# Summary

This *Summary* provides a synopsis of the information presented in this final environmental impact statement for the proposed revision of the resource management plans of the six western Oregon BLM districts that are within the planning area.

### In this chapter:

# Introduction

***For those who are new to the planning process***

This final environmental impact statement (EIS) has been prepared because the Bureau of Land Management's ability to implement timber management decisions has been substantially constrained compared to what was anticipated in the current resource management plans. This final EIS puts forth a proposed Resource Management Plan (RMP) and other alternatives that would address this problem.

This final EIS is divided into the following sections:

- *Chapter 1*, which provides the purpose and need for revising the resource management plans.
- *Chapter 2*, which details alternative management strategies for achieving the purpose and need presented in Chapter 1.
- *Chapter 3*, which details the current condition of the affected environment.
- *Chapter 4*, which provides the effects on the environment that result from each of the alternatives.
- *Chapter 5*, which lists those who participated in development of this environmental impact statement and includes the proposed monitoring plan.
- A two-volume appendix that provides details regarding analyses of the alternatives, responses to public comments, and certain agency letters.
- Map packet providing district-specific maps.

The Bureau of Land Management (BLM) administers the use of a variety of natural resources on approximately 2.6 million acres within an area of approximately 22 million acres, which is the western Oregon planning area. Resource management plans (RMPs) define the management direction for specified areas of BLM-administered lands (typically for individual BLM districts or BLM resource areas) and are designed to continue a defined management direction for a specified period of time. Periodically, the resource management plans are formally evaluated to determine whether there is significant cause for amending or revising them.

For the approximately 2.2 million acres of land called the O&C lands that lie within the approximately 2.6 million acres of BLM-administered lands in western Oregon, the primary administration direction is derived from the statutory authority of the Oregon and California Railroad and Coos Bay Wagon Road Grant Lands Act (O&C Act). The remaining BLM-administered lands within the western Oregon planning area are public domain lands; other statutory authorities direct administration of those lands.

The BLM is preparing resource management plans for five western Oregon districts (Salem, Eugene, Roseburg, Coos Bay, and Medford) and the Klamath Falls Resource Area of the Lakeview District. These are the six BLM districts within the western Oregon planning area. This final environmental impact statement provides the analysis for these proposed resource management plans.

Evaluations done in 2004 of the current resource management plans for the above listed districts show that many decisions in the current RMPs are being implemented as intended. However, plan evaluations found that timber harvest levels have not been achieving the levels directed by the current existing plans.

# What is the purpose and need for the action being proposed?

The goals for the Northwest Forest Plan were broader than the specific requirements of the Endangered Species Act, Clean Water Act, and other laws, and sought to provide more consistent management of federally managed lands by applying National Forest Management Act requirements to BLM-administered lands. The selected alternative for the Northwest Forest Plan was chosen because it would "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 purpose and need for this plan revision is focused on specific legal requirements and intended benefits of the BLM's unique mandate under the O&C Act, which is distinct from the mandate to the U.S. Forest Service under the National Forest Management Act.

The purpose of this proposed action is to manage the BLM-administered lands for permanent forest production in conformity with the principles of sustained yield, consistent with the O&C Act.[1] The plans will also comply with all other applicable laws including, but not limited to, the Endangered Species Act, the Clean Water Act, and (to the extent that it is not in conflict with the O&C Act) the Federal Land Policy and Management Act (FLPMA). In accord with the Endangered Species Act, the plans will use the BLM's authorities for managing the lands it administers in the planning area to conserve habitat needed on these lands for the survival and recovery of species listed as threatened or endangered under the Endangered Species Act.[2]

# The need for revising the RMPs now

**The 2004 Plan evaluations showed the BLM's timber harvest levels, as directed by existing plans, were not being achieved. The BLM now has more detailed and accurate information on the effects of sustained yield timber management on other resources.**

Departures from expectations and assumptions of the existing resource management plans regarding the ability of BLM to supply timber at a predictable and sustained level under the Northwest Forest Plan have created substantial uncertainty as to whether the timber harvest objectives under the O&C Act can be met in the short or long term.

The plan evaluations generally found that other resource programs were functioning as anticipated in achieving most goals, but identified potential for improvements.

The BLM now has more detailed and accurate information on the effects of sustained yield timber management on other resources, because BLM has additional resource data and improved analytical capabilities since the analysis for the existing plans. The current database has a resolution many times finer than that used in the previous plan revisions.

**There is an opportunity to coordinate the BLM's management plans with new recovery plans and re-designations of critical habitat currently under development.**

Concurrent to this resource management plan revision, the National Marine Fisheries Service and U.S. Fish and Wildlife Service have been reviewing, revising, or drafting recovery plans and critical habitat designations for some listed species in the planning area. This RMP revision allows the BLM to coordinate its resource management plans with those agencies' decisions on the recovery plans and designations or re-designations of critical habitat.

[1] The Ninth Circuit Court in *Headwaters v. BLM*, 914 F.2d 1174 (9th Cir. 1990) confirmed that in the O&C Act Congress mandated timber production as the dominant use of these BLM-administered lands.

[2] This revision process will satisfy a settlement agreement resolving long-standing litigation of the Northwest Forest Plan (*AFRC v. Clarke*, Civil No. 94-1031-TPJ [D.D.C.]) that alleged the current RMPs violate the O&C Act. The settlement agreement requires BLM to consider revisions to the RMPs by the end of the year 2008, and to include at least one alternative that "will provide permanent forest production across the O&C lands without reserves except as required to avoid jeopardy under the Endangered Species Act." See *Appendix A. Legal Authorities* for more discussion.

Late-Successional Reserves in the Northwest Forest Plan do not coincide completely with critical habitat that was designated for the northern spotted owl by the U.S. Fish and Wildlife Service in 1992. This resulted in lands allocated to the harvest land base being overlain with the critical habitat designation, creating conflicts and uncertainty as the harvest land base was where timber harvesting to meet the declared allowable sale quantity was expected to occur.

**The BLM has re-focused the goal for management of the BLM-administered lands to the statutory mandates specifically applicable to these lands.**

Statutory requirements of the O&C Act include, but are not limited to: managing the O&C lands for permanent forest production by selling, cutting, and removing timber in conformance with the principles of sustained yield; determining the annual productive capacity of the lands managed under the O&C Act; and offering for sale that determined capacity annually under normal market conditions. The statute states that the purpose of sustained yield management of these lands is to provide a permanent source of timber; contribute to the economic stability of local communities and industries; as well as to benefit watersheds, regulate stream flows, and provide recreational use.

The BLM interprets this O&C Act language on watersheds, stream flows and recreation as explaining the rationale for the required sustained yield forest management, rather than an enumeration of additional objectives for management. The legislative history of the O&C Act and the Ninth Circuit Court ruling in *Headwaters v. BLM*, 914 F.2d 1174 (9th Cir. 1990) make it clear that management of these lands for sustained yield forest management is expected to result in "… a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities." It would be inconsistent with the O&C Act to treat these expected benefits as additional objectives that must be balanced against sustained yield forest management, and thereby might reduce the annual productive capacity that would be offered for sale.

# What alternatives are being proposed?

There are four action alternatives, along with the No Action Alternative being proposed. The No Action Alternative would continue management of the current resource management plans, which were approved in 1995 and subsequently amended. The four action alternatives consist of a proposed resource management plan (PRMP) and the three alternatives that were analyzed in the Draft EIS. These alternatives represent a range of management strategies proposed to meet the purpose and need discussed in *Chapter 1*. These management strategies encompass management objectives, land use allocations, and management directions. Some management objectives, land use allocations, and management directions are common to all four action alternatives. Examples of management objectives, land use allocations, and management directions that are common to the four action alternatives are:

- Congressionally reserved areas would be retained and managed for the purposes for which they were established.
- A diversity of developed and dispersed outdoor recreational experiences would be maintained. District recreation sites, management areas, facilities, trails, and visitor service programs would be carried forward.
- The BLM would take actions to reduce fire hazards to communities that are at risk from uncharacteristic wildfires.
- The BLM would provide for the harvest and collection of special forest products.

Some management objectives, land use allocations, and management directions vary by action alternative. These differences result in a variance in the degree to which, or the rate at which, each action alternative achieves the identified purpose and need for the proposed action. There are key differences among the alternatives in the following:

- Width and management of riparian areas.
- Retention of green trees, snags, and down wood.

- Salvaging of timber after fire or other disturbances.
- Management of habitat for the northern spotted owl and the marbled murrelet.

# Proposed Resource Management Plan

The following explains how the Proposed Resource Management Plan (PRMP) was developed, using Alternative 2 as the basis:

- Incorporated the Riparian Management Area widths from Alternative 1. Added an exclusion of thinning and silvicultural treatments within 60 feet of perennial and intermittent fish-bearing streams, and within 35 feet of intermittent streams.
- Refined the boundaries of several Late-Successional Management Areas and added stands within boundaries of the new proposed marbled murrelet critical habitat units that contain one or more primary constituent elements.
- Added the Eastside Forest Management Area land use allocation for forested lands east of Highway 97 in the Klamath Falls Resource Area of the Lakeview District.
- Added the Uneven-Age Timber Management Area land use allocation in a part of the Medford District and Klamath Falls Resource Area.
- In the Timber Management Areas, deferred harvest of substantially all stands that are currently older and more structurally complex multi-layered conifer forests through the year 2023.
- Extended application of the BLM Special Status Species policy to all land use allocations.
- Applied Visual Resource Management (VRM) II to certain public domain lands in the Molalla Block of the Salem District.
- Added a requirement to include marbled murrelet nest sites found in the future to the Late-Successional Management Area land use allocation and to survey prior to habitat-disturbing activities.
- Dropped the Management Area Adjacent to the Coquille Forest land use allocation.
- Provided for the Medford District to manage seven new Special Recreation Management Areas (OHV emphasis areas) to accommodate focused off-highway vehicle management.

