

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
EUGENE DISTRICT OFFICE  
Environmental Assessment No. OR090-08-02  
Bottomline Density Management

## I. INTRODUCTION

A cooperative Density Management Study between the Bureau of Land Management (BLM), Oregon State University (OSU), National Biological Service (NBS), and U.S. Forest Service Pacific Northwest Research Station (PNW) has been developed to research various aspects 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 (NSO ROD). Research activity would include testing silvicultural systems to accelerate the development of old growth characteristics and structural complexity; inventory of lichens and bryophytes and opportunity to monitor their response to density management; and monitoring the effects of density management in Riparian Reserves on microclimate, fish, and amphibians. The Bottomline Density Management Study area was treated in 1995 to attain the research objectives stated above. This Environmental Assessment analyzes the actions for the second treatment, which further tests the research objectives stated above.

## II. PURPOSE AND NEED FOR ACTION

The project area is located in Section 1, Township 21 South, Range 5 West, in the Siuslaw Resource Area of the Eugene District and the Swiftwater Resource Area of the Roseburg District of the BLM. The project area is within the Matrix land use allocation and includes management objectives for Connectivity and Riparian Reserves. The purpose of the proposed action is:

To provide a research site for the Density Management Study, which will contribute to the scientific knowledge needed to implement the NSO ROD.

The need for addressing the purpose of the proposed action is demonstrated by the insufficiency of scientific knowledge on the effect of density management on the objectives of the NSO ROD. Objectives of the Density Management Study include determining how to manage forest stands to accelerate the development of old-growth characteristics and improve structural complexity; research on the response of lichens, bryophytes, and amphibians to density management treatments; and monitoring the effects of density management in riparian areas on micro-climate and riparian-associated species. The purpose, need, and objectives of the Density Management Study are further detailed in the research study plans, which are contained in the project analysis files.

This EA is a site-specific analysis of the proposed action and alternatives, which are in conformance with the NSO ROD and the following documents:

"Eugene District Record of Decision and Resource Management Plan," June 1995 (RMP ROD)

"Roseburg District Record of Decision and Resource Management Plan," June 1995.

Additional site-specific information is available in the Bottomline Density Management project analysis file. This file and the above referenced documents are available for review at the Eugene District Office.

### III. PROPOSED ACTION AND ALTERNATIVES

This action proposes forest management activities on 191 acres including commercial thinning in stands approximately 70 years of age, within a 450-acre project area. The proposed action would involve the following activities: road construction and improvement, tree harvest at various densities of tree retention, and decommissioning of constructed roads.

This section describes the proposed action and alternatives developed through the Density Management Study Plan and the interdisciplinary review process.

Alternatives A and B are designed to harvest timber and to implement aspects of the Density Management Study Plan. A research exception for this proposed action has been granted by the Regional Ecosystem Office (see Appendix) in accordance with the requirements of the NSO ROD (pp. C-4, C-19, C-38).

#### A. ALTERNATIVE A (Proposed Action)

The following is the silvicultural prescription.

##### 1. Upland Treatments - Reference Project

The Proposed Action has been designed to maintain or increase the diversity of stand structural and compositional conditions through the thinning operation. Specific goals include:

- Maintain the full range of diameter distribution by proportional thinning
- Allow for a range of tree structures, including diverse crown sizes, and damaged or deformed trees
- Increase the proportion of minor species by harvesting the dominant species.

The following silvicultural treatments would be implemented.

- a) Variable density – 56 acres
  - 8 acres would be thinned to a density of 25 trees per acre (TPA)
  - 17 acres would be thinned to a density of 35 TPA
  - 17 acres would be thinned to a density of 65 TPA
  - 6 acres would remain as well-dispersed circular openings (with 10 year old regeneration) ranging from 0.25 - 1.0 acre in size.
  - 8 acres would remain as well-dispersed leave (no cut) islands ranging from 0.25 - 1.0 acre in size.
- b) High density – 57 acres
  - 48 acres would be thinned to a density of 65 TPA
  - 9 acres would remain as well-dispersed leave islands ranging from 0.25 - 1.0 acre in size.
- c) Moderate density – 78 acres
  - 58 acres would be thinned to a density of 35 TPA.
  - 8 acres would remain as well-dispersed circular openings (with 10 year old regeneration) ranging from 0.25 - 1.0 acre in size.
  - 12 acres would remain as well-dispersed leave islands ranging from 0.25 - 1.0 acre in size.
- d) Control Unit

A control unit of approximately 50 acres would provide a means of comparing stand development and species response in treated versus untreated stands. No harvesting would occur. Stand development would occur through natural processes.

## 2. Other design features

- Non-hazardous snags, remnant mature trees, and down logs larger than 20 inches in diameter would be reserved.
- Coarse woody material consisting of decay class 3, 4 and 5 would be reserved in treated stands outside the riparian reserves. All coarse woody material would be reserved in riparian reserves.
- Hardwood trees and minor species other than Douglas-fir would be retained unless operationally not feasible.
- Two trees per acre with diameters larger than the average stand diameter would be felled for downed woody debris on harvested acres.

## 3. Riparian Reserve Treatments

- a) Riparian Reserves would follow ROD Standards and Guidelines of 300 foot buffers on fish bearing streams and 150 foot buffers on non-fish bearing streams, except on approximately 10 percent of the Riparian Reserve area (20 acres), where the following would occur:
  - Tree harvest would occur within the Riparian Reserve adjacent to Stream No. 13. However, no harvest would occur within stream protection buffers, which would be one site-potential tree height wide on these two fish bearing streams.
  - Within selected Riparian Reserves (Stream Nos. 2, 3, 9, and the upper portion of Stream No. 15) tree harvest would occur. Stream protection buffers would be a minimum width of 50 feet and a maximum width of 105 feet on these stream reaches. All stream buffer widths are similar to the initial Bottomline Density Management Study thinning treatment. All riparian treatments have been designed to have negligible impacts to stream temperature according to the recommendations in the Northwest Forest Plan Temperature Implementation Strategies (2005).
- b) Riparian Reserve tree densities would be similar to the adjacent upland treatment.

### Seasonal stipulations

Log haul from Units 1 and 2 would have no seasonal restrictions; log haul from Unit 3 would be restricted to the dry season.

