternative. Operating standards pertinent to the locatable and saleable minerals program are also described. Mineral exploration and development on federal lands must also comply with laws and regulations administered by several agencies of the State of Oregon, however, these requirements are not discussed in this document.

Leasable Mineral Resources

Oil and Gas Leasing

The Mineral Leasing Act of 1920 (as amended) provides all publicly-owned oil and gas resources be open to leasing unless a specific land order has been issued to close the area. Through the land use planning process, the availability of these resources for leasing is analyzed taking into consideration development potential and surface resources. Constraints on oil and gas operations are identified and placed in the leases as notices and stipulations. Oil and gas leases are then issued from the BLM Oregon State Office in Portland. Specific proposed notices and stipulations are listed by alternative in this appendix.

The issuance of a lease conveys to the lessee an authorization to actively explore and/or develop the lease in accordance with the attached stipulations and the standard terms outlined in the Federal Onshore Oil and Gas Leasing Reform Act (FOOGLRA). Restrictions on oil and gas activities in the planning area will take the form of timing limitations, controlled surface use (CSU), or no surface occupancy (NSO) stipulations used at the discretion of the Authorized Officer to protect identified surface resources of special concern.

Stipulations would be attached to each lease before it is offered for sale by the field office, which reviews the lease tract. The review would be conducted by consulting the direction given in this resource management plan. In addition, all BLM-administered land within the planning area will be subject to the lease notices as shown on the following pages. All federal lessees or operators are required to follow procedures set forth by: Onshore Oil and Gas Orders, Notice to Lessee, the Federal Oil and Gas Royalty Management Act (as amended), the Federal Onshore Oil and Gas Leasing Reform Act, and Title 43 Code of Federal Regulations, Part 3100.

Oil and Gas Operations

Geophysical Explorations

Geophysical operations may be conducted regardless of whether the land is leased or not. Notices to conduct geophysical operations on BLM-surface are received by the resource area. Administration and surface protection are accomplished through close cooperation of the operator and BLM. Seasonal restrictions may be imposed to reduce fire hazards, conflicts with wildlife, and watershed damage, etc. An operator is required to file a "Notice of Intent to Conduct Oil and Gas Exploration Operations" for all geophysical activities on BLM-administered land. The notice should adequately show the location and access routes, anticipated surface damages, and time frames. The operator is required to comply with written instructions and orders given by the Authorized Officer and must

be bonded. Signing of the “Notice of Intent” by the operator signifies agreement to comply with the terms and conditions of the notice, regulations, and other requirements prescribed by the Authorized Officer. A prework conference and/or site inspection may be required. Periodic checks during and upon completion of the operations will be conducted to ensure compliance with the terms of the “Notice of Intent”, including reclamation.

Drilling Permit Process

The federal lessee or operating company selects a drill site based on spacing requirements, subsurface and surface geology, geophysics, topography, and economic considerations. Well spacing is determined by the Authorized Officer after considering topography, reservoir characteristics, protection of correlative rights, potential for well interference, interference with multiple use of lands, and protection of the surface and subsurface environments. Close coordination with the state would take place. Written field spacing orders are issued for each field. Exceptions to spacing requirements involving federal lands may be granted after joint State and BLM review.

Notice of Staking

Once the company makes the decision to drill, they must decide whether to submit a “Notice of Staking” (NOS) or apply directly for a permit to drill. The NOS is an outline of what the company intends to do, including a location map and sketched site plan. The NOS is used to review any conflicts with known critical resource values and to identify the need for associated rights-of-way and special use permits. BLM utilizes information contained in the NOS and obtained from the on-site inspection to develop stipulations to be incorporated into the application for permit to drill. Upon receipt of the NOS, pertinent information about the proposed well is posted in the district office for a minimum 30-day public comment period.

Application for Permit to Drill

The operator may or may not choose to submit a NOS; in either case, an Application for Permit to Drill (APD) must be submitted prior to drilling. An APD consists of a 12-point surface plan, which describes any surface disturbances, and is reviewed by resource specialists for adequacy with regard to lease stipulations designed to mitigate impacts to identified resource conflicts with the specific proposal and an 8-point subsurface plan, which details the drilling program and is reviewed by the staff petroleum engineer and geologist. This plan includes provisions for casing, cementing, well control, and other safety requirements.

For the APD option, the on-site inspection is used to assess possible impacts, and develop stipulations to minimize these impacts. If the NOS option is not utilized, the 30-day posting period begins with the filing of the APD. Private surface owner input is actively solicited during the APD stage.

Geothermal Leasing

The Geothermal Steam Act of 1970 (as amended) provides for the issuance of leases for the development and utilization of geothermal steam and associated geothermal resources. Geothermal leasing and operational regulations are contained in Title 43 Code of Federal Regulations, Part 3200. Through the land use planning process, the availability of the geothermal resources for leasing is analyzed, taking into consideration development potential and surface and subsurface resources. Constraints on geothermal operations are identified and placed in the leases as stipulations. Geothermal leases are then issued by the BLM Oregon State Office.

Geothermal resource within a known geothermal resource area (KGRA) are offered by competitive sale. Outside of KGRAs, leases can be issued noncompetitively (over-the-counter). Prior to a competitive lease sale or the issuance of a noncompetitive lease, each tract would be reviewed and appropriate lease stipulations would be included. The review would be conducted by consulting the direction given in this resource management plan.

The issuance of a lease conveys to the lessee authorization to actively explore and/or develop the lease in accordance with regulations and lease terms and attached stipulations. Subsequent lease operations must be conducted in accordance with regulations, Geothermal Resources Operational Orders, and any Conditions of Approval developed as a result of site-specific NEPA analysis. In the planning area, restrictions in some areas would include timing limitations, controlled surface use, or NSO stipulations used at the discretion of the Authorized Officer to protect identified surface resources of special concern.

In addition to restrictions related to the protection of surface resources, the various stipulations and conditions could contain requirements related to protection of subsurface resources. These may involve drainage protection of geothermal zones, protection of aquifers from contamination, or assumption of responsibility for any unplugged wells on the lease.

Development of geothermal resources can be done only on approved leases. Orderly development of a geothermal resource from exploration to production involves several major phases that must be approved separately. Each phase must undergo the appropriate level of National Environmental Policy Act (NEPA) compliance before approved and authorization issued.

Leasing Stipulation Summary

On the following pages, the mineral leasing notices and stipulations are listed, which would be attached to any lease having special resource values. The tracts of land these apply to will in many cases differ by alternative (see Table G-1). Those notices and stipulations shown as common for all alternatives are considered to be the minimum necessary in order to issue leases in the operating area. Under all alternatives, the standard leasing stipulations (Form 3100-11) alone would be utilized on most lands. The powersite stipulation (Form 3730-1) would be used on all lands included within powersite withdrawals, and the stipulation found on Form 3109-2 would be utilized for all lands under the jurisdiction of the Department of the Army Corps of Engineers.

Lease notices to protect threatened and endangered plant and animal species and cultural resources would apply to all BLM-administered land in the planning area. A controlled surface use special stipulation would be utilized to protect fragile granitic, schist, pyroclastic soils and control visual impacts on VRM Class II areas. NSO special stipulations would be utilized on the following areas:

- lands included within R&PP and FLPMA leases;
- developed recreation sites;
- special areas (ACECs and EEAs);
- progeny plantation sites;
- the Provolt Seed Orchard;
- lands classified as VRM Class I;
- bald eagle nest sites and nesting habitat; and
- northern spotted owl nest sites.

Each stipulation also include waivers, exceptions, and modifications defined as follows:

Waiver. The lifting of a stipulation from a lease which constitutes a permanent revocation of the stipulation from that time forward. This is usually a substantial change and requires a 30-day posting of the action for public involvement before the permitting activity associated with the process can be approved.

Exception. This is a one-time lifting of the stipulation to allow a permitting activity for a specific proposal. It has no permanent effect on the lease stipulation and would not constitute a substantial change to the stipulation and requires no posting.

Modification. This is a change to a stipulation which either temporarily suspends the stipulation requirement or permanently lifts the application of the stipulation on a given portion of the lease. It may or may not require posting based on whether or not the change is determined to be substantial by the Authorized Officer.

Leasing Notices & Stipulations

Standard Leasing Stipulations.

a) Standard stipulations for oil and gas are listed in Section 6 of "Offer to Lease and Lease for Oil and Gas" Form 3100-11. They are:

Lessee shall conduct operations in a manner that minimizes adverse impacts to land, air, water, cultural, biological, visual and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights grants, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands including the approval of easement or rights-of-way. Such uses shall be conditioned to prevent unnecessary or unreasonable interference with rights to lessee.

Prior to disturbing the surface of leased lands, lessee shall contact BLM to be apprised of procedures to be followed and modifications or reclamation measure that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short-term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease any operations that would result in the destruction of such species or objects until appropriate steps have been taken to protect the site or recover the resources as determined by BLM in consultation with other appropriate agencies.

b) Standard stipulations for geothermal leasing can be found on Offer to Lease and Lease for Geothermal Resources (Form 3200-24), Section 6, and are very similar to those described above for oil and gas leasing.

Powersite stipulation.

Form No. 3730-1 is to be utilized on all lands within powersite reservations.

Stipulation for lands under jurisdiction of Department of the Army Corps of Engineers (Form No. 3109-2).

- All areas within 2,000 feet of any major structure including, but not limited to, dams, spillways, or embankments are restricted areas. the lessee, his operators, agents, or employees should not disturb the surface or subsurface estates of the restricted area. If the commander or the authorized representative discovers an imminent danger to safety or security which would allow no time to consult BLM, that person may order such activities stopped immediately. The Authorized Officer of BLM should review the order and determine the need for further remedial action. Platform drilling over water areas (flood pool/drawdown zone) is prohibited. The method of drilling should be directional from an off-site base. This restriction is required because occupancy would negatively affect or interfere with authorized project purposes and/or operational needs as listed:

Fish and Wildlife Habitat - Power Production
Flood Control - Recreation
Irrigation - Water Quality

- Land surface occupancy may be permitted within the lease area; however, directional drilling from an off-site base may be required. The Secretary of the Army or designee reserves the right to require cessation of operations if a national emergency arises. Upon request of approval from higher authority, the Commander will give the lessee written notice, or if time permits, request BLM to give notice of the required cessation.

Lease Notices.

The following Notices are to be issued with each lease for all BLM-administered land within the planning area. Lease notices are attached to leases in the same manner as stipulations; however, there is an important distinction between lease notices and stipulations. Lease notices do not involve new restrictions or requirements. Any requirements contained in a lease notice must be fully supported in either laws, regulations, policy, or onshore oil and gas orders.