The key features for this alternative are:

- **Late-Successional Management Areas.** These areas would provide habitat for the northern spotted owl (large, connected blocks of suitable habitat) and the marbled murrelet. Salvage harvesting of timber would be allowed to recover economic value after stand-replacement disturbances. The Late-Successional Management areas are based on final recovery plan efforts and critical habitat designations for the northern spotted owl.
- **Riparian Management Areas.** These areas would maintain or promote development of mature or structurally complex forests and provide for the riparian and aquatic conditions that supply streams with shade, sediment filtering, leaf litter, and large wood and root masses that stabilize stream banks. The reserves are one site-potential tree height on each side of a stream channel as measured from the ordinary high water line on perennial and intermittent fish-bearing streams and perennial non-fish-bearing streams, and one-half of one site-potential tree height on each side of a stream channel for intermittent non-fish-bearing streams. The riparian management areas contain a restriction on thinning and silvicultural activities within an area 30 to 65 feet from the edge of the stream channel.
- **Eastside Forest Management Lands.** These lands consist of the areas east of Highway 97 on the Klamath Falls Resource Area of the Lakeview District. This allocation consists mainly of Public Domain lands and would be managed on a sustainable basis for multiple uses including: grazing, wildlife habitat, recreational needs, riparian habitat, cultural resources, community stability, and commodity production including commercial timber and other forest products.

- **Timber Management Areas.** These areas would be managed to achieve a high level of continuous timber production that provides an allowably sale quantity of timber that could be sustained through a balance of growth and harvesting. There are three types of timber management areas:

  ***Timber Management Area:*** In these areas, forests would be managed to achieve a high level of continuous timber production that could be sustained through a balance of growth and harvesting, and an allowable sale quantity of timber. The rotation age would be approximately 80 to 100 years and there would be no green tree retention after regeneration harvesting.

  ***Uneven-Age Timber Management Area.*** In these areas forests would be managed to contribute to the annual productive capacity using a combination of uneven-age harvesting methods that include thinning, single tree selection harvest, and group selection harvest that would promote development of fire-resilient forests

  ***Deferred Timber Management Area.*** In these mapped areas, harvest from the underlying land use allocations of Uneven-Age Timber Management Area and Timber Management Area would be deferred to maintain substantially all of existing levels of older and more structurally complex multi-layered conifer forests through the year 2023 in support of the recovery efforts for the Northern Spotted Owl.

# Alternative 1

The key features for this alternative are:

- **Late-Successional Management Areas.** These areas are designated to provide structurally complex forests. They are similar to the existing Late-Successional Reserves under the No Action Alternative. There would be no salvaging after disturbances in these areas, except for safety or operational reasons.
- **Riparian Management Areas.** These areas would maintain or promote development of mature or structurally complex forests, and provide for the riparian and aquatic conditions that supply streams with shade, sediment filtering, leaf litter and large wood, and root masses that stabilize stream banks. They are half the width of the current riparian reserves under the No Action Alternative (with the exception of non-fish-bearing perennial streams, which remain the same).
- **Timber Management Areas.** In these areas, forests would be managed to achieve a high level of continuous timber production that could be sustained through a balance of growth and harvesting, and an allowable sale quantity of timber. The rotation age would be approximately 80 to 100 years, and there would be no green tree retention after regeneration harvesting.

# Alternative 2

The key features for this alternative are:

- **Late-Successional Management Areas.** These areas would provide habitat for the northern spotted owl (large, connected blocks of suitable habitat) and the marbled murrelet. Salvaging would be allowed to recover economic value from the timber harvested after stand-replacement disturbances. These areas are based on new recovery planning efforts for the northern spotted owl.
- **Riparian Management Areas.** These areas would maintain or promote development of mature or structurally complex forests and provide for the riparian and aquatic conditions that supply streams with shade, sediment filtering, leaf litter and large wood, and root masses that stabilize stream banks.

- All streams, except for intermittent non-fish-bearing streams, would have a 100-foot nonharvesting and shade retention area on each side of the stream. Intermittent non-fish-bearing streams that have a high risk of debris flows (a source of large wood) would also have a 100-foot nonharvesting and shade retention area on each side of the stream. Other intermittent non-fish-bearing streams would retain a 25-foot area with noncommercial vegetation on each side of the stream.
- **Timber Management Areas.** These areas would be managed to achieve a high level of continuous timber production that could be sustained through a balance of growth and harvesting and an allowable sale quantity of timber. The rotation age would be approximately 80 to 100 years, and there would be no green tree retention after regeneration harvesting.

# Alternative 3

The key features for this alternative are:

- **General Landscape Areas.** These areas would provide for the habitat conditions that are required for late-successional species; maintain and promote development of mature or structurally complex forests; provide continuous timber production that could be sustained through a balance of growth and harvesting; and offer an allowable sale quantity of timber. The rotation age would approximate natural stand-replacement disturbances (generally, 360 years north of Grants Pass and 240 years south of Grants Pass).

  There would be a deferral of regeneration harvests until 50% of an assessment area is older than the threshold stand age of 90 years north of Grants Pass and 140 years south of Grants Pass. In the meantime, partial harvesting and commercial thinning would be applied to stands that are at or beyond the partial harvest interval age (60 to 120 years, depending on the vegetation series).

  There would be 6 to 9 green trees retained after harvesting, depending on the vegetation series; salvaging for economic purposes would be allowed after a disturbance (with legacy retention requirements).
- **Riparian Management Areas.** These areas would maintain or promote development of mature or structurally complex forests and provide for the riparian and aquatic conditions that supply streams with shade, sediment filtering, leaf litter and large wood, and root masses that stabilize stream banks.

  All streams, except for intermittent non-fish-bearing streams, would have a 100-foot nonharvesting and shade retention area on each side of the stream. On intermittent non-fish-bearing streams, there would be no harvesting within 25 feet of the stream.

# Comparing the Alternatives

The areas included within the land use allocations vary significantly among the alternatives. See *Figure S-1 (Land use allocations under the alternatives)*. Note that Alternative 3 contains a land use allocation called General Landscape Area that covers much of the landscape and provides habitat for late-successional species and also allows timber production.

See *Table S-1 (Comparison of the key features of the alternatives)*. This table highlights specific examples of the differences among the alternatives. For a complete discussion of the alternatives, see *Chapter 2*.