## 4. Logging

On slopes >35%, yarding would be done by a skyline cable system capable of lateral yarding 75 feet. The majority of the yarding would be uphill to designated landings. One-end suspension would be required. Cable yarding over streams may occur. Full suspension of logs would be required when yarding over streams. Ground based yarding would be allowed in areas with slopes less than 35%. Skid trails would be located approximately 150 feet apart where possible, to minimize impacts to reserve trees and soils. Log lengths would be restricted to a maximum of 40 feet to reduce damage to the reserve trees. Skidding for ground based yarding operations would occur 75 feet upland from the posted riparian reserves. The closest distance that ground based yarding equipment would operate near streams would be 125 feet on portions of streams 9 and 15. Directional felling would be utilized to protect residual trees and snags.

## 5. Roads

Activities within the proposed harvest area would use existing roads and spurs constructed for the previous treatment. Spurs G, H, J, and K and Road No. 21-4-6 would be renovated (approximately 8,900 feet). Spurs A-F and Road No. 21-5-1 would be improved (approximately 5,200 feet); including the addition of rock to allow for wet weather haul. Approximately 800 feet of new road would be constructed on the haul route outside of the project area, and approximately 9,800 feet would be improved.

### Haul Routes (See map):

From Unit 1 (Wet weather haul allowed): Haul would occur via Road Nos. 20-5-25, 20-5-36.1 (including 800 feet of new construction), 20-5-35.2, and 20-5-35 onto 20-5-14.1 (paved). Roads on the haul route would be improved to allow for wet weather haul. Improvements would include surfacing with up to 8-inches of rock, and replacing and installing new cross drain culverts where needed to reduce the risk of road failure and reduce sediment delivery to streams.

From Unit 2 (Wet weather haul allowed): Haul would occur via Road No. 20-4-31.1 onto Territorial Highway.

From Unit 3 (Wet weather haul not allowed): Haul would occur via Road No. 20-4-31.1 onto Territorial Highway.

Road construction or the use of natural-surfaced roads during periods of wet weather would not be permitted.

### Road Decommissioning

Road decommissioning would take place when soil moisture conditions are optimal, generally between July 1 and October 15.

Decommissioning measures would be applied as follows:

Road No. 21-4-6 and all Spurs: Drain dips, lead-off ditches, water bars or other measures would be used to prevent accumulation of surface run-off. Potholes and ruts that concentrate run-off would be eliminated. Existing cross drains would be removed.

Spurs A-F would be blocked by placing available logs, slash, root wads or boulders at entry points. Spur G would be blocked with an earthen barricade; effectively blocking Spurs H, J, and K, and Road No. 21-4-6.

Spurs H, J, and K would have exposed road prisms tilled with decompacting equipment such as an excavator. Where available, logging slash would be placed on road surfaces.

## **6. Botany**

*Orobanche pinorum* - A small circular reserve extending approximately 20-30 feet in radius around an oceanspray bush which is the host/associate of *Orobanche pinorum*, would be established in Unit No. 2 and would not be subject to thinning or yarding.

## **7. Wildlife**

No seasonal restrictions on logging and other management activities would be required.

## **8. Fisheries**

Roads would be upgraded as described above to minimize the potential impact from sediment to fish species.

## **9. Noxious weeds**

- All yarding and road construction equipment would be cleaned prior to arrival on BLM-managed lands to lessen the spread of noxious weed seed.

## **10. Fuels**

- Fuels less than 6" in diameter and within 25 feet of Road Nos. 20-4-31.1 and 21-5-1 would be machine piled.
- All roadside and landing piles not scattered on tilled roadbeds would be covered with plastic and burned.

## **B. ALTERNATIVE B**

This alternative would be designed to be identical to all design features recommended for Alternative A, except the treatments and log haul would occur only during dry season for Units 1 and 3.

### **1. Upland Treatments**

Design features would be similar to Alternative A, except for the following:

#### Seasonal stipulations

Log haul from units 1 and 3 would be restricted to dry weather. Log haul from unit 2 would not be seasonally restricted.

### **2. Riparian Reserve Treatments**

Design features would be the same as Alternative A.

### **3. Logging**

Design features would be the same as Alternative A.

### **4. Roads**

Activities within the proposed harvest area would use existing roads and spurs constructed for the previous treatment. Spurs A-C, G, H, J, and K, and Road Nos. 21-4-6 and 21-5-1 would be renovated (approximately 12,600 feet). Spurs D-F would be improved (approximately 1,500 feet); including the addition of rock to allow for wet weather haul. Approximately 800 feet of new road would be constructed on the haul route outside of the project area, approximately 7,700 feet would be renovated, and approximately 2,100 feet would be improved.

#### Haul Routes (See map):

From Unit 1 (Wet weather haul not allowed): Haul would occur via Road Nos. 20-5-25, 20-5-36.1 (including 800 feet of new construction), 20-5-35.2, and 20-5-35 onto 20-5-14.1 (paved). Roads on the haul route would be renovated, and a portion of Road No. 20-5-25 would be improved by surfacing with up to 8-inches of rock, and replacing and installing new cross drain culverts where needed to reduce the risk of road failure and reduce sediment delivery to streams.

From Unit 2 (Wet weather haul allowed): Haul would occur via Road No. 20-4-31.1 onto Territorial Highway.

From Unit 3 (Wet weather haul not allowed): Haul would occur via Road No. 20-4-31.1 onto Territorial Highway.

Road construction or the use of natural-surfaced roads during periods of wet weather would not be permitted.

#### Road Decommissioning

Design features would be the same as Alternative A, except that Spurs A-C, which would not be rocked, would be tilled and logging slash would be placed on them as described in Alternative A.

### **5. Botany**

Design features would be the same as Alternative A.

### **6. Wildlife**

Design features would be the same as Alternative A.

**7. Fisheries**

Roads with sediment delivery potential would be used for summer haul only, reducing impacts to fish species.

**8. Noxious weeds**

Design features would be the same as Alternative A.

**9. Fuels**

Design features would be the same as Alternative A.

**C. ALTERNATIVE C (no action)**

All timber harvest activities would be deferred, and no management activities described under Alternatives A and B would occur at this time. There would be no opportunity to thin stands to fulfill the objectives of the density management study.