NOTICE-Wildlife

Northern spotted Owl Nest Sites and Nesting Habitat

- The lease lands are in an area suitable for the habitat of the northern spotted owl (*Strix occidentalis caurina*), an animal species officially listed as a threatened species.
- All viable habitat will be identified for the lessee/operator by the Authorized officer of BLM during the preliminary environmental review of the proposed surface use plan. If the field examination indicates that the proposed activity may effect these species, then consultation will be conducted with the U.S. Fish & Wildlife Service pursuant to Sec. 7 of the Endangered Species Act of 1973, as amended. The consultation will determine whether or not the proposed activity would jeopardize the continued existence of the species, and if so, the extent if any, the proposed activity will be allowed.

Authority: The Endangered Species Act of 1973.

American Peregrine Falcon and Nesting Habitat

- The lease lands are in an area suitable for the habitat of the American Peregrine Falcon (*Falco peregrinus anatum*), an animal species officially listed as a threatened species.
- All viable habitat will be identified for the lessee/operator by the Authorized officer of BLM during the preliminary environmental review of the proposed surface use plan. If the field examination indicates that the proposed activity may effect these species, then consultation will be conducted with the U.S. Fish & Wildlife Service pursuant to Sec. 7 of the Endangered Species Act of 1973, as amended. The consultation will determine whether or not the proposed activity would jeopardize the continued existence of the species, and if so, the extent if any, the proposed activity will be allowed.

Authority: The Endangered Species Act of 1973.

Threatened and Endangered Animal Species

- The lease lands are in an area suitable for the habitat of the _____, an animal species (officially listed/proposed for listing) as a (threatened/endangered) species.

- All viable habitat will be identified for the lessee/operator by the Authorized officer of BLM during the preliminary environmental review of the proposed surface use plan. If the field examination indicates that the proposed activity may affect these species, then consultation will be conducted with the U.S. Fish & Wildlife Service pursuant to Sec. 7 of the Endangered Species Act of 1973, as amended. The consultation will determine whether or not the proposed activity would jeopardize the continued existence of the species, and if so, the extent if any, the proposed activity will be allowed.

Authority: The Endangered Species Act of 1973.

Threatened and Endangered Plant Species

- The lease lands are in an area suitable for the habitat of the (Common Name (scientific Name), a plant species (officially listed/proposed for listing) as a(n) (threatened/endorsed) species.
- All viable habitat will be identified for the lessee/operator by the Authorized officer of BLM during the preliminary environmental review of the proposed surface use plan. If the field examination indicates that the proposed activity may effect these species, then consultation will be conducted with the U.S. Fish & Wildlife Service pursuant to Sec. 7 of the Endangered Species Act of 1973, as amended. The consultation will determine whether or not the proposed activity would jeopardize the continued existence of the species, and if so, the extent if any, the proposed activity will be allowed.

Authority: The Endangered Species Act of 1973.

NOTICE-Cultural Resources

An inventory of the leased lands may be required prior to surface disturbance to determine if cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator should contact the Surface Management Agency (SMA) to determine if a cultural resource inventory is required. If an inventory is required:

- The SMA will complete the required inventory, or the lessee or operator at their option may engage the services of a cultural consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard 10-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted.
- Important mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive recordation. Where effects to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited. The lessee or operator shall immediately bring to the attention of the SMA any cultural resources discovered as a result of approved operations under this lease and shall not disturb such discoveries until directed to proceed by the SMA.

Authorities: Compliance with Section 106 of the National Historic Preservation Act is required for all actions which may affect cultural properties eligible to the National Register of Historic Places. Section 6 of the Oil and Gas Lease Terms (Form 3100-11) requires that operations be conducted in a manner that minimizes adverse effects to cultural and other resources.

Leasing Stipulations

The following special stipulations are to be utilized on specifically designated tracts of land as described under the RMP.

NSO-Land Use Authorizations

Stipulation: Surface occupancy and use is prohibited on Recreation and Public Purposes (R&PP) and Federal Land Policy and Management Act (FLPMA) leases.

Objective: To protect uses on existing R&PP and FLPMA leases.

Exception: An exception to this Stipulation may be modified by the Authorized Officer if the land use authorization boundaries are modified.

Waiver: This Stipulation may be waived by the Authorized Officer if all land use authorizations within the leasehold have been terminated, canceled, or relinquished.

NSO-Recreation

Stipulation: Surface occupancy and use is prohibited within developed recreation areas.

Objective: To protect developed recreation areas.

Exception: An exception to this Stipulation may be granted by the Authorized Officer if the operator submits a plan demonstrating effects from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified by the Authorized Officer if the recreation area boundaries are changed.

Waiver: This Stipulation may be waived if the Authorized Officer determines that the entire leasehold no longer contains developed recreation areas.

NSO-Special Areas

Stipulation: Surface occupancy and use is prohibited within areas of critical environmental concern (ACECs), research natural areas (RNAs), and environmental education areas (EEAs).

Objective: To protect important historic, cultural, scenic values, natural resources, natural systems or processes, threatened and endangered plant species, and/or natural hazard areas.

Exception: An exception to this Stipulation may be granted by the Authorized Officer if the operator submits a plan demonstrating that effects from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified by the Authorized Officer if the ACEC or EEA boundaries are changed.

Waiver: This Stipulation may be waived if the Authorized Officer determines that the entire leasehold no longer contains designated ACECs or EEAs.

NSO-Progeny plantation sites.

Stipulation: Surface occupancy and use is prohibited within progeny plantation sites.

Objective: To protect progeny plantation sites.

Exception: None.

Modification: The boundaries of the stipulated areas may be modified by the Authorized Officer if the progeny plantation site boundaries are changed.

Waiver: This Stipulation may be waived if the Authorized Officer determines that the entire leasehold no longer contains progeny plantation sites.

NSO-Provolt and CASSO Seed Orchards.

Stipulation: Surface occupancy and use is prohibited within the Provolt and CASSO seed orchards.

Objective: To protect the Provolt and CASSO seed orchards.

Exception: An exception to this Stipulation may be granted by the Authorized Officer if the operator submits a plan demonstrating that effects from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified by the Authorized Officer if the seed orchard site boundaries are changed.

Waiver: This Stipulation may be waived if the Authorized Officer determines that the entire leasehold no longer contains a developed seed orchard.

NSO-Visual Resource Management Class I

Stipulation: Surface occupancy and use is prohibited in VRM Class I areas.

Objective: To preserve the existing character of the landscape.

Exception: An exception to this Stipulation may be granted by the Authorized Officer if the operator submits a plan demonstrating effects from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified by the Authorized Officer if the boundaries of the VRM Class I area are changed.

Waiver: This Stipulation may be waived by the Authorized Officer if all VRM Class I areas within the leasehold are reduced to a lower VRM Class. Areas reduced to a lower VRM Class will be subject to the Controlled Surface Use Stipulation for visual resources.

NSO-Wildlife

Bald Eagle Nest Sites and Nesting Habitat

Stipulation: Surface occupancy and use is prohibited within 1/2-mile of known bald eagle nest sites which have been active within the past seven years and within bald eagle nesting habitat in riparian areas.

Objective: To protect bald eagle nesting sites and/or nesting habitat in accordance with the Endangered Species Act (ESA).

Exception: An exception may be granted by the Authorized Officer if the operator submits a plan which demonstrates that the proposed action will not affect the bald eagle or its habitat. If the Authorized Officer determine that the action may or will have an adverse effect on the species, the operator may submit a plan demonstrating that the effects can be adequately mitigated. This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service (USF&WS).

Modification: The boundaries of the stipulated area may be modified if the Authorized Officer, in consultation with USF&WS, determines that portion of the area can be occupied without adversely affecting bald eagle nest sites or nesting habitat.

Waiver: This Stipulation may be waived if the Authorized Officer, in consultation with USF&WS, determines that the entire leasehold can be occupied without adversely affecting bald eagle nest site or nesting habitat, or if the bald eagle is declared recovered and is no longer protected under the ESA.

NSO-Wildlife

Peregrine Nest Sites

Stipulation: Surface occupancy and use is prohibited within 1-mile of known Peregrine nest sites which have been active within the past seven years.

Objective: To protect peregrine nest sites.

Exception: an exception may be granted by the Authorized Officer if the operator submits a plan which demonstrates that the proposed action will not affect the peregrine or its nest site. If the Authorized Officer determines that the action may or will have an adverse effect on the species, the operator may submit a plan demonstrating that the effects can be adequately mitigated. This plan must be approved by BLM.

Modification: The boundaries of the stipulated area may be modified if the Authorized Officer determines that portion of the area can be occupied without adversely affecting the peregrine or its nest site.

Waiver: This Stipulation may be waived if the Authorized Officer determines that the entire leasehold can be occupied without adversely affecting peregrine or peregrine nest sites.

NSO-Riparian Management Areas

Stipulation: Unless otherwise authorized, drill site construction and access through riparian management areas within this leasehold will be limited to established roadways.

Objective: To protect riparian vegetation and reduce erosion adjacent to water courses.

Exception: An exception to this Stipulation may be granted by the Authorized Officer if the operator submits a plan which demonstrates effects from the proposed action are acceptable or can be adequately mitigated.

Modification: The area affected by this Stipulation may be modified by the Authorized Officer if it is determined that portions of the area do not include riparian areas, flood plains, or water bodies.

Waiver: This Stipulation may be waived by the Authorized Officer if it is determined that the entire leasehold does not include riparian management areas (RMAs).

Timing Limitation-Wildlife

Raptor Nests

Stipulation: Surface use is prohibited from March 1 to August 1, with 1/4-mile of raptor nest sites which have been active within the past two years. This **Stipulation** does not apply to the operation and maintenance of production facilities.

Objective: To protect nest sites of raptors which have been identified as species of special concern in Oregon.

Exception: An exception to this Stipulation may be granted by the Authorized Officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the Authorized Officer determines that portions of the area are no longer within 1/2-mile of raptor nests which have been active within the past two years. The dates for the timing restriction may be modified if new information indicates that the March 1 to August 1 dates are not valid for the leasehold.

Waiver: This Stipulation may be waived if the Authorized Officer determines that the entire leasehold no longer is within 1/2-mile of raptor nest sites which have been active within the past two years.

Crucial Winter Range

Stipulation: Surface use is prohibited from December 1 to March 31 within crucial winter range for wildlife. This Stipulation does not apply to the operation and maintenance of production facilities.

Objective: To protect crucial deer and elk winter range from disturbance during the winter season and to facilitate long-term maintenance of wildlife populations.

Exception: An exception to this Stipulation may be granted by the Authorized Officer if the operator submits a plan which demonstrates that impact from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the Authorized Officer determines that portions of the area no longer contain crucial winter range for wildlife. The dates for the timing restriction may be modified if new wildlife use information indicates that the December 1 to March 31 dates are not valid for the leasehold.