**Figure S-1.** Land Use Allocations Under The Alternatives

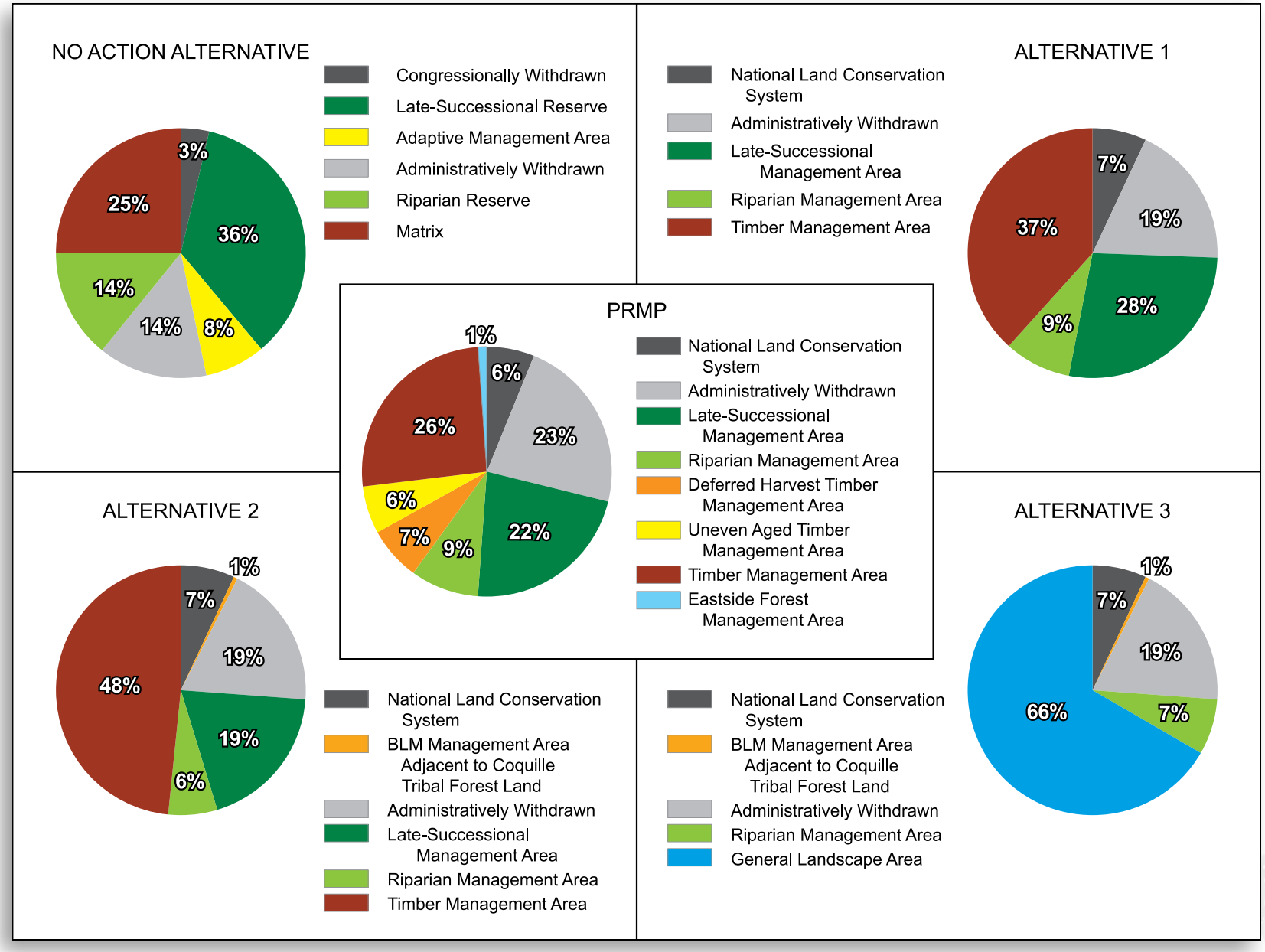


**Table S-1.** Comparison Of The Key Features Of The Five Alternatives

| Features | No Action Alternative | Alternative 1 | Alternative 2 | Alternative 3 | PRMP |
|---|---|---|---|---|---|
| **Late-Successional Vegetation** | • Maintain Northwest Forest Plan's late-successional reserve (LSR).<br>• No treatment of stands older than 80 years. | • Establish a late-successional management area (LSMA).<br>• Treat LSMA to promote development of structurally complex forests. | • Establish a Late-Successional Management Area (LSMA).<br>• Treat LSMA to promote development of suitable habitat. | Establish landscape target for regeneration harvest that requires 50% or more of acres in an assessment area (physiographic province within a sustained yield unit) be of the required age for harvesting (90 years roughly north of Grants Pass, and 140 years roughly south of Grants Pass). | • Establish a late-successional management area (LSMA).<br>• Treat LSMA to promote development of suitable habitat. |
| **Critical Habitat Units (CHUs) for the Northern Spotted Owl and the Marbled Murrelet** | • CHUs for the marbled murrelet completely match with the LSR.<br>• CHUs for the northern spotted owl partially match the LSR. | • CHUs for the marbled murrelet completely match with the LSMA.<br>• CHUs for the northern spotted owl partially match the LSMA. | • CHUs for the marbled murrelet partially match with the LSMA.<br>• CHUs for the northern spotted owl partially match the LSMA. | No special management. | • For the marbled murrelet, the primary constituent elements within the CHUs are retained and managed as LSMA.<br>• CHUs for the northern spotted owl completely match the LSMA. |
| **Northern Spotted Owl Activity Centers** | Retain owl activity centers known as of January 1994. | Retain no owl activity centers in the Timber Management Area (TMA). | Retain 100-acre owl activity centers in the Timber Management Area (TMA). | • Retain 215-acre owl activity centers in the General Landscape Area.<br>• Manage the owl activity centers until the landscape target is reached. | Retain no owl activity centers in the Timber Management Area (TMA). |
| **Green Tree Retention** | • North of Grants Pass: 6 to 8 trees per acre.<br>• South of Grants Pass: 18 to 25 trees per acre.<br>• In connectivity diversity blocks: 12 to 18 trees per acre. | None. | None. | 6 to 9 trees per acre, depending on vegetation series. | None, except in the Uneven-age Timber Management Areas where overstory trees would be retained as needed within regeneration harvest areas for shade, frost protection, natural seeding, or other silvicultural needs. |
| **Snag Retention** | 1.1 snags per acre | • In the LSMA: 2 to 6 snags per acre depending on vegetation series<br>• In the TMA: Noncommercial only | • In the LSMA: 2 to 6 snags per acre depending on vegetation series<br>• In the TMA: Noncommercial only | 2 to 4 snags per acre. depending on vegetation series | • In the LSMA: 2 to 6 snags per acre depending on vegetation series<br>• In the TMA: Noncommercial only |
| **Down Wood** | 120 to 240 feet/acre | • In the LSMA:<br>- 120 to 240 feet/ acre for stands with QMD > 14 inches<br>- 60 to 120 feet/ acre for stands with QMD ≤ 14 inches<br>• In the TMA: Noncommercial only | • In the LSMA:<br>- 40 to 240 feet./ acre for stands with QMD > 14 inches<br>- 20 to 120 feet/ acre for stands with QMD ≤ 14 inches<br>• In the TMA: Noncommercial only | • In the Western hemlock zone: 240 feet/acre<br>• In the Douglas fir/true fir and Tanoak zones: 120 feet/acre | • In the LSMA:<br>- 120 to 240 feet/ acre for stands with QMD > 14 inches<br>- 60 to 120 feet/ acre for stands with QMD ≤ 14 inches<br>• In the TMA: Noncommercial only |

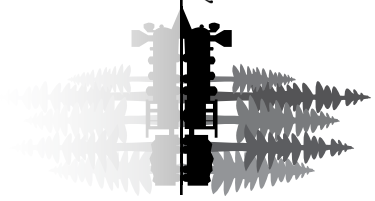
**Table S-1.** (Continued)

| Features | No Action Alternative | Alternative 1 | Alternative 2 | Alternative 3 | PRMP |
|---|---|---|---|---|---|
| **Salvaging** | • Allow salvaging in the LSR reserves when a disturbance is greater then 10 acres.<br>• Allow salvaging in the matrix land use allocations for economic purposes. | • Allows no salvaging in the LSMA, except to reduce hazards in the wildland urban interface areas.<br>• Allow salvaging in the wildland urban interface areas to reduce hazards.<br>• Allow salvaging in the TMA for economic purposes. | • Allow salvaging in the LSMA for economic purposes with retention of legacy.<br>• Allow salvaging in the wildland urban interface areas to reduce hazards.<br>• Allow salvaging in the TMA for economic purposes. | Allow salvaging after stand-replacing events for economic purposes with retention of legacy. | • After a stand-replacing event, allow salvaging in the LSMA for economic purposes with retention of legacy.<br>• Allow salvaging in the wildland urban interface areas to reduce hazards. Allows salvaging in the TMA for economic purposes |
| **Zones for Riparian Management Areas** | • For all fish-bearing streams:<br>- 2 site-potential tree height<br>• For all non-fish-bearing streams:<br>- 1 site-potential tree height | • For all but intermittent non-fish-bearing streams:<br>- 1 site-potential tree height<br>• For intermittent non-fish-bearing streams:<br>- 1/2 site-potential tree height | • For all but intermittent non-fish-bearing streams:<br>- 0 to 25 feet no harvest<br>- 25 to 60 ft. 80% shade retention<br>- 60 to 100 feet 50% canopy retention<br>• For non-debris-flow prone intermittent non-fish-bearing streams:<br>- 0 to 25 feet noncommercial vegetation<br>• For debris-flow prone intermittent streams:<br>- 0 to 25 feet no harvest<br>- 25 to 100 ft. managing for mature or structurally complex forests | • For all but intermittent non-fish-bearing streams:<br>- 0 to 25 feet no harvest<br>- 25 to 60 feet 80% shade retention<br>- 60 to 100 feet 50% canopy retention<br>• For all intermittent non-fish-bearing streams:<br>- 0 to 25 feet no harvest | • For all but intermittent non-fish-bearing streams:<br>1 site-potential tree height<br>- 0 to 60 feet no silvicultural or fuels treatments<br>- 61 feet to 1 site-potential tree. Retain 50% canopy closure<br>• For intermittent non-fish-bearing streams:<br>1/2 site-potential tree height<br>- 0 to 35 feet no silvicultural or fuels treatments |

LSMA - late-successional management area LSR - late-successional reserve QMD - quadratic mean diameter TMA - timber management area CHU – Critical habitat unit







# What are the environmental consequences of the alternatives?

The following sections summarize the environmental consequences that are described in detail in *Chapter 4*. The consequences vary among the alternatives for the different resources and programs. For a comparison of the effects of the alternatives on the consistency or variation of key impacts on resources and programs, see *Table S-2 Comparison of the key impacts by alternatives.*

Note that the preciseness of the analyses for this final environmental impact statement has improved due to the increased quality and quantity of the data and the increased sophistication of the forest vegetation and habitat modeling that is now available compared to the analysis done in 1995 for the current resource management plans.

**Table S-2.** Comparison Of The Key Impacts Of The Five Alternatives

| Resource | | No Action Alternative | Alternative 1 | Alternative 2 | Alternative 3 | PRMP |
|---|---|---|---|---|---|---|
| **Socioeconomics** | | | | | | |
| **Change in Cumulative Jobs** (8,948 current) | | **- 3,768** | **- 525** | 3,442 | **- 1,288** | 1187 |
| **Annual County Payment** ($ million) | | 42 | 69 | 108 | 52 | 75 |
| (percentage of 2005 payment) (%) | | 37 | 60 | 94 | 45 | 65 |
| **BLM Annual Budget** ($ million) | | 173 | 202 | 238 | 192 | 210 |
| (increase from 2006 Budget) (%) | | 18 | 37 | 62 | 31 | 43 |
| **Present Net Value of Timber** (in 50 years) ($ million) | | 108 | 343 | 962 | 46 | 465 |
| **Timber** | | | | | | |
| **Annual Sale Quantity** (ASQ) (mmbf) | | 268 | 456 | 727 | 471 | 502 |
| **Annual Non-ASQ Volume** (mmbf) | | 87 | 81 | 40 | 2 | 86 |
| **10-Year Revenues** ($ billion) | | 0.84 | 1.37 | 2.15 | 1.04 | 1.50 |
| **Special Forest Products** | | | | | | |
| **Availability** | | Abundant relative to demand | | | | |
| **Invasive Plants** | | | | | | |
| **Risk of Introduction or Spread** | | Lowest | Low | High | Highest | Moderate |
| **Special Status Species** | | | | | | |
| **Populations or Occurrences** | | Maintain or increase | Decrease | Decrease | Decrease | Maintain or increase |
| **Wildlife** | | | | | | |
| **MAMU Habitat Creation** (Coast Range & Klamath Provinces) | **100 years** | Increases | | | | |
| | **50 years** | Increase | | Slight decrease | | Increase |
| **Northern Spotted Owl Suitable Habitat (Large block distribution & spacing)** (>50yrs) | | Sufficient | | Not sufficient | Spacing not sufficient | Sufficient |
| **Northern Spotted Owl (Movement and survival)** | | Improved | | | | |
| **Fish** | | | | | | |
| **Large Wood Contribution** | | Most increase | Less increase | | | Most increase |

| Resource | No Action Alternative | Alternative 1 | Alternative 2 | Alternative 3 | PRMP |
|---|---|---|---|---|---|
| **Water** | | | | | |
| **Susceptibility of Peak Flows** | Lowest | | Low | | |
| **Temperature** | Maintains or improves shade | | Maintains or improves shade (except on BLM-administered lands adjacent to the Coquille Forest) | | Maintains or improves shade |
| **Fine Sediment** | Increases < 1% | | | | |
| **Landslide sediment** | No increase over natural levels. | | | | |
| **Fire and Fuels** | | | | | |
| **Hazard and Severity** (All except Klamath Falls Resource Area) | Reduces hazard and severity | | | | |
| **Hazard and Severity** (Klamath Falls RA) | Decrease | Increase | | | Decrease |
| **Resiliency** (Medford District & Klamath Falls RA) | Reduce resiliency | | | Increase resiliency | |
| **Air** | | | | | |
| **Quality** | Air quality, Class 1 visibility areas, and air quality maintenance areas protected. | | | | |
| **Recreation** | | | | | |
| **Demand and Experiences** | Meets recreational demand and improves quality of visitor experiences. | | | | |
| **Wilderness Characteristics** | | | | | |
| **Maintained** (%) | 59 | 55 | 52 | 53 | 57 |
| **Visual Resource Management** | | | | | |
| **Class II Maintained** (%) | 73 | 64 | 55 | 46 | 71 |
| **Class III Maintained** (%) | 69 | 57 | 43 | 39 | 62 |
| **Soils** | | | | | |
| **Residual Soil Disturbance in 2016** (acres) | 8,400 | 10,700 | 10,800 | 15,300 | 15,000 |
| **Soil Productivity** | Maintains | | | | |
| **Grazing** | | | | | |
| **Authorizations** (acres) | 560,000 | 419,000 (Reductions: Medford/Klamath Falls = inactive permits/leases Coos Bay = 16 acres active leases) | | | |
| **Forage Production in Year 2106** (in AUMs) | 28,950 | 19,673 | 19,867 | 22,805 | 20,447 |
| **Wild Horses** | | | | | |
| **Herd Management Level** | Maintained | | | | |
| **Areas of Critical Environmental Concern** | | | | | |
| **Some Relevant and Important Values Degraded or Lost** | No | Yes | Yes | Yes | Yes |
| **Cultural** | | | | | |
| **Number Damaged** | ≤ 2% of the number of sites damaged per decade | | | | |
| **Energy and Minerals** | | | | | |
| **Availability and Quantity** | Maintains similar levels of availability and quantity of energy and mineral resources. | | | | |