**IV. AFFECTED ENVIRONMENT**

The proposed Bottomline Density Management project area is located about 20 miles southwest of Eugene, Oregon and is within the Coast Range physiographic province. It is mainly in the Siuslaw Resource Area, Eugene District, although a small portion is in the Swiftwater Resource Area Roseburg District BLM. BLM, state, and private lands make up a checkerboard land ownership pattern in the vicinity.

The proposed project area is in the Sandy Creek drainage (approximately 2,600 acres) of the Upper Siuslaw River 5th field Watershed (approximately 127,600 acres) and the South Fork Siuslaw River 6th field Sub-Watershed (approximately 16,400 acres). Sandy Creek is a large, 4th order channel in the planning area. Several smaller tributaries to Sandy Creek are also in the planning area. Streams are described in further detail on the stream and channel information page. Stream locations are shown on the planning map.

The project area is in the foothills of the Coast Range with elevation ranging from 700 feet to 1200 feet. The average yearly precipitation is about 50 inches of rainfall with the majority of this occurring between October and April. Stream flow patterns are closely tied to precipitation patterns because of limited water storage capacity in the sedimentary materials that occupy much of the project area. There is a large natural variation in size of flows – high flows are often more than 100 times greater than low flows. Year to year flows also can vary by a large amount. This is a rain dominated area because of the low elevations, so rain-on-snow events are a relatively infrequent occurrence.

The Sandy Creek drainage area is predominately zoned Forest Lands; however, a small portion (less than 2%) is zoned Residential/Agricultural. The Residential/ Agricultural lands are concentrated at the lowest end of the drainage near the confluence with the South Fork Siuslaw River. Ownership in the drainage is 55% private and 45% BLM.

Beneficial Uses in the Siuslaw Watershed include: private domestic water supply, irrigation, livestock, anadromous fish rearing, salmonid fish passage, resident fish and aquatic life, wildlife and hunting, fishing, water contact recreation, and aesthetic quality.

The South Fork of the Siuslaw River is on the 2004/2006 Oregon Department of Environmental Quality 303(d) integrated report for temperature (river mile 0 to 7.3) exceedance of the state standard. This was confirmed by BLM temperature monitoring from 1999 to 2003. BLM has not conducted stream temperature monitoring in Sandy Creek.

**A. VEGETATION**

This forest stand originated from natural seeding following logging. The stand is approximately 70 years old and is composed of well-stocked Douglas-fir with minor amounts of western hemlock, incense cedar, Pacific yew, big leaf maple, and other hardwoods scattered throughout. Remnant seed trees left from previous logging, some as snags and down logs, are also scattered

throughout. The stand was previously thinned from 1996 to 1998 in the initial thinning treatment for the Bottomline Density Management Study.

## **B. WATER RESOURCES/FISHERIES**

The primary beneficial use for the streams in this area is fisheries habitat. There is one existing irrigation water right in T. 20 S., R. 4 W., Sec. 30.

Sandy Creek is a tributary of the South Fork Siuslaw River. It rises on the low divide between the Umpqua and Siuslaw Basin, flowing in a generally northerly direction. The mainstem Siuslaw River is formed a short distance downstream near the community of Lorane by the union of the North and South Forks of the Siuslaw River; it then flows westward through the Coast Range to the Pacific Ocean. The North and South Forks originate on low hills that separate the Lorane Valley from the Willamette and Umpqua River basins, mostly at elevations of 1,200 feet or less. The perennial portions of the North and South Forks and mainstem Siuslaw are at less than 600-foot elevation and are low-gradient throughout their courses. Because of the dominance of sandstone substrates and low gradients, substrates are dominated by fine particle material such as sand and silt.

Sandy Creek is a low gradient stream, with a number of tributaries which also have comparably low gradients. The mainstem of Sandy Creek has had extensive beaver activity, which has created a series of ponds and marshy areas. Overstory trees adjoining the channel are limited by the wet soils and past beaver use. Woody structure is limited in Sandy Creek and its tributaries. Most of the substrates are sand and silt; most of the spawning gravel suitable for salmonid spawning is located in tributaries.

Coho salmon, steelhead trout, and cutthroat trout have been observed in the South Fork Siuslaw, although numbers have diminished in recent years as part of a coast-wide population decline. Coho and cutthroat have been found in Sandy Creek, but not steelhead; habitat is not of the type preferred by steelhead. No population estimates have been made, although sampling for presence of fish has been done. Sculpin are probably present, and possibly dace, brook lamprey or shiners. Habitat for coho and cutthroat is good to excellent. The abundant ponds and cover are habitats selected by both coho and cutthroat.

## **C. SOILS**

The geology of the area is primarily the Tye and Burpee formation of marine sedimentary rocks (sandstone and siltstone). Soil moisture/temperature regime is xeric/mesic. Both east and west of Sandy Creek, the most predominant soil series is Bellpine/Jory. The slope just east of Sandy Creek has Ritner soils and Bellpine/Jory with Ritner inclusions. A one-acre area of Witzel soil series and a rocky outcrop are located in a Timber Production Capability Classification (TPCC) withdrawn area and have been excluded from the project area.

## **D. WILDLIFE**

The project area is not critical habitat for any threatened or endangered species. Aquatic vertebrate inventory information is available in the project analysis files (Olson et al. 1995). Species of interest are as follows:

- Northern spotted owl (*Strix occidentalis caurina*): federally threatened species. The Sandy Creek owl site is known to occur in the area; the project area is presently serving as dispersal habitat. Suitable habitat is generally considered to be mixed Douglas fir stands 80 years old or older. Such stands typically provide structural components allowing for nesting, roosting and foraging needs of this species. Younger stands may be considered suitable based on site specific structure available and older stands may not qualify as suitable habitat for the lack of structure. The stands in the proposed harvest area are not considered suitable habitat.
- Marbled murrelet (*Brachyramphus marmoratus*): federally threatened species

The project area lies within 50 miles of the Oregon coast and therefore was evaluated for any possible effects to the marbled murrelet. The forest stands proposed for treatment are young. Remnant potential marbled murrelet structure exists within the stand. These have been surveyed for occupancy; no occupancy was detected. Marbled murrelet surveys have been conducted on large trees located outside of the unit in adjacent stands with no presence detected.