Waiver: This Stipulation may be waived if the Authorized Officer determines that the entire leasehold no longer contains crucial winter range for wildlife.

Controlled Surface Use

Soils

Stipulation: Prior to disturbance of slopes over 60 percent, an engineering/reclamation plan must be approved by the Authorized Officer. Such plan must demonstrate how the following will be accomplished:

- site productivity will be restored;
- surface runoff will be adequately controlled;
- off-site areas will be protect from accelerated erosion such as rilling, gullyng, piping, and mass wasting;
- water quality and quantity will be in conformance with State and Federal water quality laws;
- surface-disturbing activities will not be conducted during extended wet period; and
- construction will not be allowed when soils are frozen.

Objective: To maintain soil productivity, provide necessary protection to prevent excessive soil erosion on steep slopes, and to avoid areas subject to slope failure, mass wasting, piping, or having excessive reclamation problems.

Exception: An exception to this Stipulation may be granted by the Authorized Officer if the operator submits a plan which demonstrates the effects from the proposed action are acceptable or can be adequately mitigated.

Modification: The area affected by this Stipulation may be modified by the Authorized Officer if it is determined that portions of the area do not include slopes over 60 percent.

Waiver: This Stipulation may be waived by the Authorized Officer if it is determined that the entire leasehold does not include slopes over 60 percent.

Visual Resource Management (VRM) Class II

Stipulation: All surface-disturbing activities, semi-permanent, and permanent facilities in VRM Class II areas may require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives for the area.

Objective: To control the visual effects of activities and facilities within acceptable levels.

Exception: None.

Modification: None.

Waiver: This Stipulation may be waived if the Authorized Officer determines that there are no VRM Class II areas in the leasehold.

Special Recreation Management Area

Stipulation: Unless otherwise authorized, drill site construction and access through special recreation management areas within this leasehold will be limited to established roadways.

Objective: To protect recreational qualities of the lands involved and recreational facilities as well as enhance recreational opportunities within the designated boundary of the special recreation management areas (SRMAs).

Exception: An exception to this Stipulation may be granted by the Authorized Officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

Waiver: This Stipulation may be waived by the Authorized Officer if it is determined that the entire leasehold does not include SRMAs.

Table G-1. Leasable Mineral Restrictions

Area/Value	RMP
Soda Mountain WSA	CD
Rogue WSR (Wild Section)	CD
Wild Rogue Wilderness	CD
Grave Creek	

Galice Creek	NSO		
Agate Flat	NSO		
<hr/>			
All remaining lands in recreation section of Rogue Wild Scenic River	NSO	Round Top Butte	NSO
		Scotch Creek	NSO
		Woodcock Bog	NSO
Nominated WSR		Riparian Management Areas	NSO
Wild	CD	Rogue WSR (Rec. Section)	NSO
Scenic		Progeny Test Sites	NSO
Recreation		R&PP Leases	NSO
Jacksonville Trail System	NSO	Developed Recreation Sites	NSO
		Designated Potential Recreation Sites	NSO
Areas of Critical Environmental Concern		Special Status Species Sites	NSO
Table Rocks	NSO	VRM II	X
King Mtn. Rock Garden	NSO	Townsend's Big Eared Bat	NSO 30-acre core
Eight Dollar Mtn.	NSO	Peregrine Falcon	NSO 1/2-mile radius
Bill Creek			
Bobby Creek	NSO	Bald Eagle	NSO 30-acre core
Cedars of Beaver Creek		Bald Eagle	S 2/1 to 8/15, 1/2-mile radius
Crooks Creek	NSO	Peregrine Falcon	S 2/1 to 8/15, 1-mile radius
Dakubetede			
Enchanted Forest		Blue Heron Nests	S 3/1 to 7/1
Flounce Rock	NSO	Spotted Owl Nests	S 3/1 to 9/30, 1/4-mile radius
French Flat	NSO		
Hold-in-the-Rock	NSO	Granitic/Schist Soils	S 10/15 to 5/15
Hoxie Creek	NSO	Pyroclastic Soils	S 10/15 to 5/15
Iron Creek	NSO	High Risk Watersheds	S/S
Jenny Creek	NSO	Special Habitats	X 100-300 foot buffer
Larkspur			
Little Hyatt			
Moon Prairie	NSO		
PCT/Howard Prairie			
Pilot Rock	NSO		
Poverty Flats	NSO		
Rock Creek			
Rogue River			
Siskiyou Mtn. Natural Area			
Sterling Mine Ditch	NSO		
Tin Cup	NSO		
Williams Watershed			
Research Natural Areas			
Brewer Spruce	NSO		
Brewer Spruce Enlargement	NSO		
Grayback Glades	NSO		
Area/Value	RMP		
Holton Creek	NSO		
Lost Lake	NSO		
North Fork Silver Creek	NSO		
Old Baldy	NSO		
Oregon Gulch	NSO		
Pipe Fork	NSO		

Leasing Categories:
CD: Already Closed to Leasing
NSO: No Surface Occupancy
S: Seasonal Restriction
W: Withdrawn
X: Special Stipulations

Appendix H. Locatable Minerals Surface Management, 43 CFR 3809 Standards for Exploration, Mining, and Reclamation

The following operational guidelines for mining activities have been compiled to assist the miner in complying with the 43 CFR 3809 regulations, which apply to all mining operations on BLM-administered land in the Medford District. The manner in which the exploratory or development work is to be done would be site-specific and all of the following standards may not apply to each mining operation. It is the mining claimant's and/or operator's responsibility to avoid "unnecessary or undue degradation," and to promptly perform all necessary reclamation work. Refer to regulations 43 CFR 3809 for general requirements. BLM will provide site-specific guidelines for some mining proposals.

Construction and Mining

Required Permits

The operator must provide written notice to the District Office 15 days prior to commencement of any surface mining disturbance that requires mechanized earth moving equipment, dredges with an intake hose greater than four inches, occupancy, or cutting timber. Operations that will cause greater than five acres of surface disturbance will require the operator to submit a plan of operation 43 CFR 3809.1-6. Activities covered in the 3809 regulations under the definition for "casual use" do not require a mining notice. Any notice received and determined to be casual use shall be returned. The Oregon Department of Geology and Mineral Industries (DOGAMI) also requires application for surface mining permit (SMLR-1) for any operation disturbing more than one acre annually or 5,000 cubic yards annually. A reclamation bond will be required by either the BLM or DOGAMI. The Oregon State Division of Lands will require a permit for any relocation of flowing streams or mining within the banks of the creek if more than 50 cubic yards per year are excavated.

Vegetation/Timber

Timber may be cut and used for mining purposes, this may include construction of bridges and buildings, or shoring. All timber cut must be reasonably incident to mining operations 43 CFR 3712.1(a). Timber may be cut and cleared if in the way of the mining operation. A permit is required to cut and use timber on all O&C lands, 43 CFR 3821.4, except when the operator needs to clear timber that is in the way of operation. Prior to cutting timber, the claimant must submit notification in a Mining Notice or Plan of Operation.

The operator is liable for damage to government timber cut on unpatented mining claims. Therefore, it is recommended the operator submit a mining notice in advance so the BLM can arrange for removal of the timber by a qualified purchaser.

Firewood

Firewood permits will be issued to mining claimants who occupy the mining claim, but the permits will be limited to hardwoods or salvage timber. Firewood is for use on the claim if it is reasonably incident to ongoing mining

operations. Standing merchantable conifer trees such as Douglas-fir, pine, cedar, or white fir may not be cut for firewood. The claimant must submit notification in a Mining Notice or Plan of Operation prior to cutting firewood.

Water Quality

When mining will be in or near bodies of water or sediment and turbid water will be discharged, the Department of Environmental Quality (DEQ) should be consulted. It is the operator's responsibility to obtain any needed permits for suction dredging, stream bed alteration, or water discharge as required by the DEQ or other state agencies. Copies of such permits shall be provided to the BLM Surface Compliance Officer when a Notice or Plan of Operations is filed. All operations, including casual use, shall be conducted in a manner to prevent unnecessary or undue degradation and shall comply with all pertinent Federal and State laws, 43 CFR 3809.2-2.

Claim Monuments

Due to a new state law, plastic pipe for claim staking is no longer allowed in Oregon. It is BLM policy that plastic pipes used for monuments should have all openings permanently closed. Upon loss or abandonment of the claim, all plastic pipe must be removed from the public lands. When old markers are replaced during normal claim maintenance, they are to be either wood posts, stones, or earth mounds, constructed in accordance with state law.

Drill Sites

Exploratory drill sites should be located next to or on existing roads, when possible, without blocking public access. When drill sites must be constructed, the size of the disturbance should be as small as possible in order to conduct drilling operations.

Dust and Erosion Control

While in operation and during periods of temporary shut-down, exposed ground surfaces susceptible to erosion would need to be protected. This can be accomplished with seeding, mulching, and installation of water diversions.

Fire Safety

All state fire regulations must be followed including obtaining a campfire permit or blasting permit, if needed. All small gas engines must be equipped with approved spark arresters.

Public Access

The government and its' permittees (general public) may use public lands and the surface resources on mining claims, providing they do not materially interfere or endanger prospecting, mining, or processing operations. Mining claimants shall not exclude the public from mining claims with force, intimidation, or no trespassing signs, 43 CFR 3712.1(a). Claimants are encouraged to post "caution" or "danger" signs on or adjacent to ongoing operations to inform the public of dangerous situations. It is the operators responsibility to protect the public from mining hazards. Gates may be installed with BLM approval.

Occupancy

Operators residing on the mining claims longer than 30 days will be required to obtain county sanitation discharge permits and other building permits required by the county. Work sites may house self-contained chemical toilets, but they must be emptied at state approved dump stations.

Solid waste (nonmining materials, trash, car bodies, etc.) is a hazard or nuisance, and accumulation of these wastes on public lands is a violation of Federal Regulation, 43 CFR 8365.1-4.

Occupancy or camping on public lands in excess of 14 days per calendar year must be reasonably incident to actual continuous mining, processing, or diligent exploration operations (core drilling or significant testing) and will require submission of a Mining Notice or Plan of Operation. In general, operations at the casual use level are not sufficient to warrant occupancy on a mining claim. During extended periods of nonoperation, the claimant shall remove all structures, equipment, and other facilities and reclaim the site, 43 CFR 3809.3-7. Some operations are seasonal and may be limited by state law. During those closure periods, the occupancy may be unnecessary since no mining may be occurring.

Dogs

If dogs are to be present at mine sites or residences, they shall be kept under control at all times so that wildlife and the public and government personnel are not threatened. This requirement is expected of all users of public lands but is especially true where there are permanent residences.