# Forest Structure and Spatial Pattern

Forests are classified in the analysis of this draft environmental impact statement by the following four-stage structural classification system:

- **Stand establishment.** Forests that approximate the early-successional conditions that follow disturbances, such as timber harvesting or wildfires. This classification is subdivided based on whether or not the stand establishment forest includes trees (structural legacies) from the previous forest.
- **Young.** Forests that approximate the small conifer forests described in the FEMAT Report and Northwest Forest Plan. This classification is subdivided, like stand establishment, based on whether or not the young forest includes trees (structural legacies) from the previous forest.
- **Mature.** Forests that are defined similarly to the mature forests described in the FEMAT Report and Northwest Forest Plan. This classification is subdivided based on whether the forest has a single canopy layer or multiple canopy layers.
- **Structurally complex.** Forests that approximate the old-growth forests described in many analyses (e.g., the medium/large conifer multi-story forests of the FEMAT Report and the large, multi-storied older forests of the *Late-Successional Forest Monitoring Report*).

Together, the mature and structurally complex forests approximate the late-successional forests that are described in the FEMAT Report, the Northwest Forest Plan, and the existing resource management plans of the six western Oregon BLM districts that are within the planning area.

The abundance and spatial patterns of the forest structural stages (stand establishment, young, mature, and structurally complex) that would exist under the alternatives for the BLM-administered lands, as well as across all ownerships compared to average historic conditions, would be as follows:

- **Across all ownerships,** the abundance of the structural stages would not return to the average historic conditions within 100 years, even if there were no timber harvesting on the BLM-administered lands.
- The differences in the alternatives would result in only a 1% shift in the structural stage abundances across all ownerships within 100 years.
- **On BLM-administered lands,** only the No Action Alternative would result in a structural stage abundance that would be consistent with the average historic conditions. However, all five alternatives would decrease the abundance of young forests and increase the abundance of mature & structurally complex forests from current amounts.
- Retention of structural legacies in regeneration harvested areas, which would occur in the No Action Alternative and Alternative 3 and in some areas under the PRMP, would result in structurally complex forests that redevelop almost twice as fast after harvesting as in Alternatives 1 and 2.
- On the BLM-administered lands, the size and connectivity of the patches of the mature & structurally complex forests would increase from the current condition in most provinces under the No Action Alternative and the PRMP; would decrease in most provinces under Alternatives 1 and 2; and would decrease in all provinces under Alternative 3.

# Carbon Storage

Forest management activities, including timber harvest, prescribed burning, and biomass recovery, can result in losses of onsite carbon storage. Some losses move carbon from onsite carbon storage to off-site carbon storage; for example, timber harvest transfers some of the carbon in live trees to harvested wood products. Some losses may constitute substitution of one carbon loss for another; for example, biomass recovery for electricity generation may displace electricity generation from coal. Some losses may prevent potentially greater carbon losses; for example, prescribed burning for fuels reduction may reduce the risk of wildfire, which would cause much large losses of carbon than the prescribed burning.

The PRMP and all alternatives would increase total carbon storage from current levels, ranging from 507 million tonnes in Alternative 3, to 596 million tonnes in the No Action Alternative in 2106. None of the alternatives would result in carbon storage of more than 1% of the current carbon stored in forests and harvested wood in the United States or 0.02% of current global carbon storage in vegetation, soil, and detritus

# Socioeconomics

As shown in *Figure S-2 (BLM projected county payments compared to historic payments)*, none of the alternatives would produce timber receipts sufficient to bring payments to the O&C counties to the level provided by the BLM portion of the Secure Rural Schools payments. Alternative 2 would produce the highest payments to the counties at 94% of the O&C portion of the 2005 Secure Rural Schools payments; the No Action Alternative would produce the lowest payments at 37% of the O&C portion of the 2005 payment. The PRMP falls in the middle with 65% of the payments.

Effects vary widely by county. The BLM plays the greatest role in the Douglas County budget, where it accounts for 20% of the total budget and 70% of the discretionary budget.

Under all alternatives, timber harvesting would increase. There would be an increase in jobs and income along with a multiplier as impacts ripple through other sectors in the affected county economies. Economic effects would vary in proportion to increased timber harvest volumes.

Alternative 2 would have the most favorable impact on local economies, and the No Action Alternative would have the least favorable impact. Under all five alternatives, economic losses would be greatest in southwestern Oregon where the O&C lands are concentrated. *Table S-3 (Total economic impacts by alternative)* shows that under the No Action Alternative and Alternatives 1 and 3, the loss of Secure Rural Schools funding coupled with the reduction in the plywood industry would exceed the increased employment and earnings linked to increased BLM harvest levels. Alternative 2 and the PRMP would have increased employment and earnings that would exceed the loss of Secure Rural Schools funding.

**Figure S-2.** BLM Projected County Payments Compared To Historic Payments

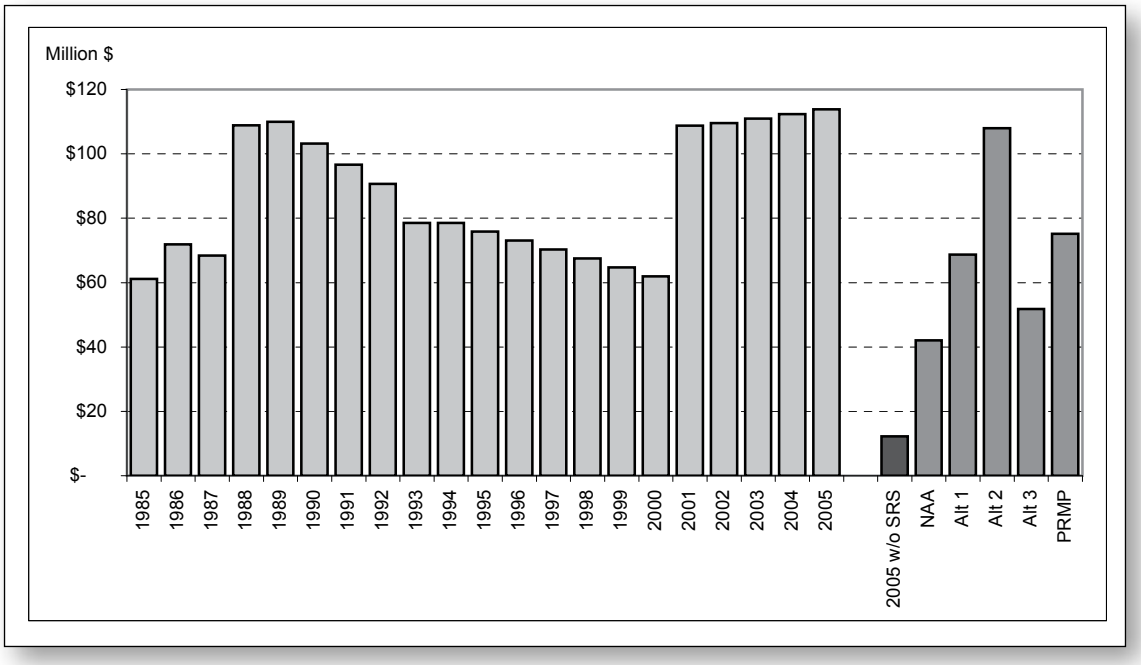


**Table S-3.** Total Economic Impacts Associated With BLM Timber Harvests By Alternative

| Economic Impact | Current | Change in O&C County Totals by Alternative | | | | |
|---|---|---|---|---|---|---|
| | | No Action | Alt. 1 | Alt. 2 | Alt. 3 | PRMP |
| Employment (number of jobs) | 8,948 | (3,768) | (525) | 3,442 | (1,288) | 1,187 |
| Earnings ($ millions) | 319.4 | (125.5) | (7.3) | 136.5 | (34.7) | 52.1 |

# Environmental Justice

No high or adverse human health or environmental consequences have been identified for any of the alternatives. The consequences of the alternatives are not expected to fall disproportionately on minority or low-income populations.

# Timber

As shown in *Figure S-3* (*Percentage of BLM-administered lands in the harvest land base by alternative*), the harvest land base under the PRMP would be 994,000 acres or 45% of the planning area's forested acres compared to a range from a high of 1.4 million acres (65% of the planning area's forested acres) under Alternative 3, to a low of 608,000 acres (27% of the planning area's forested acres) under the No Action Alternative.