Suitable habitat is generally considered mixed Douglas fir stands 80 years old or older. At this age, trees begin to develop large branches or deformities that provide substrates adequate for nesting. These substrates are important because this species does not construct nests, but rather depends on surfaces large and stable enough to support a parent and egg. In the central Oregon Coast Range, three tree species typically support murrelet nesting: Douglas fir, western redcedar and western hemlock.

No surveys were required for survey and manage species.

No Special Status Species have been recorded.

## **E. BOTANY**

The project area was recently re-surveyed for sensitive vascular plants (July 2006) and non-vascular plants – lichens, mosses and liverworts (October 2006). No threatened or endangered plants were found. Two species were reported during 2006 surveys: the lichen *Chaenotheca furfuracea* and the vascular plant *Orobanche pinorum*. *Chaenotheca furfuracea* has been removed from sensitive lists since the latest surveys were done and no longer has status with the BLM. No mitigations are required for the *Chaenotheca*.

*Orobanche pinorum* has no BLM status but is listed on Lane County Threatened and Endangered List B (taxa that are not listed at state or federal levels, but have limited populations in Lane County and threatened habitat). A single site of this species has been found in Unit 2 and would be buffered to provide consistency with the last treatment.

### Native plant communities

The project area is rich in native herb and grass species, with only localized areas of exotic plant and noxious weed invasion (notably along roads where disturbance has occurred most recently).

## **F. VISUAL RESOURCES**

Because the project area is classified as Visual Resource Management Class IV, no specific timber management constraints apply (RMP p. 2-56).

## **G. CULTURAL RESOURCES**

The project is located within the Oregon Coast Range physiographic province and the terms of Protocol D as defined in the National Programmatic Agreement in Oregon (USDI, 1998) apply. Pre-disturbance surveys of the project area are not required. Post-disturbance survey requirements would be conducted according to standards based on slope defined in Appendix D of the "Protocol for Managing Cultural Resource on Lands Administered by the Bureau of Land Management in Oregon." These standards only mandate post-disturbance on slopes of 10% or less. Ground-disturbing work would be suspended if cultural material is discovered during proposed operations.

## **H. UNAFFECTED RESOURCES**

The following resources are either not present or would not be affected by any of the alternatives: Air Quality, Areas of Critical Environmental Concern, prime or unique farm lands, floodplains, Native American religious concerns, solid or hazardous wastes, Wild and Scenic Rivers, and Wilderness.

## V. ENVIRONMENTAL CONSEQUENCES

### A. PAST, PRESENT, AND REASONABLY FORSEEABLE FUTURE ACTIONS

BLM timber sales implemented over the past five years in the South Fork of the Siuslaw River Watershed have included Tucker Creek and Norris Divide located on Matrix lands. On private lands, more intensive timber management actions, including clear cutting and broadcast burning, are occurring and are likely to continue in the foreseeable future. Future actions that are expected to occur within the watershed include timber harvest. This watershed is included in the Upper Siuslaw Landscape Plan area for which an EA is currently being prepared. Expected actions include, commercial thinning and stream restoration.

Although the Western Oregon Plan Revision is in process, there has been no decision rendered. Therefore, it provides insufficient information for meaningful consideration at this time. Additionally, the purpose of this current proposal is to implement the existing Eugene District Resource Management Plan (RMP). This EA has been prepared to determine if any significant environmental effects of the proposal are substantially greater than what has already been analyzed in the existing RMP's programmatic EIS.

### B. DIRECT AND INDIRECT EFFECTS

#### 1. VEGETATION

Alternative A would cause a decrease in competition between trees for available growing space, which would maintain or improve tree growth and vigor. The proposed treatments would decrease canopy closure and increase light at the forest floor, which would improve growing conditions for understory plants and speed the development of a multi-layered canopy. The increase in individual tree growth rates would speed the development of late-successional characteristics, such as large live trees, snags, and down wood.

Alternative B would have effects on vegetation similar to Alternative A.

Under Alternative C (No action) the stand would continue to close canopy, increasing competition for growing space, and reduce light reaching the forest floor. Tree crown competition would decrease live crowns and reduce light levels reaching the forest floor which would suppress understory development of shrubs and shade tolerant conifers. Development of late-successional characteristics – such as large live trees, snags, and down wood – would be slower than in Alternatives A or B because of the slower individual tree growth rates.

#### 2. WATER RESOURCES/FISHERIES

Environmental consequences of the alternatives for water resources and fisheries are discussed in the Aquatic Conservation Strategy section, later in this chapter.

#### 3. SOILS

Alternative A would not cause an increase in mass wasting potential in the project area; areas of potential concern have been identified and removed from the project area through the Interdisciplinary Team and TPCC process. The retained trees in treatment areas would maintain soil shear strength. Headwall areas have been identified and would be protected within the Riparian Reserves and/or stream protection buffers. New road construction would cause some soil compaction, but the area affected would represent about 0.1 % of the total project area. Yarding of logs could result in some soil compaction and/or mechanical displacement of the soil, but these effects would be short-term and limited to a very small area.

Alternative B would have direct and indirect effects on soils similar to Alternative A.

Alternative C (No action) would have no direct or indirect effects on soils.

#### 4. WILDLIFE

Under Alternative A, thinning would reduce the canopy closure over the short-term, which could temporarily reduce the habitat quality of the stand for species that prefer complete canopy closure, and specifically could reduce the quality of the stand as dispersal habitat for northern spotted owls. However, the thinning would speed the development of late-successional characteristics and have a long-term effect of improving the habitat quality of the stand for species that are related to late-successional forest conditions, including the northern spotted owl and marbled murrelet. The U.S. Fish and Wildlife Service has concurred, through informal consultation, with the BLM assessment that Alternative A would not adversely affect northern spotted owls or marbled murrelets.

Alternative B would have effects on wildlife similar to Alternative A.

Alternative C (No action) would have no short-term effects on wildlife. However, of all the alternatives, Alternative C would result in the slowest development of late-successional characteristics, and would therefore result in the slowest increase in the quality of habitat for species associated with late-successional forests.

#### 5. BOTANY

Alternative A A single site of *Orobanche pinorum* species has been found in Unit No. 2 and would be buffered for this treatment to provide consistency with the last treatment.