Suction Dredging

Excluding the wild, scenic, and recreation sections of the Rogue River, almost all streams, rivers, and flowing waters are open to suction dredging. The riverbeds of navigable waters are controlled by the Oregon Division of State Lands. The Oregon Scenic Waterways Regulations limits the size of dredges along the recreation section of the Rogue River to a maximum of four-inch intake hose.

All suction dredges must be registered with DEQ and dredges with an intake hose of greater than four inches must obtain a general National Pollutant Discharge Elimination Systems (NPDES) Permit. Operators required to have this permit must submit a Mining Notice to the BLM District Office and provide proof of having a NPDES Permit upon request.

Any dredging operation which does not exceed the four-inch intake threshold will generally result in only negligible disturbance of federal lands and therefore are considered casual use. No notification to or approval by the authorized officer is required. However, any mining operation including an occupancy exceeding 14 days will require notification or approval by the BLM.

Dredging outside the “permitted work period” established by Oregon Department of Fish and Wildlife (ODFW) will require written permission by an appropriate ODFW District Biologist.

Reclamation

Waste Management. All undesirable materials (e.g., toxic subsoil, contaminated soil, drilling fluids, process residue, refuse, etc.) shall be isolated or removed or otherwise disposed of as appropriate in a manner providing for long-term stability and in compliance with all applicable state and federal requirements.

Subsurface. The subsurface shall be properly stabilized, holes and underground workings properly plugged, when required, and subsurface integrity ensured subject to applicable federal and state requirements.

Site Stability. The reclaimed area shall be stable without rill or gullies, perceptible soil movement, and slope instability; and the appropriate water courses and drainage features shall be reestablished and stabilized.

Water Management. The quality and integrity of affected ground and surface water shall be protected as a part of mineral development and reclamation activities in accordance with all federal and state requirements.

Soil Management. Top soil, selected subsoils, or other materials suitable as a growth medium shall be salvaged from areas to be disturbed and managed for later use in reclamation. Stockpiled material shall be stabilized to prevent erosion.

Erosion Prevention. The surface area disturbed at any one time during development of a project shall be kept to the minimum necessary and the disturbed areas reclaimed as soon as possible (concurrent reclamation) to prevent unnecessary or undue degradation resulting from erosion.

Revegetation/Reforestation. When the final landform is achieved, the surface shall be stabilized by vegetation or other means as soon as practical to reduce further soil erosion from wind or water, provide forage and cover, and reduce visual impacts. Specific criteria for evaluating revegetation success must be site-specific and included as part of the reclamation plan. On lands classified as woodlot or high intensity forestlands, reclamation shall include meeting reforestation requirements of the State Forest Practices Act.

Visual Resources. To the extent practicable, the reclaimed landscape should have characteristics that approximate or are compatible with the visual quality of the adjacent area with regard to location, scale, shape, color, and orientation of major landscape features.

(SOURCE: BLM Manual Handbook H-3042-.1,.2)

Road Reclamation

After mining is completed, all new roads would be reclaimed if not required for access. High walls and cut banks are to be knocked down or backfilled to blend with surrounding landscape. All culverts shall be removed from drainage crossings and the fill excavated. The roadbed shall be ripped, fertilized, seeded, and mulched, if necessary.

Table H-1. Locatable Mineral Restrictions

Area/Value	Remarks	ACEC'S	
Soda Mountain WSA	PO		
Rogue WSR (Wild Section)	CD	Table Rocks	W
Wild Rogue Wilderness	CD	King Mtn. Rock Garden	PO
Grave Creek		Eight Dollar Mtn.	PO
Galice Creek	W	Bill Creek	
Agate Flat	W	Bobby Creek	PO
Jacksonville Trail System	W	Cedars of Beaver	
All Remaining Lands in Rec. Sec. Rogue WSR to Grave Creek	W	Almeda park	
Pickett Creek (Fish Wier Reach)	W	Crooks Creek	PO
		Dakubetede	
		Enchanted Forest	
		Flounce Rock	
		French Flat	PO
		Hole in the Rock	PO
		Hoxie Creek	PO
		Iron Creek	PO
		Jenny Creek	PO
Nominated WSR		Area/Value	Remarks
Wild	W		
Scenic			
Recreation			
Area/Value	Remarks		

Larkspur	
Little Hyatt	
Moon Prairie	
PCT/Howard Prairie	
Pilot Rock	PO
Poverty Flats	PO
Rock Creek	
Rogue River	
Siskiyou Mountain Natural Area	
Sterling Ditch	PO
Tin Cup	PO
Williams Watershed	
Total Acres Designated: 8,108	

RNA'S

Brewer Spruce	W
Brewer Spruce Enlargement	W
Grayback Glades	W
Holton Creek	W
Lost Lale	W
North Fork Silver Creek	W
Old Baldy	W
Oregon Gulch	W
Pipe Fork	W
Round Top Butte	W
Scotch Creek	W
Woodcock Bog	W
Total Acres: 8741	
Riparian Reserve	CD
Rogue WSR (Rec. Section)	CD
R&PP Leases	CD
Developed Recreation Sites	CD
Designated Potential Recreation Sites	W

Area/Value **Remarks**

Areas With Special Recommended Stipulations

Special Status Species Sites	X
High Risk Watersheds	
VRM II	X
Townsend's Big Eared Bat	NSD 1/4-Mile radius
Peregrine Falcon	NSD 1/2-Mile radius
Bald Eagle	NSD 30 Acres Core Area
Unique Ecosystems	W 100' Buffer
Bald Eagle	S 2/1 to 8/15 1/2-Mile
Peregrine Falcon	S 2/1 to 8/15, 1-Mile
Blue Heron Nests	S 3/5 to 8/15, 1/4-Mile of Nest
Spotted Owl Nests	S 3/1 to 9/30, 1/4-Mile
Granitic/Schist Soils	X 10/15 to 5/15
Pyroclastic Soils	X 10/15 to 5/15

Restriction Categories:
CD: Already closed to mineral entry
NSD: No surface disturbance
PO: Plan of operation required
S: Seasonal restrictions
W: Withdraw from mineral location
X: Special management requirements

Appendix I. Guidelines for Development of Saleable Mineral Resources

Quarry Design

A design would be prepared for all sites.

Due to steep terrain in the operating area, most quarry developments would require a series of benches to effectively maximize the amount of mineral materials to be removed in a safe manner. In most cases, bench height should not exceed 40 feet, and if the bench would be used by bulldozers to access other parts of the quarry, the width of the bench should be at least 25 feet. If the bench is not used by equipment, this width can be reduced to approximately 10 feet.

Clearing of timber and brush should be planned at least 10 feet beyond the edge of the excavation limit. Most often, the brush would be piled and burned at the site or scattered nearby.

If possible, all topsoil and overburden should be stockpiled and saved for eventual quarry site reclamation. These piles may need to be stabilized by mulching or seeding in order to minimize erosion during the winter months.

As a standard procedure, the excavation of the quarry floor should be designed with an outslope of approximately 2 percent in order to provide for adequate drainage of the floor. Compliance with this design should be made a requirement of all operators at the site.

Operating Procedures

The following requirements should be made a part of every contract or permit providing for the use of mineral material sites in the planning area.

- Oversized boulders should not be wasted but would be broken and utilized concurrently with the excavated material or utilized as riprap.
- The operator would comply with local and state safety codes covering quarry operations, warning signs, and traffic control. All necessary permits must be obtained from state and county agencies.
- Use of the site for equipment storage and stockpiling rock material is allowed for the duration of the contract or permit. Use of the site beyond that time would be authorized under a special use permit.

Salable Mineral Restrictions

Area/Value	Remarks	Area/Value	Remarks
Soda Mountain WSA	NSD		
Rogue WSR (Wild Section)	CD		
Wild Rogue Wilderness	CD		
Grave Creek			
Galice Creek	NSD		
Agate Flat	NSD		
Jacksonville Trail System	NSD		
All remaining lands in Rec. section Rogue WSR	NSD		
Areas of Critical Environmental Concern			
Table Rocks	NSD		
King Mountain Rock Garden	NSD		
Eight Dollar Mountain	NSD		
Bill Creek			
Bobby Creek	NSD		
Cedars of Beaver Creek			
Crooks Creek	NSD		
Dakubetede			
Enchanted Forest			
Flounce Rock	NSD		
French Flat	NSD		
Hole-in-the-rock	NSD		
Hoxie Creek	NSD		
Iron Creek	NSD		
Jenny Creek	NSD		
Little Hyatt	NSD		
Larkspur			
Moon Prairie	NSD		
PCT/Howard Prairie	NSD		
Pilot Rock	NSD		
Poverty Flats	NSD		
Rock Creek			
Rogue River	NSD		
Siskiyou Mountain Natural Area			
Sterling Ditch	NSD		
Tin Cup	NSD		
Williams Watershed			
		Resource Natural Areas	
		Brewer Spruce	NSD
		Brewer Spruce Enlargement	NSD
		Grayback Glades	NSD
		Holton Creek	NSD
		Lost Lake	NSD
		North Fork Silver Creek	NSD
		Old Baldy	NSD
		Oregon Gulch	NSD
		Pipe Fork	NSD
		Round Top Butte	NSD
		Scotch Creek	NSD
		Woodcock Bog	NSD
		Riparian Reserves	X/S
		Late Successional Reserves	X
		Rogue WSR (Rec. Section)	NSD
		Progeny Test Sites	NSD
		R&PP Leases	CD
		Designated Recreation Sites	CD
		Special Status Species Sites	X
		VRM I	X
		VRM II	X
		Townsend's Big Eared Bat	NSD 30-Acre core
		Peregrine Falcon	NSD 1/2 Mile radius
		Bald Eagle	NSD 30-Acre core
		Unique Ecosystems	NSD 100' Buffer
		Glendale Watershed	NSD
		Talent Watershed	NSD
		High Risk Watersheds	NSD
		Bald Eagle	S
		Peregrine Falcon	S 2/1 to 8/15, 1-Mile
		Blue Heron Nests	S 3/5 to 8/15, 1/4-Mile of Nest
		Spotted Owl Nests	S 3/1 to 9/30, 1/4-Mile
		Fragile Lands	
		Noncommercial Woodlands	X 10/15 to 5/15

Restriction Categories:
W: Recommended withdraw to mineral development.

Appendix J. Land Tenure Adjustment Zone 3 Lands

The following lands meet the criteria for Zone 3 lands as described in Chapter 2. They are isolated and would be difficult and uneconomical to manage and are available for disposal through exchange or sale.