**Figure S-3.** Percentage Of BLM-Administered Lands In The Harvest Land Base By Alternative

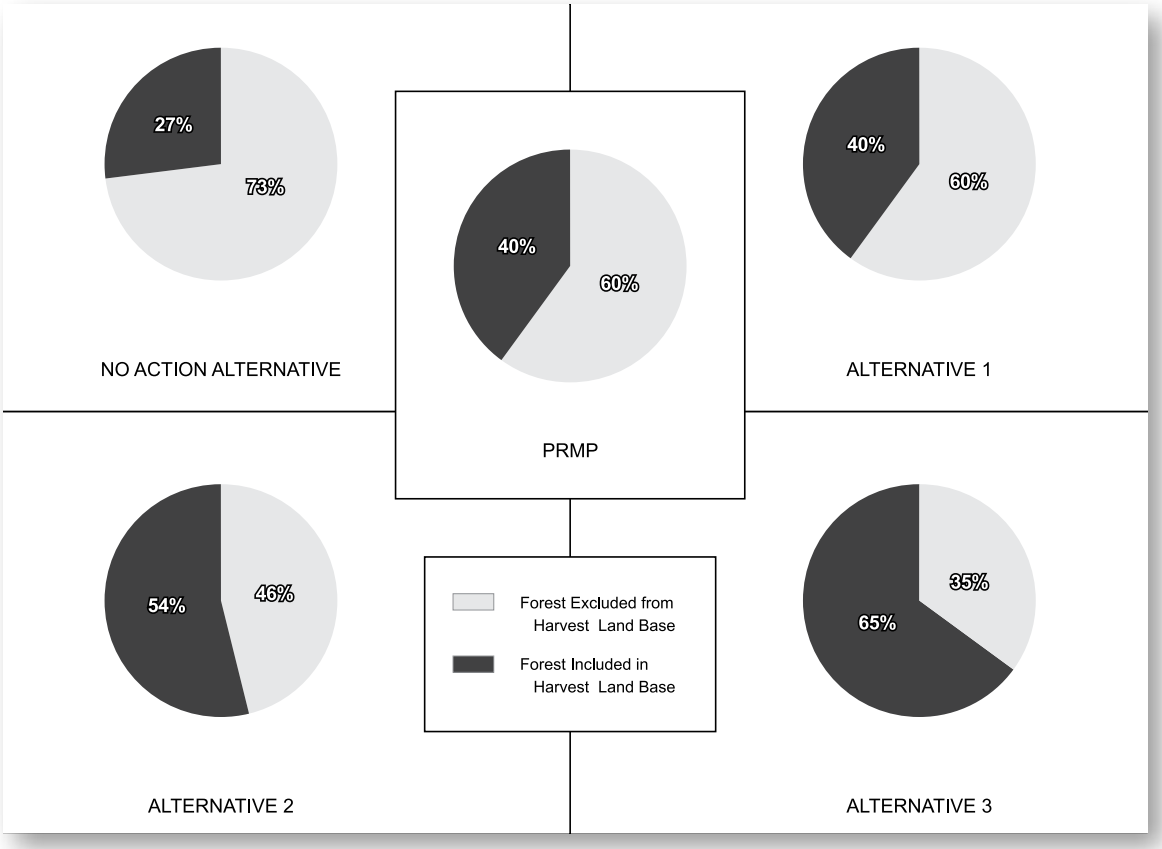


Figure S-4 (*Total allowable sale quantity by alternative for the planning area*) shows that the annual allowable sale quantity would be 502 mmbf under the PRMP, compared to a range from a high of 727 mmbf under Alternative 2, to a low of 268 mmbf under the No Action Alternative.

Figure S-5 (*Nonharvest land base volume over time*) shows that over the next 10 years, volume from thinnings in the nonharvest land base would be 86 mmbf under the PRMP, and range from the No Action Alternative at 87 mmbf per year, to virtually no volume under Alternative 3. Figure S-5 also shows that the volume from thinnings would gradually decrease over time and would cease by the eighth decade.

**Figure S-4.** Total Allowable Sale Quantity By Alternative For The Planning Area

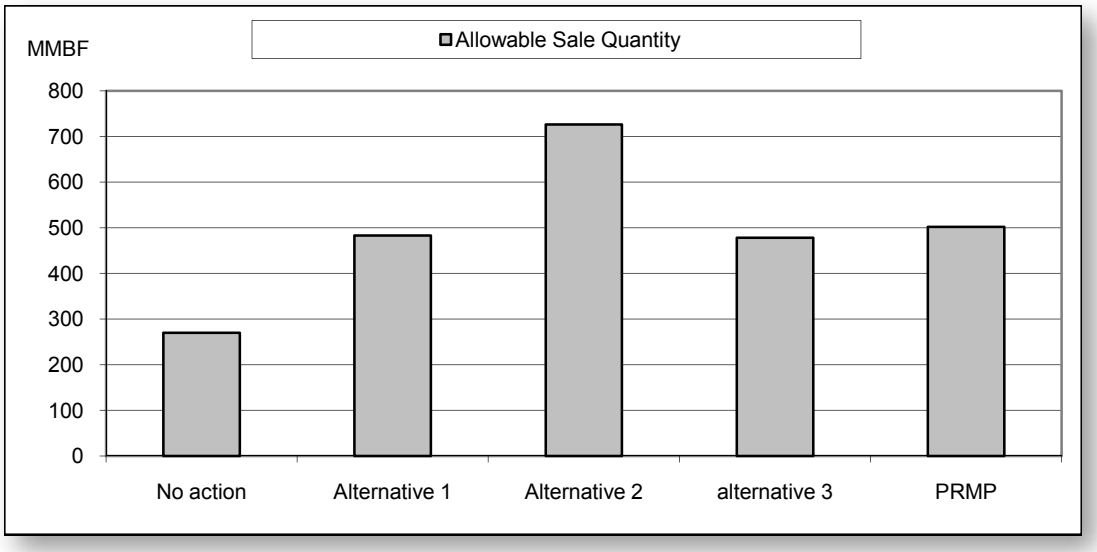
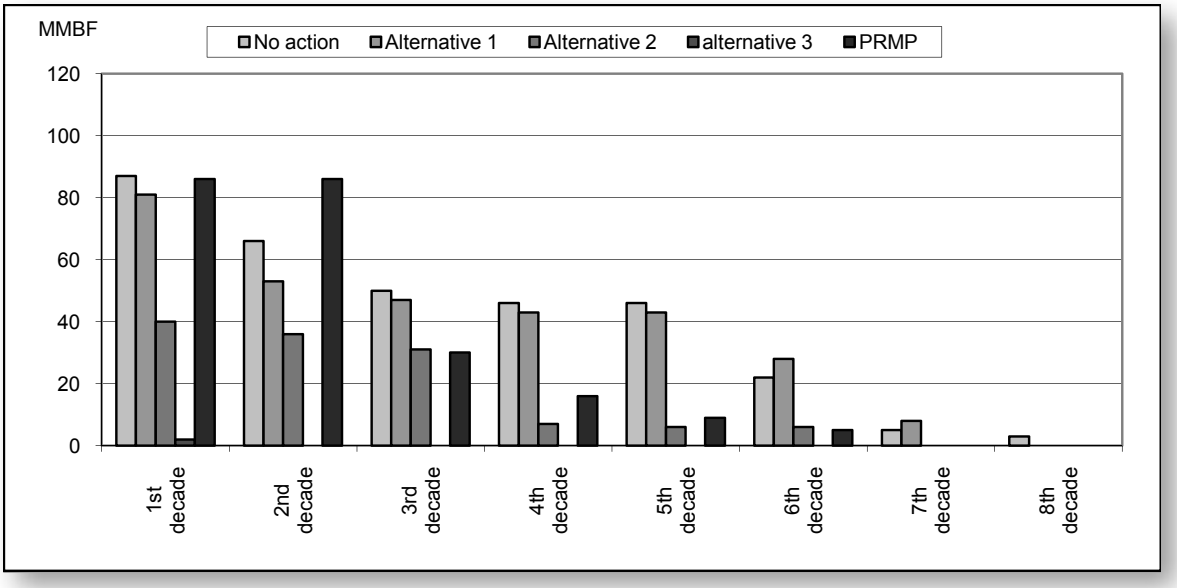



**Figure S-5.** Nonharvest Land Base Volume Over Time



The different types of harvesting that occur under the alternatives include thinning, partial harvesting, uneven-aged management, and regeneration harvesting. Thinning can occur in both the harvest land base and the nonharvest land base. The annual timber harvest acres of all harvest types would range from approximately 30,400 acres under the PRMP, to approximately 16,000 acres for the No Action Alternative.

# Special Forest Products

The location of specific special forest products moves with the location of management activities. As in the past, special forest products would be harvested from common and abundant plant and fungi species. All five alternatives would maintain similar levels of availability and quantity of special forest products. Special forest products would generally be abundant relative to demand over the long term for all five alternatives.

# Botany

Under all alternatives, the occurrences and habitats of species listed under the Endangered Species Act would be maintained or increased and recovery activities would be implemented.

Plant and fungi species included on the BLM Sensitive Species List that occur on BLM-administered lands within the planning area are not evenly distributed or predictable across the landscape even when good potential habitat exists.

The risk of population loss is higher where the patch size per population is smaller, where management activity includes regeneration or partial harvesting, where there would be multiple treatments over 10 to 15 years (timber harvest, fuels, and silviculture), and under alternatives where conservation measures under the BLM Special Status Species Policy would not be applied prior to habitat-disturbing activities.

Under the PRMP, risks to BLM sensitive species would be low, but slightly higher than the No Action Alternative due to increased risks from invasive plants, loss of interior habitat, and increased edge effect. Application of conservation measures to all species consistent with the BLM Special Status Species Policy on all BLM-administered lands in the planning area would result in low risk of local extirpation of occurrences for all habitat groups.

Under Alternatives 1, 2, and 3, risks to species in eight of nine habitat groups would be low, but slightly higher than the No Action Alternative because of increased risks from invasive plants, loss of interior habitat, and increased edge effect. Conservation measures would be applied consistent with the BLM Special Status Species Policy since habitat for these groups largely falls outside the harvest land base.

Under Alternatives 1, 2, and 3, risks to species would increase for the conifer habitat group. Some occurrences of BLM sensitive species in the conifer habitat group on O&C lands in the harvest land base would be extirpated. There would be low to moderate risk of local extirpation for some species in the conifer forest habitat group, but a low risk of extirpation or extinction from the planning area because species with 20 or fewer occurrences would receive conservation protection measures.

# Invasive Plants

The greatest risk for introduction and spread of invasive plants would be where the plants are abundant, and in areas that would have greater intensity and extent of human activity.

The risk of introducing and spreading invasive plant species over the next 10 years would be lowest under the No Action Alternative, and highest under Alternative 2. The risk of introducing and spreading invasive plant species over the long term would be lowest under the No Action Alternative, and highest under Alternative 3. A relative risk comparison between the alternatives is shown in Table S-4 (*Relative risk of long and short-term introduction and spread of invasive plant species by analysis factor*).

**Table S-4.** Relative Risk Of Long And Short-Term Introduction And Spread Of Invasive Plant Species By Analysis Factor

| Risk Analysis Factor | No Action | Alt. 1 | Alt. 2 | Alt. 3 | PRMP |
|---|---|---|---|---|---|
| Number of highest and high risk fifth-field watersheds from timber harvest activities over the next 10 years. | Low | Moderate | Highest | Lowest | High |
| Number of highest and high risk fifth-field watersheds for introduction into riparian habitats from timber harvest activities over the next 10 years. | Low | Moderate | Highest | Moderate | Lowest |
| Number of fifth-field watersheds assigned risk categories from new road construction associated with timber harvest activities over the next 10 years. | Lowest | Low | Highest | High | High |
| Introduction into fifth-field watersheds associated with off-highway vehicle use (long and short term). | Highest | Low | High | Low | Moderate |
| Long-term introduction associated with timber harvest and associated activities. | Lowest | Low | High | Highest | Moderately High |
| Long-term introduction and spread along riparian habitats. | Lowest | Low | High | Highest | Low |
| Overall potential to introduce and spread invasive plant species. | Lowest | Low | High | Highest | Moderate |

# Wildlife

## BLM Sensitive Species

For sensitive wildlife species that depend on mature and structurally complex forest, the BLM has very little ability to influence the outcome to these species. The principal determining factors on the overall forested landscape are the development of USDA Forest Service reserves into mature and structurally complex forest, and the continued intensive management of nonfederal forests.