This species would continue to grow and expand in its current location.

Alternative B would have effects on botanical resources similar to Alternative A.

Alternative C (No action) would not increase the potential for exotic species invasion and would have no effect on known sites of *Orobanche pinorum*.

##### Noxious Weeds

Alternative A The Proposed Action would involve timber harvest, road renovation, and ground disturbance related to yarding. Activities such as these may introduce heavy machinery from weed-infested areas, while at the same time creating the soil disturbance which invites quick-colonizing non-native species. Mitigation measures such as equipment washing helps to reduce this risk. Yarding can disturb soils and native vegetation as well, but the proposed yarding method is considered very low-impact, and is not expected to be a significant factor in vegetation change. Roads may inoculate forestlands with noxious weeds such as Meadow Knapweed. Treatments of known weed sites occur through the District weeds program.

Alternative B would have effects on noxious weeds similar to Alternative A.

Alternative C (No action). There would be no potential for an increased spread of noxious weeds due to management actions.

### C. CUMULATIVE EFFECTS OF VEGETATION TREATMENTS AND WILDLIFE HABITAT

It is likely that many stands on BLM-administered lands in the upper portions of the Siuslaw Watershed will be treated with commercial thinning, given the land use allocations and stand conditions in the watershed. On private lands, more intensive timber management actions, including clearcutting, are occurring and are likely to continue. Cumulative effects are discussed further in the later sections specifically addressing the Aquatic Conservation Strategy.

Alternative A would contribute to a short-term decrease in wildlife habitat, resultant from the harvesting of timber, and the construction and renovation of landings and roads. Since this treatment will use up to 90% of the roads and landings that were used in the last treatment, the effects from new construction will be much reduced from this treatment (Bottomline Density Management Study, Environmental Assessment No. OR090-94-28). Alternative A would result in some reduction of canopy closure, which together with other density management on BLM-

administered lands and regeneration harvests on private lands, could cause a temporary loss of habitat quality for species that prefer complete canopy closure. However, the effect of any loss of habitat quality from Alternative A would be not only minor but also short-lived, limiting the potential for cumulative effects with other actions. Over the long-term, Alternative A, together with other density management treatments on BLM-administered lands, could have a long-term cumulative effect of increasing the habitat area for species associated with late-successional forests.

Alternative B would have cumulative effects on vegetation and wildlife similar to Alternative A.

Alternative C (No action) would not be expected to accelerate the development of improved stand habitat conditions that benefit species dependant on old growth characteristics and structural complexity. The vegetation would develop old growth characteristics more slowly than alternatives A and B.

#### **D. DIRECT, INDIRECT AND CUMULATIVE EFFECTS ON THE AQUATIC CONSERVATION STRATEGY OBJECTIVES**

Site-specific conditions in this project area are consistent with the general discussion in the Siuslaw Watershed analysis (BLM Eugene District, Siuslaw Watershed Analysis, August 1995), which identified management opportunities for density management treatments in Riparian Reserves and discussed the role of density management treatments in attaining Aquatic Conservation Strategy objectives. That analysis specifically identified that density management treatments should focus on young stands – the condition of the stand in the project area – with the objective of maintaining or increasing individual tree growth rates to speed the development of large trees, snags and coarse woody debris, multi-layered canopies. That analysis also noted that these silvicultural treatments could be implemented along with silvicultural treatments in upland areas.

The research exception for this proposed action states that analysis of research activities in the Riparian Reserves should ensure that "a significant risk to Aquatic Conservation Strategy objectives does not exist" (see Appendix). The analysis below will examine how the direct, indirect, and cumulative effects of the alternatives would influence attainment of each of the nine Aquatic Conservation Strategy objectives. By their very nature, these nine objectives are interrelated, so that discussion of any one objective is relevant to many of the objectives.

##### **1. 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.**

Under Alternative A, thinning in both the Riparian Reserves and upland areas in the project area would likely contribute to the restoration of the distribution, diversity, and complexity of watershed and landscape-scale features. The increase in individual tree growth rates in the areas treated would speed the development of late-successional characteristics, such as large live trees, snags, and down wood, over the long-term. This effect in the Riparian Reserves would be minor because of the small area that would be thinned.

Alternative B would have effects similar to Alternative A.

Alternative C (No action) would not speed the development of late-successional characteristics in project area and would therefore not speed the restoration of within-stand or landscape diversity and complexity over the long-term.

##### **2. Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian dependent species.**

Alternative A Under this alternative, the thinning in the Riparian Reserves would be highly unlikely to cause any degradation of connectivity or increase in landscape fragmentation because of the influence of the residual stand and the small area of Riparian Reserves that

would be thinned. Any reduction in connectivity for riparian-dependent species would be minor and short-lived. As discussed under Objective 1, thinning both in the Riparian Reserves and upland areas would speed the development of late-successional characteristics, and therefore would contribute to the restoration of a network of late-successional forest stands over the long-term. No new roads would be constructed in Riparian Reserves that could degrade connectivity for aquatic or riparian-dependent species.

Alternative B would have effects similar to Alternative A.

Alternative C (No action) would have no short-term effect on landscape connectivity, but would not speed the development of late-successional characteristics in project area and would therefore not speed the restoration of network of late-successional forest stands.

**3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.**

Alternative A would not effect the physical integrity of the aquatic systems because: the residual stands in areas thinned would maintain root strength; the thinning would be too far from streams to affect streambank integrity; and all management activities throughout the project area would not cause any alteration in water flows that could affect channel morphology (see Objective 6). Over the long-term, the thinning would speed the development of large woody debris, which could contribute to the restoration of physical integrity of the aquatic system, but this is unlikely to result in more than a slight increase in the input of woody debris to the streams in the project area because of the small Riparian Reserve area to be thinned and the distance from the stream channels.

Alternative B would have effects similar to Alternative A.

Alternative C (No action) would have no effect on the physical integrity of the aquatic system.

**4. 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.**

Alternative A would have a negligible effect on stream temperature because the thinning in the Riparian Reserves would minimally alter stream shading. No treat buffers exceeding 105' in width (each side of channels) would be in place on all streams in the project area except for stream 3 and the short, upper reaches of streams 2, 9, and 15 where stream buffers buffer widths may be 50 feet on either side of the stream. The majority of the areas upslope of the variable width (50'-105') reserves would retain 35 to 65 trees per acre. The combination of the untreated Riparian Reserves and the minimal change to the existing canopy closure would maintain existing stream temperature conditions. Leaks of toxic materials (oil, gas, etc.) from machinery into stream channels would be highly unlikely; all new road construction and landings would be located outside of Riparian Reserves.