- 1) T.34 S., R.6 W.
Sec.22, NW1/4SE1/4;
Sec.33, SW1/4SW1/4, E1/2SW1/4;
Sec.35, NW1/4NE1/4;
- 2) T.35 S., R.5 W.
Sec.31, SE1/4NW1/4, SW1/4, W1/2SE1/4;
Sec.32, SW1/4NE1/4, W1/2SE1/4, NE1/4SE1/4;
- 3) T.35 S., R.6 W.
Sec.5, S1/2NE1/4, SE1/4SW1/4, SE1/4;
Sec.7, NE1/4NE1/4, N1/2NW1/4, SW1/4NW1/4, SE1/4NE1/4;
Sec.11, E1/2NE1/4, SW1/4NE1/4, NE1/4SE1/4;
Sec.14, NW1/4SE1/4;
Sec.17, NE1/4NE1/4, NW1/4NW1/4;
Sec.19, NE1/4, N1/2NW1/4;
Sec.21, NE1/4NE1/4 Sec. 27, W1/2W1/2;
Sec.29, NW1/4NW1/4;
Sec.30, S1/2S1/4;
Sec.31, SW1/4NE1/4, W1/2, NW1/4SE1/4;
Sec.33, E1/2NE1/4, E1/2NW1/4, NW1/4NW1/4, SE1/4SE1/4;
- 4) T.36 S., R.3 W.
Sec.21, NE1/4SW1/4;
Sec.33, SW1/4SW1/4, NW1/4SE1/4SW1/4;
Sec.35, NE1/4NE1/4;
- 5) T.36 S., R.4 W.
Sec.25, SE1/4SW1/4, S1/2SW1/4SE1/4;
Sec.35, Lots 1, 5, W1/2SW1/4;
- 6) T.36 S., R.5 W.
Sec.4, E1/2NW1/4, N1/2SW1/4;
Sec.5, SE1/4NE1/4, NE1/4SE1/4;
Sec.29, S1/2SW1/4;
Sec.9, W1/2E1/2, E1/2W1/2, E1/2NW1/4SW1/4;
- 7) T.36 S., R.6 W.
Sec.1, Lots 2,3,4, S1/2NE1/4, N1/2SW1/4, SE1/4NW1/4, W1/2SE1/4,SE1/4SE1/4;
Sec.3, SW1/4, S1/2SE1/4;
Sec.4, W1/2W1/2;
Sec.5, E1/2SE1/4, SW1/4NW1/4, W1/2SW1/4;
Sec.8, W1/2SE1/4, SE1/4SE1/4;
Sec.9, N1/2NW1/4, SW1/4NW1/4, E1/2SE1/4;
Sec.11, NW1/4NE1/4;
Sec.17, N1/2N1/2;
Sec.27, SW1/4NE1/4;
Sec.30, NW1/4SW1/4;
Sec.31, NW1/4NW1/4;
Sec.33, SE1/4NE1/4;8)
- 8) T.37 S., R.1 W.

- Sec.1, SW1/4SE1/4;
Sec.10, SE1/4SW1/4;
- 9) T.37 S., R.3 W.
Sec.4, Mineral Survey located NW1/4NW1/4;
Sec.5, Lot 1, NE1/4NE1/4;
- 10) T.37 S., R.5 W.
Sec.5, NE1/4NW1/4, SW1/4NW1/4, NW1/4SW1/4;
Sec.7, W1/2SW1/4;
Sec.18, W1/2SW1/4;
- 11) T.37 S., R.6 W.
Sec.3, SE1/4NE1/4, NE1/4SE1/4;
Sec.8, N1/4NE1/4;
Sec.9, NE1/4, N1/2SW1/4, SE1/4SW1/4, W1/2SE1/4, NE1/4SE1/4;
Sec.11, N1/2NW1/4;
Sec.13, SW1/4SE1/4, E1/2SE1/4;
Sec.15, NE1/4NE1/4, SW1/4NE1/4, SE1/4NW1/4;
Sec.24, NW1/4NE1/4;
- 12) T.38 S., R.1 W.
Sec.21, Lot 1, NE1/4SW1/4, S1/2SW1/4;
- 13) T.38 S., R.2 W.
Sec.10, NE1/4NW1/4;
- 14) T.38 S., R.4 W.
Sec.17, NE1/4NE1/4;
- 15) T.39 S., R.1 W.
Sec.1, NE1/4NE1/4;
- 16) T.40 S., R.8 W.
Sec.1, Lots 7,8;
Sec.5, Lots 6, 7;
Sec.7, Lots 1, 2, E1/2SW1/4,W1/2SE1/4*
- 17) T.32 S., R.2 E.
Sec.1, SE1/4SW1/4
- 18) T.36 S., R.2 E.
Sec.34, SE1/4SW1/4, SW1/4SE1/4;
- 19) T.37 S., R.1 E.
Sec.15, SE1/4NW1/4;
- 20) T.38 S., R.1 E.
Sec.3, SW1/4NW1/4;
Sec.5, SE1/4NE1/4;
- 21) T.33 S., R.2 E.
Sec.1, SE1/4SW1/4
- 22) T.38 S., R.2 E.
Sec.34, SW1/4NW1/4, NW1/4SW1/4;
- 22) T.39 S., R.2 E.
Sec.1, NW1/4NE1/4;
Sec.17, SE1/4NE1/4, NE1/4SE1/4;

* Not included on Map 11.

Appendix K. Land Ownership Adjustment Criteria

- Improving manageability of specific areas.
- Threatened or endangered or sensitive plant and animal species habitat.
- Riparian areas and wetlands.
- Fish habitat.
- Nesting/breeding habitat for game and nongame animals.
- Key big game seasonal habitat.
- Developed recreation sites and recreation use areas.
- High quality scenery.
- Energy and mineral potential.
- Land adjacent to rivers eligible for designation under the National Wild and Scenic Rivers Act.
- Significant cultural resources and sites eligible for inclusion on the National register of Historic Places.
- Designated wilderness areas and areas being studied for possible wilderness designation.
- Accessibility of the land for public recreation and other uses.
- Amount of public investments in facilities or improvements and the potential for recovering those investments.
- Difficulty or cost of administration (manageability).
- Suitability of the land for management by another Federal agency.
- Significance of the decision in stabilizing business, social and economic conditions, and/or lifestyles.
- Whether private sites exist for the proposed use.
- Encumbrances including, but not limited to withdrawals or existing leases or permits.
- Consistency with cooperative agreements and plans or policies of other agencies.
- Suitability (need for change in land ownership or use) for purposes including but not limited to community expansion or economic development such as industrial, residential, or agricultural (other than grazing) development.

Appendix L. Monitoring and Evaluation of the Approved Resource Management Plan

The BLM planning regulations (43 CFR 1610.4-9) call for monitoring and evaluation of approved resource management plans (RMPs) at appropriate intervals. The purposes of monitoring the RMP are as follows:

- To ensure activities are occurring in conformance with the plan,
- To determine if activities are producing the expected results, and
- To determine if activities are causing the effects identified in the PRMP/FEIS.

All Land Use Allocations

Expected Future Conditions and Outputs

Protection of SEIS special attention species so as not to elevate their status to any higher level of concern.

Implementation Monitoring

Questions:

- Are surveys for the species listed in Appendix C conducted before ground-disturbing activities occur?
- Are protection buffers being provided for specific rare and locally endemic species and other species in the upland forest matrix?
- Are the sites of amphibians, mammals, bryophytes, mollusks, vascular plants, fungi, lichens and arthropod species listed in Appendix C being protected?
- Are the sites of amphibians, mammals, bryophytes, mollusks, vascular plants, fungi, lichens and arthropod species listed in Appendix C being surveyed?
- Are high priority sites for species management being identified?
- Are general regional surveys being conducted to acquire additional information and to determine necessary levels of protection for arthropods, fungi species that were not classed as rare and endemic, bryophytes, and lichens?

Monitoring Requirements

- Each year, at least 20 percent of all management actions will be selected prior to project initiation and re-examined following project completion, to determine if: surveys are conducted for species listed in Appendix C, protection buffers are provided for specific rare and locally endemic species and other species in the upland forest matrix, and sites of species listed in Appendix C are protected.
- The annual program summary will address Implementation Questions 4-6.

Effectiveness and Validation Monitoring

Questions:

- Are measures taken to protect the SEIS special attention species effective?
- Is the forest ecosystem functioning as a productive and sustainable ecological unit?

Monitoring Requirements

- Deferred to SEIS Monitoring Plan.

Riparian Reserves

Expected Future Conditions and Outputs

See Aquatic Conservation Strategy Objectives.

Provision of habitat for special status and SEIS special attention species.

Implementation Monitoring

Questions:

- Are watershed analyses being completed before on-the-ground actions are initiated in riparian reserves?
- Is the width and integrity of the riparian reserves being maintained? (e.g., did the conditions that existed before management activities change in ways that are not in accordance with the SEIS ROD Standards and Guidelines and RMP management direction?)
- What silvicultural practices are being applied to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain aquatic conservation strategy objectives? Are management actions creating a situation where riparian reserves are made more susceptible to wildfire?
- Are management activities in riparian reserves consistent with SEIS ROD Standards and Guidelines, RMP management direction, and aquatic conservation strategy objectives?
- Are new structures and improvements in riparian reserves constructed to minimize the diversion of natural hydrologic flow paths, reduce the amount of sediment delivery into the stream, protect fish and wildlife populations and accommodate the 100-year flood? What effects are occurring to stream flows due to increased vegetation densities.
- A) Are all mining structures, support facilities, and roads located outside the riparian reserves?
B) Are those located within the riparian reserves meeting the objectives of the aquatic conservation strategy?
C) Are all solid and sanitary waste facilities excluded from riparian reserves or located, monitored, and reclaimed in accordance with SEIS ROD Standards and Guidelines and RMP management direction?
- Are new recreation facilities within the riparian reserves designed to meet, and where practicable, contribute to

aquatic conservation strategy objectives? Are mitigation measures initiated where existing recreation facilities are not meeting aquatic conservation strategy objectives?