The habitat needs of aquatic-associated and riparian-associated species would be met for perennial and fish-bearing streams under all five alternatives. The habitat needs of aquatic-associated and riparian-associated species along intermittent streams would be met under the No Action Alternative, Alternative 1, and the PRMP, but would not be met under Alternatives 2 and 3.

Forest floor associated species would persist on BLM-administered lands under all five alternatives.

## Marbled Murrelet

The nesting habitat for the marbled murrelet on BLM-administered lands would increase under all five alternatives within 100 years. Marbled murrelet habitat exists in stands that are classified as mature with multiple canopies forest or structurally complex forest. By the year 2106, the habitat would increase from the current condition of 367,000 acres to:

- 707,000 acres under the No Action Alternative
- 618,000 acres under Alternative 1
- 431,000 acres under Alternative 2
- 489,000 acres under Alternative 3
- 588,000 acres under the PRMP

The mean patch size of mature & structurally complex forest would increase from 111 acres to 338 acres under the No Action Alternative and to 176 acres under the PRMP in the Coast Range; and from 137 acres to 199 and 152 acres under the No Action Alternative and the PRMP, respectively, in the Klamath Province. The increases in patch size and total nesting habitat would be indicative of an increase in overall marbled murrelet nesting habitat condition.

The No Action and PRMP would retain 99% of all marbled murrelet nesting habitat greater than 200 years old on BLM-administered lands through 2026.

## Northern Spotted Owl

Following are the four conservation needs of the northern spotted owl and the corresponding environmental consequences of the alternatives.

1. ***Formation of large blocks of suitable habitat distributed across a variety of ecological conditions, spaced to facilitate owl movement between blocks.***
   Under the No Action Alternative, Alternative 1, and the PRMP, habitat development by 2056 on BLM-administered lands would contribute sufficiently to the development, distribution and spacing of large blocks of suitable spotted owl habitat, with the exception of spacing between large habitat blocks on either side of the Klamath-Coast Range provincial boundary. See *Figure S-6* (*Distribution of large and small Habitat Blocks at year 2056)*.

Under Alternative 2, habitat development on BLM-administered lands would not contribute sufficiently to the distribution and spacing of large habitat blocks. Under Alternative 3, habitat development on BLM-administered lands would not contribute sufficiently to the spacing of large habitat blocks.

**2.** ***Habitat conditions within and surrounding large blocks that facilitate owl movement between blocks and ensure survival of dispersing owls.***

As shown in *Figure S-7* (*Comparison of alternatives in owl dispersal habitat in year 2056*), habitat conditions that facilitate spotted owl movement and survival would improve by 2056 under all alternatives. In parts of the planning area, the distribution of BLM-administered lands is insufficient to achieve adequate dispersal conditions under any alternative.

3. ***A coordinated, adaptive management effort to reduce the loss of habitat due to catastrophic wildfire.***

The acres of spotted owl suitable habitat in the low and mixed fire severity regimes, and the acres of fire-resilient habitat, would both increase under the No Action Alternative, and both decrease under Alternatives 1, 2 and 3 by 2056. Under the PRMP, the acres of spotted owl suitable habitat in the low and mixed fire severity regimes would decrease in the northern portion of the planning area and increase in the southern portion of the planning area; the acres of fire-resilient habitat would increase.

4. ***In areas of significant population decline, application of the full range of survival and recovery options in light of uncertainty.***

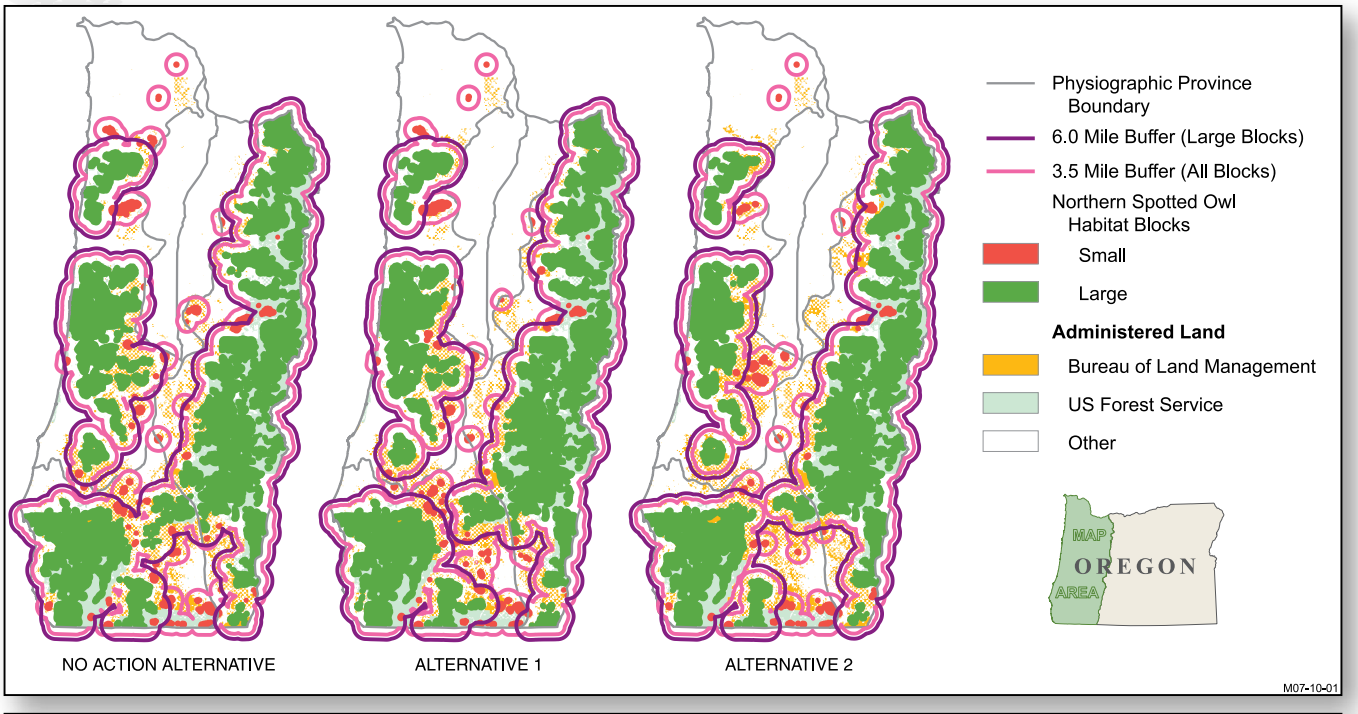
Although the analysis cannot predict how the northern spotted owl populations would respond quantitatively to the alternatives, the analysis does provide an indication of how the species would respond in the form of functional nest territories and the portion of existing spotted owl sites that would remain in the nonharvest land base.

Based on the large and small blocks of suitable habitat across all land ownerships, the number of functional northern spotted owl nest territories would increase from current conditions under all alternatives over 50 years.

At least 40% of known and predicted northern spotted owl sites in the nonharvest land base would persist under the No Action Alternative and Alternative 1. At least 37% would persist under the PRMP, 27% would persist under Alternative 2, and 6% would persist under Alternative 3.

A strategy to address the potential barred owl risk is contained in the *Final Recovery Plan for the Northern Spotted Owl* (USFWS 2008a). The PRMP incorporates the recovery action to retain substantially all high quality suitable habitat outside of managed owl core areas in the short term until additional research can be completed. Additionally, there would be no substantive disturbance effects from BLM management activities to known nesting northern spotted owls under any alternative because the BLM would restrict activities that would disrupt nesting owls.