Alternative B would have effects similar to Alternative A.

Alternative C (No action) would have no effects on water quality.

**5. 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.**

Alternative A would maintain the sediment regime in the project area and downstream of the project area. An increase in existing road related sediment production is anticipated during haul on about 0.34 miles of the haul route due to increased road traffic. Long term (post harvest) sediment production from the haul route would be reduced from existing conditions because of the proposed road improvements. These road improvements include adding relief drains and reducing road erodibility by adding an 8" lift of gravel surfacing to the direct

delivery portions of the haul route. The direct sediment delivery areas are the portion of the road ditch lines (on the haul route) that connect directly with the stream system either through a stream crossing or a relief crossing in close proximity to a stream. The addition of the relief drains would reduce direct sediment delivery from an existing 0.58 miles of the haul route to 0.34 miles of the haul route. No new roads or landings would be constructed in Riparian Reserves. Directional falling and yarding, and the use of one-end suspension for yarding would minimize soil disturbance from logging in the treatment areas in the Riparian Reserves. No thinning would occur on areas with unstable soils. The untreated Riparian Reserves would be adequate to continue performing the function of filtering sediment before it reaches the stream because of the generally gentle topography, the generally low risk of hillslope erosion, and the low risk of substantial sediment inputs from upland areas.

Alternative B would have effects similar to Alternative A. The proposed road improvements would be similar to Alternative A in order to mitigate the increase in traffic rates- particularly in areas with direct sediment delivery potential. Log haul would occur only during dry conditions which would reduce some of the sedimentation risks associated with winter haul. Overall sediment delivery from haul is expected to be similar to lower than under Alternative A and higher than Alternative C during periods of haul. Long term, post haul, sediment delivery from this haul route is expected to be lower than Alternative C and similar to Alternative A due to improved road surfacing and added relief drains and a return to existing traffic use.

Alternative C (No action) would not alter the existing sediment regime, but existing roads in the Riparian Reserves would not be improved and would continue to contribute sediment to Sandy Creek at the existing rate.

**6. 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. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.**

Alternative A may contribute to a minor increase in peak flows, summer low flows, and overall water yield because of the decrease in canopy closure and the construction of roads. The risk from rain-on-snow events is low because of low elevations within the rain-dominated drainage area. Compaction from new roads and yarding is likely to amount to less than 0.5 % of the drainage area. Alternative A would increase the total permanent road surface by approximately 800 feet. Cross-drains would be added to new roads to minimize additional routing of water to the stream network. The addition of relief culverts to existing haul roads would be expected to positively affect the existing routing of water by decreasing the amount of runoff entering directly into stream crossings from road drainage. The expected reduction would be from an existing 0.58 miles of haul route with direct delivery potential to 0.34 miles of haul route with direct delivery potential from the road improvements.

Alternative B would have effects similar to Alternative A, as the addition of the relief culverts would reduce the amount of road runoff to streams.

Alternative C (No action) would not alter existing water flow patterns, no new construction of roads would occur, and canopy closure would remain unaffected, but existing roads in the Riparian Reserves would not be improved and would continue to route water into the stream network at the existing rate.

**7. Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.**

Alternative A would not alter existing patterns of floodplain inundation and water table elevation, because it would have no effects or only negligible effects on existing flow patterns and stream channel conditions.

Alternative B would have effects similar to Alternative A.

Alternative C (No action) would have no effect on patterns of floodplain inundation and water table elevation.

- 8. 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.**

Alternative A would contribute to the restoration of the species composition and structural diversity of plant communities by speeding the development of late-successional forest characteristics, including large trees and a multi-story canopy, in the Riparian Reserve areas that would be thinned. Alternative A would not alter the restoration of the species composition and structural diversity of plant communities in untreated areas.

Alternative B would have effects similar to Alternative A.

Alternative C (No action) would not speed the development of late-successional forest characteristics, and therefore would not contribute to the restoration of the species composition and structural diversity of plant communities.

- 9. Maintain and restore habitat to support well distributed populations of native plant, invertebrate, and vertebrate riparian dependent species.**

Alternative A would contribute to the restoration of habitat to support well-distributed populations of riparian-dependent species by speeding the development of late-successional forest characteristics, including large trees and a multi-story canopy, in the Riparian Reserve areas that would be thinned. The current stand condition provides relatively poor habitat for riparian-dependent species associated with late-successional forests. Alternative A could cause a short-term reduction in canopy closure in the Riparian Reserve areas that would be thinned, which could result in some micro climatic alteration or other adverse effect for species that prefer complete canopy closure, but any such effect would be minor because of the effect of the residual trees and because of the small proportion of the Riparian Reserve that would be treated, and the current poor habitat condition of the stand for species associated with late-successional forests.

Alternative B would have effects similar to Alternative A.

Alternative C (No action) would not speed the development of late-successional forest characteristics, and therefore would not contribute to the restoration of habitat to support well-distributed populations of riparian-dependent species.

## **VI. CONSULTATION AND COORDINATION**

### **A. SURVEY AND MANAGE SPECIES**

On July 25, 2007, the Under Secretary of the Department of Interior signed a new Survey and Manage Record of Decision that removed the survey and manage requirements from all of the BLM resource management plans (RMPs) within the range of the northern spotted owl. In any case, this project falls within at least one of the exceptions listed in the modified October 11, 2006 injunction. Thinning projects in stands younger than 80 years old are not subject to surveys.

### **B. WILDLIFE CONSULTATION**

Pursuant to the Endangered Species Act, informal consultation was completed with the U.S. Fish and Wildlife Service on this proposed action. The Fish and Wildlife Service concluded informal consultation with a Letter of Concurrence in October, 2006, concurring with the BLM determination that the proposed project would not likely to adversely affect northern spotted owls. The project would have no effect on the marbled murrelet.

### **C. FISH CONSULTATION**

There are no Endangered Species Act listed fish species in the planning area at this time.