Monitoring Requirements

- The files on each year's on-the-ground actions will be checked annually to ensure that watershed analyses were completed prior to project initiation and to ensure the concerns identified in the watershed analysis were addressed in the project's environmental assessment (EA).
- Each year, at least 20 percent of management activities within each resource area will be selected prior to project initiation and re-examined following project completion, to determine whether the width and integrity of the riparian reserves were maintained.
- The annual program summary will report what silvicultural practices are being applied in order to attain aquatic conservation strategy objectives.
- Each year, at least 20 percent of the activities that are conducted or authorized within riparian reserves will be reviewed in order to identify whether the actions were consistent with the SEIS ROD Standards and Guidelines, RMP management direction, and aquatic conservation strategy objectives. In addition to reporting the results of this monitoring, the annual program summary will also summarize the types of activities that were conducted or authorized within riparian reserves.
- All new structures and improvements within a riparian reserve will be monitored during and after construction to ensure that it was constructed to: minimize the diversion of natural hydrologic flow paths, reduce the amount of sediment delivery into the stream, protect fish and wildlife populations, and accommodate the 100 year flood.
- All approved mining plans of operations will be reviewed to determine if:
 - A) both a reclamation plan and bond were required;
 - B) structures, support facilities and roads were located outside of riparian reserves, or in compliance with aquatic conservation strategy objectives if located inside the riparian reserve; and
 - C) and if solid and sanitary waste facilities were excluded from riparian reserves or located, monitored and reclaimed in accordance with RMP management direction.
- The annual program summary will examine the status of evaluations of existing recreational facilities inside riparian reserves to ensure that aquatic conservation strategy objectives are met. The summary will also report on the status of the mitigation measures initiated where the aquatic conservation strategy objectives cannot be met.

Effectiveness and Validation Monitoring

Questions:

- Is the health of riparian reserves improving?
- Are management actions designed to rehabilitate riparian reserves effective?

Monitoring Requirements

Deferred to SEIS Monitoring Plan.

Late-Successional Reserves

Expected Future Conditions and Outputs

Development and maintenance of a functional, interacting, late-successional and old-growth forest ecosystem in late-successional reserves.

Protection and enhancement of habitat for late-successional and old growth forest-related species including the northern spotted owl and marbled murrelet.

Implementation Monitoring

Questions:

- What is the status of the preparation of assessment and fire plans for late-successional reserves?
- What activities were conducted or authorized within late-successional reserves and how were they compatible with the objectives of the late-successional reserve plan? Were the activities consistent with SEIS ROD Standards and Guidelines, RMP management direction, and Regional Ecosystem Office review requirements and the late-successional reserve assessment?
- What is the status of development and implementation of plans to eliminate or control non-native species which adversely impact late-successional objectives?
- What land acquisitions occurred, or are under way, to improve the area, distribution, and quality of late-successional reserves?

Monitoring Requirements

- The annual program summary will address Implementation Questions 1-4.

Effectiveness and Validation Monitoring

Questions:

- Are forest management activities (e.g., special forest product harvesting) within late-successional reserves compatible with the goal of developing and maintaining a functional, interacting, late-successional and old growth forest ecosystem?
- Does the harvest of special forest products have adverse effects on late-successional reserve objectives?
- Is a functional, interacting, late-successional ecosystem maintained where adequate, and restored where inadequate?
- Did silvicultural treatments benefit the creation and maintenance of late-successional conditions?
- What is the relationship between levels of management intervention and the health and maintenance of late-successional and old growth ecosystems?

Monitoring Requirements

Adaptive Management Areas

Expected Future Conditions and Outputs

Utilization of adaptive management areas (AMAs) for the development and application of new management approaches for the integration and achievement of ecological health, and economic and other social objectives.

Provision of well-distributed, late-successional habitat outside reserves; retention of key structural elements of late-successional forests on lands subjected to regeneration harvest; restoration and protection of riparian zones; and provision of a stable timber supply.

Implementation Monitoring

Questions:

- Are the adaptive management area (AMA) plans being developed, and do they establish future desired conditions?

Monitoring Requirements

- The annual program summary will address Implementation Question 1.

Effectiveness and Validation Monitoring

Deferred to SEIS Monitoring Plan and individual AMA management plans.

Matrix

Expected Future Conditions and Outputs

Production of a stable supply of timber and other forest commodities.

Maintenance of important ecological functions such as dispersal of organisms; carryover of some species from one stand to the next; and maintenance of ecologically valuable structural components such as down logs, snags, and large trees.

Assurance that forests in the Matrix provide for connectivity between late-successional reserves.

Provision of habitat for a variety of organisms associated with early and late-successional forests.

Implementation Monitoring

Questions:

- Are suitable numbers of snags, coarse woody debris, and green trees being left following timber harvest as called for in the SEIS ROD Standards and Guidelines and RMP management direction?
- Are timber sales being designed to meet ecosystem goals for the Matrix?
- Are late-successional stands being retained in fifth-field watersheds in which federal forestlands have 15 percent or less late-successional forest?
- What is the age and type of the harvested stands?

Monitoring Requirements

- Each year, at least 20 percent of regeneration harvest timber sales in each resource area will be selected by pre- and post-harvest (and after site preparation) inventories to determine snag and green tree numbers, heights, diameters and distribution within harvest units. The measure of distribution of snags and green trees will be the percent in the upper, middle and lower thirds of the sale units monitored. Snags and green trees left following timber harvest activities (including site preparation for reforestation) will be compared to those that were marked prior to harvest.

The same timber sales will also be inventoried pre- and post-harvest to determine if SEIS ROD and RMP down log retention direction has been followed.

- Each year, at least 20 percent of the files on each year's timber sales will be reviewed annually to determine if ecosystem goals were addressed in the silvicultural prescriptions.
- All proposed regeneration harvest timber sales in watersheds with less than 15 percent late-successional forest remaining will be reviewed prior to sale to ensure that a watershed analysis has been completed.
- The annual program summary will address Implementation Question 4.

Effectiveness and Validation Monitoring

Questions:

- Are stands growing at a rate that will produce the predicted yields?
- Are forests in the Matrix providing for connectivity between late-successional reserves?

Monitoring Requirements

Deferred to the SEIS Monitoring Plan.

Air Quality

Expected Future Conditions and Outputs

Attainment of National Ambient Air Quality Standards, prevention of significant deterioration goals, and Oregon Visibility Protection Plan, and Smoke Management Plan goals.

Maintenance and enhancement of air quality and visibility in a manner consistent with the Clean Air Act and the State Implementation Plan.

Implementation Monitoring

Questions:

- Were efforts made to minimize the amount of particulate emissions from prescribed burns?
- Are dust abatement measures used during construction activities and on roads during BLM timber harvest operations and other BLM commodity hauling activities?
- Are conformity determinations being prepared prior to activities which may contribute to a new violation of the National Ambient Air Quality Standards, increase the frequency or severity of an existing violation, or delay the timely attainment of a standard? Has an interagency monitoring grid been established in southwestern Oregon.

Monitoring Requirements

- Each year, at least 20 percent of prescribed burn projects will be randomly selected for monitoring to assess what efforts were made to minimize particulate emissions, and whether the environmental analysis that preceded the decision to burn addressed the questions set forth in the SEIS discussion of Emission Monitoring (pg. 3&4-100).
- Each year, at least 20 percent of the construction activities and commodity hauling activities will be selected for monitoring to determine if dust abatement measures were implemented.
- The annual program summary will address Implementation Question 3.

Effectiveness and Validation Monitoring

Questions:

- What techniques were the most effective in minimizing the amount of particulate emissions from prescribed burns?
- Are BLM prescribed burns contributing to intrusions into Class I areas or nonattainment areas?
- Of the intrusions that the BLM is reported to be responsible for, what was the cause and what can be done to minimize future occurrences?
- Are BLM prescribed underburns causing adverse air quality impacts to rural and down wind communities?
- Are prescribed fires decreasing the actual or potential impacts from wildfire emissions?
- Is there interagency planning, implementing and monitoring of PM10 impacts to nonattainment areas and Class I areas as part of the general and transportation conformity determinations.

Monitoring Requirements

Deferred to SEIS Monitoring Plan.

Water and Soils

Expected Future Conditions and Outputs

Restoration and maintenance of the ecological health of watersheds. See Aquatic Conservation Strategy Objectives.

Improvement and/or maintenance of water quality in municipal water systems.

Improvement and/or maintenance of soil productivity.

Reduction of existing road mileage within key watersheds.

Implementation Monitoring

Questions:

- Are site specific best management practices (BMPs), identified as applicable during interdisciplinary review, carried forward into project design and execution?
- What watershed analyses have been or are being performed? Are watershed analyses being performed prior to management activities in key watersheds?
- What is the status of identification of in-stream flow needs for the maintenance of channel conditions, aquatic habitat, and riparian resources?
- What watershed restoration projects are being developed and implemented?
- What fuel treatment and fire suppression strategies have been developed to meet aquatic conservation strategy objectives?
- What is the status of development of road or transportation management plans to meet aquatic conservation strategy objectives?
- What is the status of preparation of criteria and standards which govern the operation, maintenance, and design for the construction and reconstruction of roads?
- What is the status of the reconstruction of roads and associated drainage features identified in watershed analysis as posing a substantial risk? What is the status of closure or elimination of roads to further aquatic conservation strategy objectives, and to reduce the overall road mileage within key watersheds? If funding is insufficient to implement road mileage reductions, are construction and authorizations through discretionary permits denied to prevent a net increase in road mileage in key watersheds?
- What is the status of reviews of ongoing research in key watersheds to insure that significant risk to the watershed does not exist?

- What is the status of evaluation of recreation, interpretive and user-enhancement activities/facilities to determine their effects on the watershed? What is the status of eliminating or relocating these activities/facilities when found to be in conflict with aquatic conservation strategy objectives?
- What is the status of cooperation with other agencies in the development of watershed-based Research Management Plans and other cooperative agreements to meet aquatic conservation strategy objectives? What is the status of cooperation with other agencies to identify and eliminate wild ungulate impacts which are inconsistent with attainment of aquatic conservation strategy objectives?

Monitoring Requirements

- Each year, at least 20 percent of the timber sales and silviculture projects stratified by management category will be randomly selected for monitoring to determine whether or not best management practices (BMPs) were implemented as prescribed. The selection of management actions to be monitored will be based on beneficial uses likely to be impacted and for which BMPs are being prescribed.
- Compliance checks will be completed for all agreements entered into with providers of municipal water.
- The annual program summary will address Implementation Questions 3-11.

Effectiveness and Validation Monitoring

Questions:

- Is the ecosystem function of the watersheds improving?
- Are state water quality criteria being met? When state water quality criteria is met, are the beneficial uses of riparian areas protected?
- Are prescribed best management practices (BMPs) maintaining or restoring water quality consistent with basin specific state water quality criteria for protection of specified beneficial uses?

Monitoring Requirements

Deferred to SEIS Monitoring Plan

Wildlife Habitat

Expected Future Conditions and Outputs

Maintenance of biological diversity and ecosystem health to contribute to healthy wildlife populations.

Implementation Monitoring

Questions:

- Are suitable (diameter, length and numbers) snags, coarse woody debris, and green trees being left in a

manner that meets the needs of species and provides for ecological functions in harvested areas as called for in the SEIS ROD Standards and Guidelines and RMP management direction?

- Are special habitats being identified and protected?
- What is the status of designing and implementing wildlife habitat restoration projects?
- What is the status of designing and constructing wildlife interpretive and other user-enhancement facilities?