**Figure S-6.** Distribution Of Large And Small Habitat Blocks At Year 2056



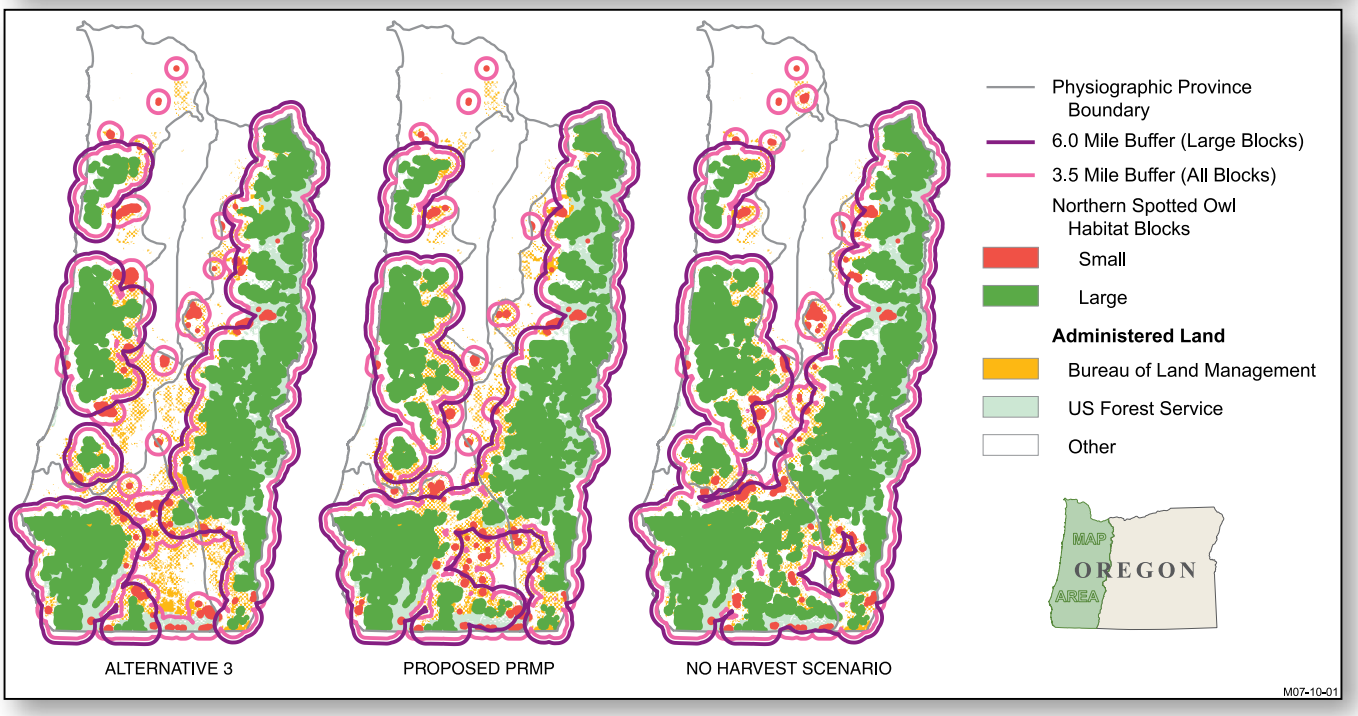
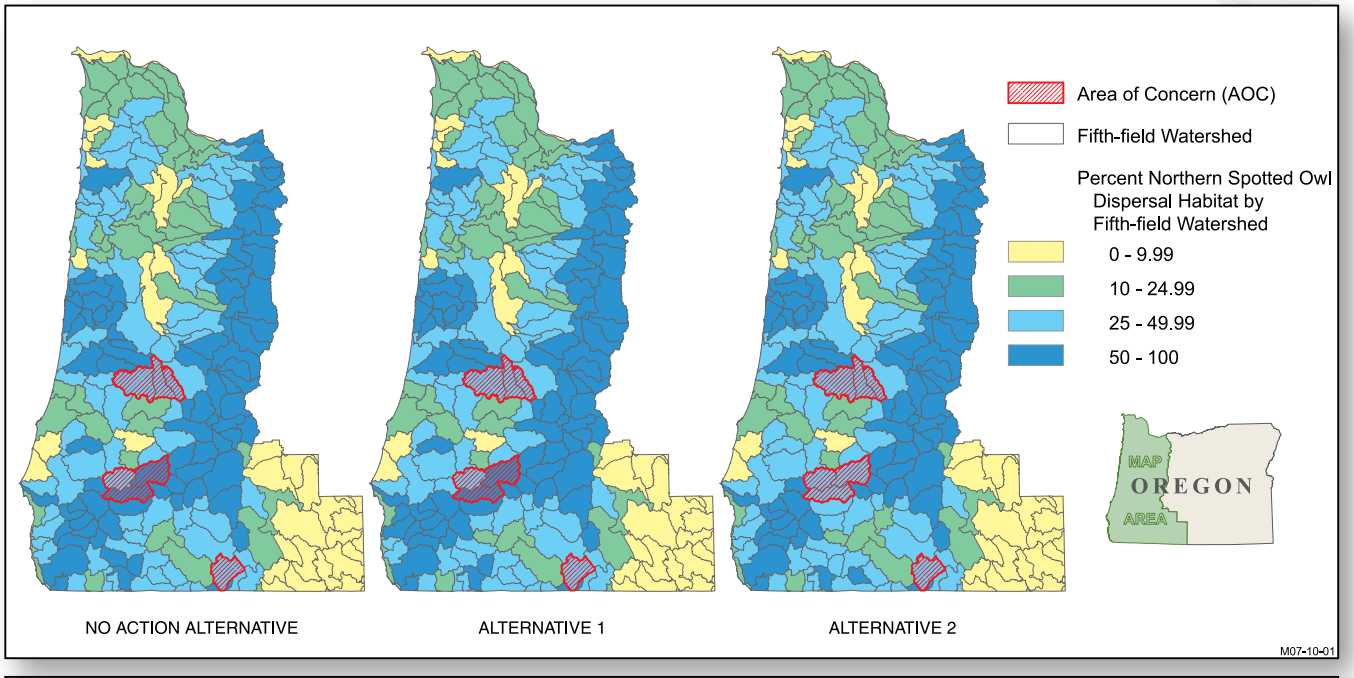
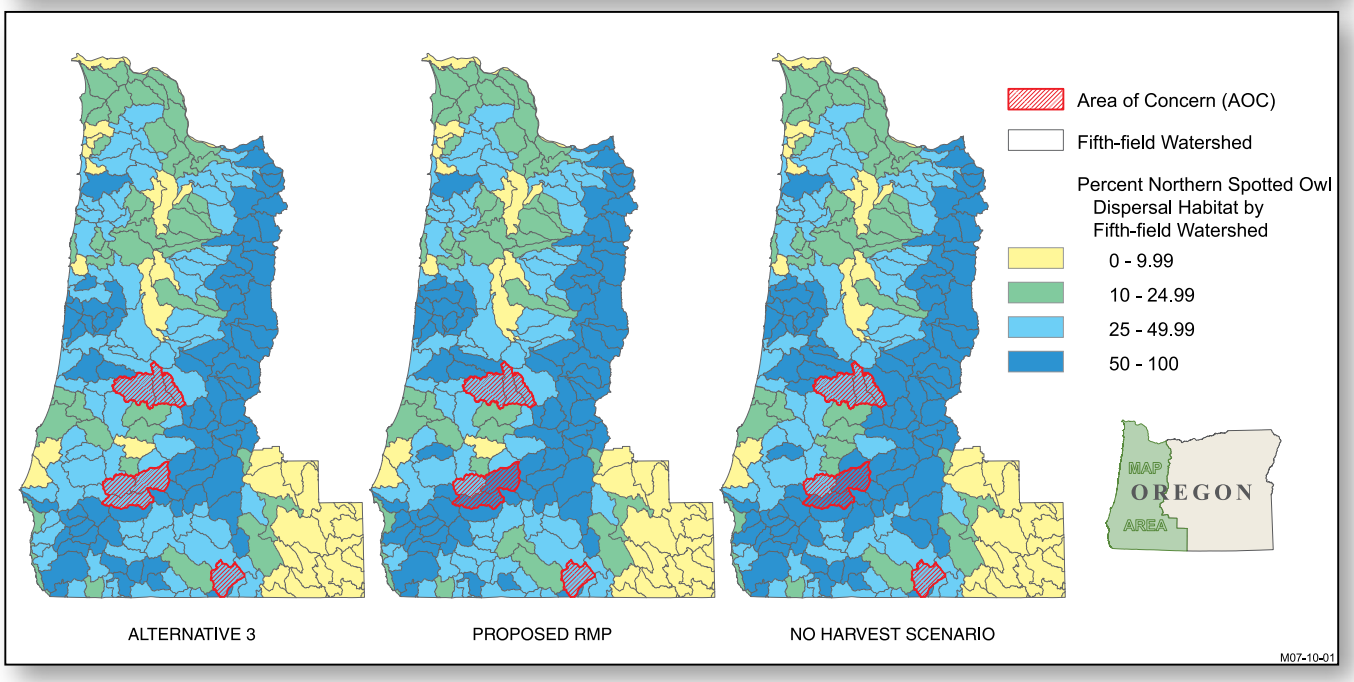



**Figure S-7.** Comparison Of Alternatives In Owl Dispersal Habitat In Year 2056



## Water

Timber harvesting influences peak flows where a large proportion of the timber has been harvested in a watershed. The magnitude of the effect is affected by the type of harvesting (thinning or regeneration harvesting), and the amount and distribution of harvesting within watersheds.

In the rain-dominated hydroregion, the PRMP would have the highest number of subwatersheds susceptible to peak flow increases, and the No Action Alternative would have the fewest. However, the susceptibility to peak flow increases under all alternatives would be more similar to the effects if no harvest were to occur (No Harvest reference analysis) than to the effects if all commercial timber lands were harvested (Intensive Management on the Most Commercial Timber Lands reference analysis).

In the rain-on-snow hydroregion, only three subwatersheds out of 248 would be susceptible to peak flow increases in most time periods under all alternatives, including the No Harvest reference analysis, except for Alternative 2. Under Alternative 2, there would be one additional subwatershed (for a total of 4) susceptible to peak flow increases.

In the rain-on-snow hydroregion, subwatersheds are more sensitive to extremes in environmental conditions than variations of harvest levels under the alternatives. Regeneration harvesting under the alternatives is not great enough to increase susceptibility to increased peak flows.

Effective shade is the total solar radiation blocked from reaching a stream over a 24-hour period. None of the alternatives would affect stream temperature, because effective shade under all alternatives would be near potential natural shade. Under the No Action Alternative, Alternative 1, and the PRMP, the risk of natural tree mortality from blowdown that could affect stream shading would be lower than under Alternatives 2 and 3.

Roads near streams are primary sites where mobilization of chronic fine sediment would take place. Most new roads would be located outside of a stream influence zone where possible, and therefore these miles would most likely not deliver fine sediment to streams channels. New road construction over the next 10 years under all alternatives would increase sediment delivery from roads less than 1% above current levels. Sediment inputs to streams from harvest-related landslides over time under all alternatives would be substantially similar to the amount that would occur under the No Harvest reference analysis.

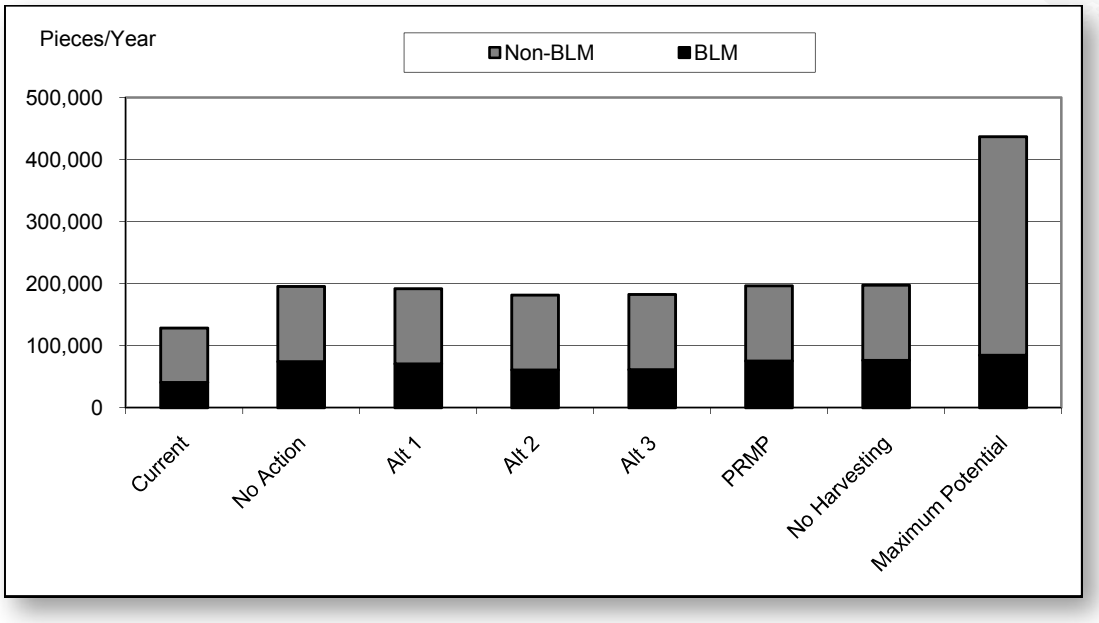
## Fish

A variety of anadromous and resident fish species occur throughout the planning area. The habitat requirements and the responses to habitat changes vary by species and among age groups within species. However, the fish species are similar enough in their habitat requirements to permit an analysis of how the alternatives would cause changes to large wood, nutrient input, sediment, flow, and temperature that would affect fish habitat.