Under the Magnusen-Stevens Act we are required to assess the impacts to Essential Fish Habitat for Chinook and Coho salmon. Project assessments have led to the conclusion that there will be no adverse effects to Essential Fish Habitat for Chinook and Coho salmon from this action.

### **D. INTERDISCIPLINARY TEAM MEMBERS**

The proposed action and alternatives were developed and analyzed by the following interdisciplinary team of BLM specialists:

Steve Steiner	Hydrologist
Dan Crannell	Wildlife Biologist
Gary Cairns	Engineer
Karin Baitis	Soil Scientist
Pete O'Toole	Silviculture
Molly Widmer	Botanist
Dave Reed	Fuels
Leo Poole	Fisheries Biologist
Sharmila Premdas	EA writer/NEPA Planner/Team Lead
Debra Wilson	Document Preparation

## **VII. REFERENCES**

Chen, J., J.F. Franklin, and T.A. Spies. 1995. Growing-season microclimatic gradients from clearcut edges into old growth Douglas-fir forests. *Ecological Applications* 5(1): 74-86.

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Olson, D., L. Ellenburg, and B. Hansen. 1995. Aquatic vertebrate diversity study. Density Management Study: Bottom Line study site. Unpublished report to Bureau of Land Management, July 7, 1995.

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USDA Forest Service and USDI Bureau of Land Management. 1994. Final 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. Appendix J2, Results of Additional Species Analysis.

USDI Bureau of Land Management 1994. Environmental Assessment No. OR090-94-28. Bottomline Density Management Study.

USDI, Bureau of Land Management. August 1998. Protocol for managing cultural resources on lands administered by the BLM in Oregon. Oregon State Office, Portland, Oregon. 20pp.

## APPENDIX: letter from Regional Ecosystem Office

# Regional Ecosystem Office

333 SW 1st P.O. Box 3623  
Portland, Oregon 97208-3623  
Website: [www.reo.gov](http://www.reo.gov) E-Mail: [REOmail@or.blm.gov](mailto:REOmail@or.blm.gov)  
Phone: 503-808-2165 FAX: 503-808-2163

### Memorandum

**Date:** May 12, 2003  
**To:** Regional Interagency Executive Committee (See Attached Distribution List)  
**From:** Anne Badgley, Executive Director /s/Anne Badgley  
**Subject:** Assessment and Review of Proposed Research under the Northwest Forest Plan

**Purpose:** The purpose of this memorandum is to clarify implementation of certain Northwest Forest Plan (NWFP) provisions regarding research assessments and reviews.

**Background:** In 2001, the Regional Ecosystem Office (REO) received questions from field offices asking whether REO review of new proposed research is required. The REO prepared findings to clarify two aspects of the research questions:

1. Reviews. When is REO review of research required?
2. Assessments. Who assesses new research proposals and what factors should be considered?

This memorandum is based on interagency discussions (which included participation by research agency representatives) and review of NWFP provisions. Key NWFP provisions are attached and referenced below.

**Findings:** Reviews. The NWFP Standards and Guidelines (S&Gs) distinguish between ongoing and proposed research (S&Gs, pp. C-4, 18, 19 & 38). Project summaries of ongoing research, i.e., current, funded, agency approved research, were to be submitted to REO for review within 180 days after the date the NWFP Record of Decision (ROD) was signed (April 13, 1994). New research, i.e., research proposed after the NWFP was signed, does not require REO, Research and Monitoring Group (RMG), or Regional Interagency Executive Committee (RIEC) review. However, agencies may request REO or RMG assistance in conducting science reviews of new proposed research, particularly where independent, regional-scale, or interagency analysis is indicated. Requests should be submitted through the agency's RIEC executive to the REO Executive Director.

Assessments. The S&Gs (pp. C-4, 18 & 38) require that research be assessed to determine if it is consistent with the objectives of the standards and guidelines. The appropriate land manager is responsible for assessing proposed research and has discretion regarding how to conduct the assessment and documentation process. For example, the assessment and documentation may be completed in conjunction with the NEPA process.

The ROD states that, where appropriate, some research activities may be exempted from the standards and guidelines (ROD, p.15). The S&Gs further provide for this by indicating that some

activities not otherwise consistent with the objectives of the standards and guidelines may be appropriate (S&Gs, pp. C-4, 18 & 38), particularly if the activities:

- Will test critical assumptions of these standards and guidelines;
- Will produce results important for habitat development; or
- If the activities represent continuation of long-term research.

In addition, the S&Gs (p. C-4) state that every effort should be made to locate non-conforming activities in land allocations where they will have the least effect upon the objectives of the standards and guidelines. (Language specific to Late-Successional Reserves (LSRs) and Riparian Reserves (RRs) is provided in the S&Gs (pp. C-18 & 38)). This factor should be considered and documented during the assessment.

The land manager is responsible for identifying any proposed research activities that are inconsistent with the objectives of the standards and guidelines, for assessing whether the activities are appropriate, and for ensuring that appropriate efforts have been made to locate non-conforming activities in land allocations where they will have the least effect upon the objectives of the standards and guidelines. The land manager may then exempt research activities from the standards and guidelines where appropriate. All research activities must meet the requirements of applicable federal laws (ROD, p.15), including the Endangered Species Act, NEPA, etc.

**Related Considerations:** The REO identified other factors that may be helpful to ensure scientific credibility of proposed research (a basic principle of the NWFP). These factors are not specified in the NWFP, however, land managers may consider them if appropriate during design and assessment of new research proposals, particularly proposals which include activities inconsistent with the objectives of the standards and guidelines. Optional factors that may be appropriate to consider include:

1. The extent to which the proposed research represents credible science. The following questions may be helpful in evaluating whether the proposed research represents credible science:
  - What hypotheses will be tested by the proposed research, and how are they linked to assumptions or uncertainties in the S&Gs?
  - Is the proposed study design adequate to test the stated hypotheses?
  - What are the temporal and spatial zones of inference for the proposed research?
  - Has the proposal been the subject of an independent science review? If so, what are the results?
2. The potential of the research to contribute to scientific knowledge of importance beyond the local area.
3. The potential to modify the research proposal to make it more consistent with the objectives of the standards and guidelines.
4. The extent to which the desired results could be obtained if the research was modified to conform to the standards and guidelines.