Monitoring Requirements

- Each year at least 20 percent of regeneration harvest timber sales in each resource area will be selected by pre- and post-harvest (and after site preparation) inventories to determine snag and green tree numbers, heights, diameters and distribution within harvest units. The measure of distribution of snags and green trees will be the percent in the upper, middle, and lower thirds of the sale units monitored. Snags and green trees left following timber harvest activities (including site preparation for reforestation) will be compared to those that were marked prior to harvest.
- The same timber sales will also be inventoried pre- and post-harvest to determine if SEIS ROD and RMP down log retention direction has been followed.
- Each year, at least 20 percent of BLM actions, within each resource area, on lands including or near special habitats will be selected to determine whether special habitats were protected.
- The annual program summary will address Implementation Questions 3 and 4.

Effectiveness and Validation Monitoring

Questions:

- Are habitat conditions for late-successional forest associated species maintained where adequate, and restored where inadequate?
- Are the snags, green trees and, coarse woody debris being left achieving the habitat necessary to attain the desired population at a relevant landscape level?
- Are BLM actions intended to protect special habitats actually protecting the habitat? Is the protection of special habitats helping to protect the species population?
- What are the effects of management on species richness (numbers and diversity)?

Monitoring Requirements

Deferred to SEIS Monitoring Plan (which will address a variety of wildlife species such as amphibians, mollusks, neotropical migratory birds, etc.).

Fish Habitat

Expected Future Conditions and Outputs

See Aquatic Conservation Strategy Objectives.

Maintenance or enhancement of the fisheries potential of streams and other waters consistent with BLM's Anadromous Fish Habitat Management on Public Lands guidance, BLM's Fish and Wildlife 2000 Plan, the Bring Back the Natives initiative, and other nationwide initiatives.

Rehabilitation and protection of at-risk fish stocks and their habitat.

Implementation Monitoring

Questions:

- Are at-risk fish species and stocks being identified?
- Are fish habitat restoration and enhancement activities being designed and implemented which contribute to attainment of aquatic conservation strategy objectives?
- Are potential adverse impacts to fish habitat and fish stocks being identified?

Monitoring Requirements

- The annual program summary will report on the status of watershed analysis to identify at-risk fish species and stocks, their habitat within individual watersheds, and restoration project needs.
- The annual program summary will report on the status of the design and implementation of fish habitat restoration and habitat activities.
- The annual program summary will report on the status of cooperation with federal, tribal and state fish management agencies to identify and eliminate impacts associated with poaching, harvest, habitat manipulation and fish stocking which threaten the continued existence and distribution of native fish stocks inhabiting federal lands. The summary will also identify any management activities or fish interpretive and other user-enhancement facilities which have detrimental effects on native fish stocks.
- Each year, at least 20 percent of the files on each year's timber sales, and other relevant actions, will be reviewed annually to evaluate documentation regarding fish species and habitat and related recommendations and decisions in light of policy and SEIS ROD Standards and Guidelines and RMP management direction. If mitigation was required, review will ascertain whether such mitigation was incorporated in the authorization document and the actions will be reviewed on the ground after completion to ascertain whether the mitigation was carried out as planned.

Effectiveness and Validation Monitoring

Questions:

- Is the ecological health of the aquatic ecosystems recovering or sufficiently maintained to support stable and well-distributed populations of fish species and stocks?
- Is fish habitat in terms of quantity and quality of rearing pools, coarse woody debris, water temperature and width to depth ratio being maintained or improved as predicted?
- Are desired habitat conditions for listed, sensitive, and at-risk fish stocks maintained where adequate, and restored where inadequate?

Monitoring Requirements

Deferred to SEIS Monitoring Plan

Special Status and SEIS Special Attention Species Habitat

Expected Future Conditions and Outputs

Protection, management, and conservation of federal listed and proposed species and their habitats to achieve their recovery in compliance with the Endangered Species Act (ESA) and Bureau special status species policies.

Conservation of federal candidate and Bureau-sensitive species and their habitats so as not to contribute to the need to list and recover the species.

Conservation of State listed species and their habitats to assist the state in achieving management objectives.

Maintenance or restoration of community structure, species composition, and ecological processes of special status plant and animal habitat.

Protection of Bureau-assessment species and SEIS special attention species so as not to elevate their status to any higher level of concern.

Implementation Monitoring

Questions:

- Are special status species being addressed in deciding whether or not to go forward with forest management and other actions? During forest management and other actions that may disturb special status species, are steps taken to adequately mitigate disturbances?
- Are the actions identified in plans to recover species being implemented in a timely manner?
- What coordination with other agencies has occurred in the management of special status species?
- What land acquisitions occurred or are under way to facilitate the management and recovery of special status species?
- What site specific plans for the recovery of special status species were or are being developed?
- What is the status of analysis which ascertains species requirements or enhances the recovery or survival of a species?
- What is the status of efforts to maintain or restore the community structure, species composition and ecological processes of special status plant and animal habitat?

Monitoring Requirements

- Each year, at least 20 percent of the files on each year's timber sales and other relevant actions (e.g., rights-of-way, instream structures) will be reviewed annually to evaluate documentation regarding special status species and related recommendations and decisions in light of ESA requirements, policy and SEIS ROD Standards and Guidelines and RMP management direction. If mitigation was required, review will ascertain whether such mitigation was incorporated in the authorization document and the actions will be reviewed on the ground after completion to ascertain whether the mitigation was carried out as planned.
- Review implementation schedule and actions taken annually to ascertain if the actions to recover species were carried out as planned.
- The annual program summary will address Implementation Questions 3-7.

Effectiveness and Validation Monitoring

Questions:

- Are trends for special status species meeting the objectives of mitigation and/or conservation actions?
- Have any Federal candidates, Bureau assessment or Bureau-sensitive species been elevated to higher levels of concern due to BLM management?
- Were desired habitat conditions for the northern spotted owl and marbled murrelet maintained where adequate and restored where inadequate?

Monitoring Requirements

Deferred to SEIS Monitoring Plan (which will address a variety of special status species including marbled murrelet, bald eagle, northern spotted owl, anadromous fish species, etc.).

Special Areas

Expected Future Conditions and Outputs

Maintenance, protection, and/or restoration of the relevant and important values of the special areas which include: areas of critical environmental concern (ACECs), outstanding natural areas (ONAs), research natural areas (RNAs) and environmental education areas (EEAs).

Provision of recreation uses and environmental education in ONAs. Management of uses to prevent damage to those values that make the area outstanding.

Preservation, protection, or restoration of native species composition and ecological processes of biological communities in RNAs.

Provision and maintenance of environmental education opportunities in EEAs. Management of uses to minimize disturbances of educational values.

Retention of existing RNAs and existing ACECs that meet the test for continued designation. Retention of other special areas. Provision of new special areas where needed to maintain or protect important values.

Implementation Monitoring

Questions:

- Are BLM actions and BLM authorized actions/uses near or within special areas consistent with RMP objectives and management direction for special areas?
- What is the status of the preparation, revision, and implementation of ACEC management plans?
- Are interpretive programs and recreation uses being developed and encouraged in ONAs? Are the outstanding values of the ONAs being protected from damage?
- What environmental education and research initiatives and programs are occurring in the RNAs and EEAs?
- Are existing BLM actions and BLM authorized actions and uses not consistent with management direction for special areas being eliminated or relocated?
- Are actions being identified which are needed to maintain or restore the important values of the special areas? Are the actions being implemented?
- Are protection buffers being provided for specific rare and locally endemic species and other species in the upland forest matrix?

Monitoring Requirements

- Annually, the files on all actions and research proposals within and adjacent to special areas will be reviewed to determine whether the possibility of impacts on ACEC values was considered, and whether any mitigation identified as important for maintenance of ACEC values was required. If mitigation was required, the relevant actions will be reviewed on the ground after completion, to ascertain whether it was actually implemented.
- The annual program summary will address Implementation Questions 2-7.

Effectiveness and Validation Monitoring

Questions:

- Are the implemented management actions designed to protect the values of the special areas, effective?
- Are the special areas managed to restore or prevent the loss of outstanding values and minimize disturbance?

Monitoring Requirements

- Each special area will be monitored at least every three years to determine if the values for which it was designated are being maintained.
- Each ACEC will be monitored annually to determine if proactive management actions met their objectives.

Cultural Resources Including American Indian Values

Expected Future Conditions and Outputs

Identification of cultural resource localities for public, scientific, and cultural heritage purposes.

Conservation and protection of cultural resource values for future generations.

Provision of information on long-term environmental change and past interactions between humans and the environment.

Fulfillment of responsibilities to appropriate American Indian groups regarding heritage and religious concerns.

Implementation Monitoring

Questions:

- Are cultural resources being addressed in deciding whether or not to go forward with forest management and other actions? During forest management and other actions that may disturb cultural resources, are steps taken to adequately mitigate disturbances?
- What mechanisms have been developed to describe past landscapes and the role of humans in shaping those landscapes?
- What efforts are being made to work with American Indian groups to accomplish cultural resource objectives and achieve goals outlined in existing memoranda of understanding and develop additional memoranda as needs arise?
- What public education and interpretive programs were developed to promote the appreciation of cultural resources?

Monitoring Requirements

- Each year, at least 20 percent of the files on each year's timber sales and other relevant actions (e.g., rights-of-way, instream structures) will be reviewed annually to evaluate documentation regarding cultural resources and American Indian values and decisions in light of requirements, policy and SEIS ROD Standards and Guidelines, and RMP management direction. If mitigation was required, review will ascertain whether such mitigation was incorporated in the authorization document and the actions will be reviewed on the ground after completion to ascertain whether the mitigation was carried out as planned.
- The annual program summary will address Implementation Questions 2-4.

Effectiveness and Validation Monitoring

Questions:

- Are sites of religious and cultural heritage adequately protected?
- Do American Indians have access to and use of forest species, resources, and places important for cultural,

subsistence, or economic reasons; particularly those identified in treaties?

Monitoring Requirements

- All cultural resource sites, where management and/or mitigation measures are utilized to protect the resource, will be monitored at least once a year to determine if the measures were effective.
- The balance is deferred to SEIS Monitoring Plan.

Visual Resources

Expected Future Conditions and Outputs

Preservation or retention of the existing character of landscapes on BLM-administered lands allocated for VRM Class I and II management; partial retention of the existing character on lands allocated for VRM Class III management, and major modification of the existing character of some lands allocated for VRM Class IV management.

Continuation of emphasis on management of scenic resources in selected high-use areas to retain or preserve scenic quality.

Implementation Monitoring

Questions:

- Are visual resource design features and mitigation methods being followed during timber sales and other substantial actions in Class II and III areas?