As shown in *Figure S-8* (*Potential large wood contribution comparison of all ownerships by 2106 with current and maximum potential),* the potential large wood contribution to streams would increase over time under all alternatives. The greatest increase would occur under the PRMP and the No Action Alternative, and the smallest increase would occur under Alternative 2.

Fine sediment delivery to stream channels would not increase more than 1% above existing rates under any alternative and would not decrease fish survival.

**Figure S-8.** Potential Large Wood Contribution Comparison Of All Ownerships By 2106 With Current And Maximum Potential




The risk of adverse effects to fish from an increase in peak flow would be very low under all alternatives, because of the small proportion of the planning area identified as susceptible to peak flow increases, the small proportion of the stream types in which streambed scour would occur, and the low likelihood that all factors required for adverse effects on fish would occur simultaneously.

None of the alternatives would contribute to an increase in stream temperature that would affect fish.

# Fire and Fuels

The analysis of fire and fuels divides the planning area into two areas:

- Salem, Eugene, Roseburg, and Coos Bay districts (north of Grants Pass), which generally have a low-frequency and high-severity fire regime
- Medford District and Klamath Falls Resource Area of the Lakeview District (south of Grants Pass), which generally have a high-frequency and low-severity fire regime

Fire severity, hazard, and resiliency can generally be equated to broad descriptions of vegetation conditions.

- Under moderate and extreme weather conditions, the primary source of high-severity fire would be in stand establishment and young forests that consist of even-aged stands. Under extreme conditions, structurally complex forest could also burn with high severity.
- Crown fire hazard is based on the amount and types of stand treatments, and the expected stand conditions that would result from treatment based on past experiences with treatments.
- Fire resiliency depends in part on some of the same site-specific factors as crown fire hazard. However, surface fuels and the presence of large trees also affect fire resiliency.

In the Salem, Eugene, Coos Bay, and Roseburg Districts, compared to the current condition, all alternatives would reduce the fire hazard and would reduce the acres of high severity fire when wildfires occur.

In the Medford District, compared to the current condition, all alternatives would reduce the fire hazard and would decrease the acres of high severity fire when wildfires occur. The No Action Alternative would result in the largest decrease and Alternative 2 would result in the smallest decrease.

In the Klamath Falls Resource Area, compared to the current condition, the No Action Alternative and the PRMP would reduce the fire hazard and the acres of high severity fire when wildfires occur. Alternatives 1, 2, and 3 would increase both the fire hazard and the acres of high severity fire when wildfires occur.

In the Medford District and Klamath Falls Resource Area, the No Action Alternative and Alternatives 1 and 2 would create stand establishment and young stands consisting of even-aged plantations, which would be highly susceptible to stand-replacing crown fires. Alternative 3 and the PRMP would reduce crown fire hazard and increase fire resiliency.

Across the planning area, the No Action Alternative and the PRMP would be most effective in reducing fire hazards, decreasing the risk of large wildfires, and reducing the risk of resource damage due to high severity wildfire. Alternative 2 would be the least effective.

## Air

Emissions from prescribed burning from all activities in the northern districts would be highest under Alternative 2, and lowest under the No Action Alternative. Emissions from prescribed burning from all activities in the southern districts would be highest under the PRMP, and lowest under the No Action Alternative.

Under all alternatives, compliance with the Oregon Smoke Management Plan would prevent particulate matter from prescribed burning from reaching levels considered a health hazard and would protect Class 1 visibility areas.

## Recreation

Under all action alternatives, 2.4 million acres (93%) of BLM-administered lands in the planning area would be designated as "limited to designated roads and trails" for off-highway vehicle use. This is an increase from 1.1 million acres under the No Action Alternative. For all action alternatives, this change would eliminate virtually all off-highway vehicle open areas (330,000 acres) and areas designated as "limited to existing roads and trails" (950,000 acres). These re-designations of off-highway vehicle areas under the PRMP and Alternatives 1, 2, and 3 would improve off-highway vehicle opportunities, public safety, and visitor experiences compared to the No Action Alternative.

In the Medford District, management of 13 off-highway vehicle emphasis areas under Alternative 2 and 7 off-highway vehicle emphasis areas under the PRMP would improve off-highway vehicle opportunities and result in fewer visitor conflicts, thereby improving the quality of experiences for all visitors compared to the other alternatives.

Timber harvesting and associated roads can change the remoteness and naturalness of an area, which in turn can cause changes in the recreational settings used by the public. Remoteness would have little change under all four action alternatives since there are relatively few new permanent roads. The naturalness of BLM areas would also have little change overall. The alternatives would maintain a mix of naturalness settings that provide a variety of opportunities and experiences for visitors. The PRMP and Alternatives 1, 2, and 3 would continue to maintain a mix of recreation settings that provide a variety of opportunities and experiences for visitors.

# Wilderness Characteristics

The BLM evaluated 146 public wilderness proposals that were received during scoping. It was determined that nine of these areas (26,123 acres) contained wilderness characteristics. Under the four action alternatives, there would be special management to maintain the wilderness characteristics for five of these areas.

The PRMP would maintain wilderness characteristics on the greatest percentage of BLM-administered lands compared to the other action alternatives. The PRMP would cause the least amount of long-term alteration (17%) of wilderness characteristics from regeneration harvesting. Alternative 3 would have the highest degree of long-term alternation of wilderness characteristics (46%) compared to all other alternatives.

# Visual Resources

Visual resource quality is determined through the visual resource inventory process, which is based on a combination of scenic quality, sensitivity levels, and distance zones. The results of this inventory process classified all BLM lands within the planning area as Class I, II, III, or IV. Class I areas are determined to have the highest level of visual resource quality; Class IV areas have the lowest level (see *Chapter 3*).

The BLM also designates visual resource management classes through the land use planning process. These classes also range from Class I through IV. Class I areas are managed to preserve visual resource quality, whereas Class IV areas allow for major modifications. Management classes can vary from the original inventory classes to be consistent with the goals and objectives of resource management plans.
Areas inventoried as Class I and IV would be maintained under all four action alternatives. Regeneration harvests would diminish existing visual resource quality within Class II and III areas. The No Action Alternative would maintain existing visual resource quality on the greatest portion of BLM-administered lands in the planning area, followed by the PRMP, and then by Alternatives 1, 2, and 3.

# National Landscape Conservation System

All of the alternatives would continue to protect all National Landscape Conservation System designations.

# Soils

The primary measure of soil productivity for this analysis is the ability of the soil to grow vegetation, specifically commercial trees.

The same or improved practices that were used from 1995 to 2006 under the current resource management plans (the No Action Alternative) would be used under all alternatives to provide for soil productivity.

Despite some residual detrimental soil disturbance, overall soil productivity would be maintained or improved under all alternatives. Long-term conservation and the productive capacity of the forest and rangeland soils across the planning area would be maintained.

## Grazing

Under the four action alternatives, the acres of livestock grazing authorizations would decrease from 560,000 acres to 418,500 acres. This decrease is largely in the Medford District and Klamath Falls Resource Area of the Lakeview District, where the acres are vacant and not currently grazed.

Forage production is affected by changes to vegetation. Changes to vegetation can occur due to range improvements, fuels treatments, timber harvest, and management of areas of critical environmental concern.

For all alternatives, except the PRMP, there would be an increase in forage production in the Medford District and the western portion of the Klamath Falls Resource Area of the Lakeview District. Under the PRMP, there would be a decrease in forage production.

None of the alternatives would substantially change the quantity of forage production in the eastern portion of the Klamath Falls Resource Area, since little regeneration or partial harvesting would occur there.

## Wild Horses

The Pokegama Herd Management Area is located partially within the planning area. Forage production in support of the herd would be affected by changes to vegetation due to management activity. Stand establishment forests, where regeneration or partial harvesting would occur, provides the best forage.

Under all alternatives, except for the PRMP, there would be an increase in forage production in the Pokegama Herd Management Area. Under the PRMP, there would be a decrease in forage production.

Under all alternatives and the PRMP, the appropriate management level of 30-50 head would be maintained.

## Areas of Critical Environmental Concern

Areas of critical environmental concern are established to protect the important and relevant values that require special management attention. Some land use allocations may provide for these values, negating the need for designation to protect those values.

Under the four action alternatives, areas of critical environmental concern were analyzed for designation. Areas that were not viable without the inclusion of O&C lands were not designated.

The lack of special management attention in those areas that require protection would result in the eventual degradation or loss of many of those important and relevant values unless those important and relevant values are otherwise protected under law, some other authority, or a resource management plan decision.

Values that would be fully protected under all alternatives (whether or not special management was applied under a designation of an area of critical environmental concern) include any species listed under the Endangered Species Act, bald eagles, fish, migratory birds, raptors, herons, riparian and aquatic resources, and cultural resources. Under the PRMP and the No Action Alternative, special status species would also be fully protected.

## Cultural Resources

Impacts to sites would be largely reduced or eliminated due to predisturbance site discovery and avoidance or protection measures. However, there would be some residual incidental or inadvertent loss of sites. Damage to cultural, paleontological, and traditional use sites would vary little among the alternatives. For all five alternatives, 2% or less of the number of sites would be damaged per decade.

## Energy and Minerals

Under federal law and BLM policy, all public lands are open for energy development and mineral exploration and development, unless specific lands are closed or withdrawn from mineral entry.

All alternatives would maintain similar levels of availability and quantity of energy and mineral resources on the public lands.

Under all alternatives, almost all lands would remain available for the location of mining claims under the Mining Law. Common varieties of rock would continue to be available from existing sites. A few quarries may be closed, reclaimed, or potentially replaced by new sites.