Monitoring Requirements

- Twenty (20) percent of the files for timber sales and other substantial projects in VRM Class II or III areas will be reviewed to ascertain whether relevant design features or mitigating measures were included.

Effectiveness and Validation Monitoring

Questions:

- Are timber sales and other major actions in Class II and Class III areas meeting or exceeding visual resource management objectives?
- Are visual resource management objectives being met consistently, over long periods of time, in Class II management areas?

Monitoring Requirements

- All timber sales and other selected projects in VRM Class II areas and at least 20 percent of sales or projects in Class III areas that have special design features or mitigating measures for visual resource protection will be

selected for monitoring to evaluate the effectiveness of the practices used to conserve visual resources.

- In VRM Class II management areas where two or more sales or actions have occurred, impacts will be monitored at a minimum interval of five years.

Wild and Scenic Rivers

Expected Future Conditions and Outputs

Protection of the outstandingly remarkable values (ORVs) of designated components of the National Wild and Scenic Rivers system through the maintenance and enhancement of the natural integrity of river-related values.

Protection of the ORVs of eligible/suitable wild and scenic rivers and the maintenance or enhancement of the highest tentative classification pending resolution of suitability and/or designation.

Protection of the natural integrity of river-related values for the maintenance or enhancement of the highest tentative classification determination for rivers found eligible or studied for suitability.

Designation of important and manageable river segments suitable for designation where such designation contributes to the National Wild and Scenic Rivers system.

Implementation Monitoring

Questions:

- Are BLM actions and BLM authorized actions consistent with protection of the ORVs of designated, suitable and eligible, but not studied rivers?
- Are existing plans being revised to conform to aquatic conservation strategy objectives? Are revised plans being implemented?

Monitoring Requirements

- Annually, the files on all actions and research proposals within and adjacent to the Wild and Scenic River corridors will be reviewed to determine whether the possibility of impacts on the outstandingly remarkable values was considered, and whether any mitigation identified as important for maintenance of the values was required. If mitigation was required, the relevant actions will be reviewed on the ground after completion, to ascertain whether it was actually implemented.
- The annual program summary report will summarize progress on preparation and revision of Wild and Scenic River Management Plans, their conformance with the aquatic conservation strategy objectives, and the degree to which these plans have been implemented.

Effectiveness and Validation Monitoring

Questions:

- Are the ORVs for which the Wild and Scenic Rivers were designated being maintained?
- Are the ORVs of the rivers which were found suitable or eligible but not studied, protected?

Monitoring Requirements

- Each wild and scenic river will be monitored at least once a year to determine if the ORVs are being maintained.
- Each river, which was found suitable or eligible but not studied, will be monitored at least once a year to determine if the ORVs are being maintained.

Rural Interface Areas

Expected Future Conditions and Outputs

Consideration of the interests of adjacent and nearby rural land owners including residents during analysis planning and monitoring related to managed rural interface areas. (These interests include personal health and safety, improvements to property, and quality of life.)

Determination of how land owners might be or are effected by activities on BLM-administered land.

Implementation Monitoring

Questions:

- Are design features and mitigation measures developed and implemented to avoid/minimize impacts to health, life, property and quality of life, and to minimize the possibility of conflicts between private and federal land management?

Monitoring Requirements

- Each year, at least 20 percent of all actions within the identified rural interface areas will be selected to determine if special project design features and mitigation measures were included and implemented as planned.

Effectiveness and Validation Monitoring

Questions:

- Are the rural interface area design features and mitigation measures effective in minimizing impacts to health, life, and property?

Monitoring Requirements

- Each year, at least 20 percent of actions within the identified rural interface areas which had design features or mitigation measures will be selected following completion to assess the effectiveness of the action.

Socioeconomic Conditions

Expected Future Conditions and Outputs

Contribution to local, state, national and international economies through sustainable use of BLM-managed lands and resources and use of innovative contracting and other implementation strategies.

Provision of amenities for the enhancement of communities as places to live and work.

Implementation Monitoring

Questions:

- What strategies and programs have been developed, through coordination with state and local governments to support local economies and enhance local communities?
- Are RMP implementation strategies being identified that support local economies?
- What is the status of planning and developing amenities that enhance local communities, such as recreation and wildlife viewing facilities?

Monitoring Requirements

- The annual program summary will address Implementation Questions 1-3.

Effectiveness and Validation Monitoring

Questions:

- What level of local employment is supported by BLM timber sales and forest management practices?
- What were O&C and CBWR payments to counties?

Monitoring Requirements

Deferred to SEIS Monitoring Plan.

Recreation

Expected Future Conditions and Outputs

Provision of a wide range of developed and dispersed recreation opportunities that contribute to meeting projected recreation demand within the planning area.

Provision of nonmotorized recreational opportunities and creation of additional opportunities consistent with other management objectives.

Implementation Monitoring

Questions:

- What is the status of the development and implementation of recreation plans?

Monitoring Requirements

- The annual program summary will address Implementation Question 1.

Effectiveness and Validation Monitoring

Questions:

- Based on the Statewide Comprehensive Outdoor Recreation Plan (SCORP) supply and demand data and public comments, is the range of recreation opportunities on BLM lands (i.e., roaded vs. unroaded) meeting public needs?
- Are BLM developed recreation facilities meeting public needs and expectations, including facility condition and visitor safety considerations?
- Are off-highway vehicle (OHV) designations adequate to protect resource values while providing appropriate motorized vehicle recreation opportunities?

Monitoring Requirements

- Each special recreation management area (SRMA) will be monitored at least every three years to determine if the types of recreation opportunities being provided are appropriate.
- All developed recreation sites will be monitored annually to determine if facilities are being properly managed and all deficiencies documented.
- All OHV designations will be reviewed annually to determine if revisions are necessary to protect resource values and resolve user conflicts.

Timber Resources

Expected Future Conditions and Outputs

Provision of a sustained yield of timber and other forest products.

Reduction of the risk of stand loss due to fires, animals, insects, and diseases.

Provision of salvage harvest for timber killed or damaged by events such as wildfire, windstorms, insects, or disease, in a manner consistent with management objectives for other resources.

Implementation Monitoring

Questions:

- By land-use allocation, how do timber sale volumes, harvested acres, and the age and type of regeneration harvest stands compare to the projections in the SEIS ROD Standards and Guidelines and RMP management objectives?
- Were the silvicultural (e.g., planting with genetically selected stock, fertilization, release, and thinning) and forest health practices anticipated in the calculation of the expected sale quantity implemented?

Monitoring Requirements

- The annual program summary will report both planned and nonplanned volumes sold. The report will also summarize annual and cumulative timber sale volumes, acres to be harvested, and stand ages and types of regeneration harvest for general forest management areas (GFMAs), connectivity/diversity blocks and adaptive management areas (AMAs), stratified to identify them individually.
- An annual districtwide report will be prepared to determine if the silvicultural and forest health practices identified and used in the calculation of the PSQ were implemented. This report will be summarized in the annual program summary.

Effectiveness and Validation Monitoring

Questions:

- Is reforestation achieving desired stocking?
- Are stands growing at a rate that will produce the predicted yields?
- Is the long-term health and productivity of the forest ecosystem being protected in the Matrix?

Monitoring Requirements

- First-, third- and fifth-year surveys will be used to determine if reforestation is meeting reforestation objectives.
- The balance is deferred to SEIS Monitoring Plan.

Special Forest Products

Expected Future Conditions and Outputs

Production and sale of special forest products when demand is present and where actions taken are consistent with primary objectives for the land use allocation.

Utilization of the principles of ecosystem management to guide the management and harvest of special forest products. 245

Implementation Monitoring

Questions:

- Is the sustainability and protection of special forest product resources ensured prior to selling special forest products?
- What is the status of the development and implementation of specific guidelines for the management of individual special forest products?

Monitoring Requirements

- The annual program summary will address Implementation Questions 1 and 2.

Effectiveness and Validation Monitoring

Questions:

- Are special forest products being harvested at a sustainable level?

Monitoring Requirements

Deferred to SEIS Monitoring Plan.

Noxious Weeds

Expected Future Conditions and Outputs

Containment and/or reduction of noxious weed infestations on BLM-administered land using an integrated pest management approach.

Avoidance of the introduction or spread of noxious weed infestations in all areas.

Implementation Monitoring

Questions:

- Are noxious weed control methods compatible with aquatic conservation strategy objectives?

Monitoring Requirements

- Review the files of at least twenty percent of each year's noxious weed control applications to determine if noxious weed control methods were compatible with aquatic conservation strategy objectives.

Effectiveness and Validation Monitoring

Questions:

- Are management actions effectively containing or reducing the extent of noxious weed infestations?

Monitoring Requirements

- Each year at least 20 percent of the noxious weed sites subjected to treatment will be monitored to determine if the treatment was effective.

Fire/Fuels Management

Expected Future Conditions and Outputs

Provision of the appropriate suppression responses to wildfires in order to meet resource management objectives and minimize the risk of large-scale, high intensity wildfires.

Utilization of prescribed fire to meet resource management objectives. (This will include, but not be limited to, fuels management for wildfire hazard reduction, restoration of desired vegetation conditions, management of habitat, and silvicultural treatments.)

Adherence to smoke management/air quality standards of the Clean Air Act and State Implementation Plan for prescribed burning.

Implementation Monitoring

Questions:

- What is the status of the preparation and implementation of fire management plans for late-successional reserves and adaptive management areas?
- Have additional analysis and planning been completed to allow some natural fires to burn under prescribed conditions?
- Do wildfire suppression plans emphasize maintaining late-successional habitat?
- Have fire management plans been completed for all at risk late-successional reserves.
- What is the status of the interdisciplinary team preparation and implementation of regional fire management plans which include fuel hazard reduction plans?

Monitoring Requirements

- The annual program summary will address Implementation Questions 1-5.

Effectiveness and Validation Monitoring

Questions:

- Are fire suppression strategies, practices, and activities meeting resource management objectives and concerns?
- Are prescribed fires applied in a manner that retains the amount of coarse woody debris, snags, green trees, and duff at levels determined through watershed analysis?
- Are natural and human-caused fuel profiles being modified in order to lower the potential of fire ignition and rate of spread, and to protect and support land use allocation objectives by lowering the risk of high intensity, stand-replacing wildfires?

Monitoring Requirements

Deferred to SEIS Monitoring Plan.

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

Medford District Office
3040 Biddle Road
Medford, Oregon 97504

June 1995



Record of Decision and Resource Management Plan

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

BLM/OR/WA/PL-95/024+1792

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DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT OFFICE
3040 Biddle Road
Medford, Oregon 97504**

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

**MEDFORD DISTRICT
RECORD OF DECISION
and
RESOURCE MANAGEMENT PLAN**

**Prepared by
Medford District Office**

June 1995

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