This memorandum is intended for use as the basis for responding to future inquiries regarding research assessments and reviews. All RIEC executives are encouraged to distribute this memorandum to appropriate individuals in their agency. If you have comments or need additional information, please contact me at 503-808-2165, or your REO representative.

cc: REO/RMG reps  
Ken Denton (FS)  
John Cissel (BLM)

1819final.doc/kc

Attachment: NWFP Excerpts Related to Research Assessments and Reviews (2 pp.)

**Distribution List for RIEC**

Dave Allen, US Fish & Wildlife Service  
Dave Wesley, US Fish & Wildlife Service (Alt)  
Elaine M. Brong, Bureau of Land Management  
Judy Nelson, Bureau of Land Management (Alt)  
Jon Jarvis, National Park Service  
Jim Shevock, National Park Service (Alt)  
Linda Goodman, Forest Service  
Lisa Freedman, Forest Service (Alt)  
Bob Graham, Natural Resources Conservation Service  
Dianne Guidry, Natural Resources Conservation Service (Alt)  
Col. Richard W. Hobernicht, U.S. Army Corps of Engineers  
Curt Loop, U.S. Army Corps of Engineers (Alt)  
Anne Kinsinger, USGS Western Region  
Dave Busch, USGS/REO (Alt)  
Robert Lohn, National Marine Fisheries Service  
Mike Crouse, National Marine Fisheries Service (Alt)  
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**California Federal Executives**

Kent Connaughton, Forest Service  
Kathy Anderson, Forest Service (Alt)  
Steve Thompson, U.S. Fish and Wildlife Service  
John Engbring, U.S. Fish and Wildlife Service (Alt)  
Phil Detrich, U.S. Fish and Wildlife Service (Alt)  
Michael Pool, Bureau of Land Management  
Paul Roush, Bureau of Land Management (Alt)

## **NWFP Excerpts Related to Research Assessments and Reviews**

This enclosure provides excerpts from the Northwest Forest Plan Record of Decision (ROD) and Standards and Guidelines (S&Gs) which are referenced in the accompanying memorandum on research assessments and reviews.

### **ROD, p. 15:**

“An important component of this decision is the facilitation of research activities to gather information and test hypotheses in a range of environmental conditions. Although research activities are among the primary purposes of adaptive management areas and experimental forests, this decision does not intend to limit research activities to these land allocations. Where appropriate, some research activities may be exempted from the standards and guidelines of this decision. However, every effort should be made to locate non-conforming activities in land allocations where they will have the least adverse effect upon the objectives of the applicable standards and guidelines. All research activities must meet the requirements of applicable federal laws, including the Endangered Species Act.”

### **S&Gs, p. C-4:**

“A variety of wildlife and other research activities may be ongoing and proposed in all land allocations. These activities must be assessed to determine if they are consistent with the objectives of these standards and guidelines. Some activities (including those within experimental forests) not otherwise consistent with the objectives may be appropriate, particularly if the activities will test critical assumptions of these standards and guidelines, will produce results important for habitat development, or if the activities represent continuation of long-term research. Every effort should be made to locate non-conforming activities in land allocations where they will have the least adverse effect upon the objectives of these standards and guidelines.

Current, funded, agency-approved research that meets the above criteria, is assumed to continue if analysis ensures that a significant risk to Aquatic Conservation Strategy objectives does not exist. Research Stations and other Forest Service and BLM units will, within 180 days of the signing of the Record of Decision, submit a brief project summary to the Regional Ecosystem Office of ongoing research projects that are potentially inconsistent with other standards and guidelines in this document but are expected to continue under the above research exception. The Regional Ecosystem Office may choose to more formally review specific projects, and may recommend to the Regional Interagency Executive Committee modification, up to and including cancellation, of those projects that have an unacceptable risk [to] the objectives of these standards and guidelines.”

### **S&Gs, pp. C-18,19:**

“A variety of wildlife and other research activities may be ongoing and proposed in late-successional habitat. These activities must be assessed to determine if they are consistent with Late-Successional Reserve objectives. Some activities (including those within experimental forests) not otherwise consistent with the objectives may be appropriate, particularly if the activities will test critical assumptions of these standards and guidelines, will produce results important for habitat development, or if the activities represent continuation of long-term research. These activities should only be considered if there are no equivalent opportunities outside Late-Successional Reserves.

Current, funded, agency-approved research that meets the above criteria is assumed to continue if analysis ensures that a significant risk to Aquatic Conservation Strategy objectives does not exist. Research Stations and other Forest Service and BLM units will, within 180 days of the signing of the Record of Decision for these standards and guidelines, submit a brief project summary to the Regional Ecosystem Office of ongoing research projects that are potentially inconsistent with other standards and guidelines of this document, but are expected to continue under the above research exception. The Regional Ecosystem Office may choose to more formally review specific projects, and may recommend to the Regional Interagency Executive Committee modification, up to and including cancellation, of those projects having an unacceptable risk to Late-Successional Reserve objectives.”

**S&Gs, p. C-38:**

“**RS-1.** A variety of research activities may be ongoing and proposed in Key Watersheds and Riparian Reserves. These activities must be analyzed to ensure that significant risk to the watershed values does not exist. If significant risk is present and cannot be mitigated, study sites must be relocated. Some activities not otherwise consistent with the objectives may be appropriate, particularly if the activities will test critical assumptions of these standards and guidelines; 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 should be considered only if there are no equivalent opportunities outside of Key Watersheds and Riparian Reserves.

**RS-2.** Current, funded, agency-approved research, which meets the above criteria, is assumed to continue if analysis ensures that a significant risk to Aquatic Conservation Strategy objectives does not exist. Research Stations and other Forest Service and BLM units will, within 180 days of the signing of the Record of Decision adopting these standards and guidelines, submit a brief project summary to the Regional Ecosystem Office of ongoing research projects that are potentially inconsistent with other standards and guidelines but are expected to continue under the above research exception. The Regional Ecosystem Office may choose to more formally review specific projects, and may recommend to the Regional Interagency Executive Committee modification, up to and including cancellation, of those projects having an unacceptable risk to Key Watersheds and Riparian Reserves. Risk will be considered within the context of the Aquatic Conservation Strategy objectives.”

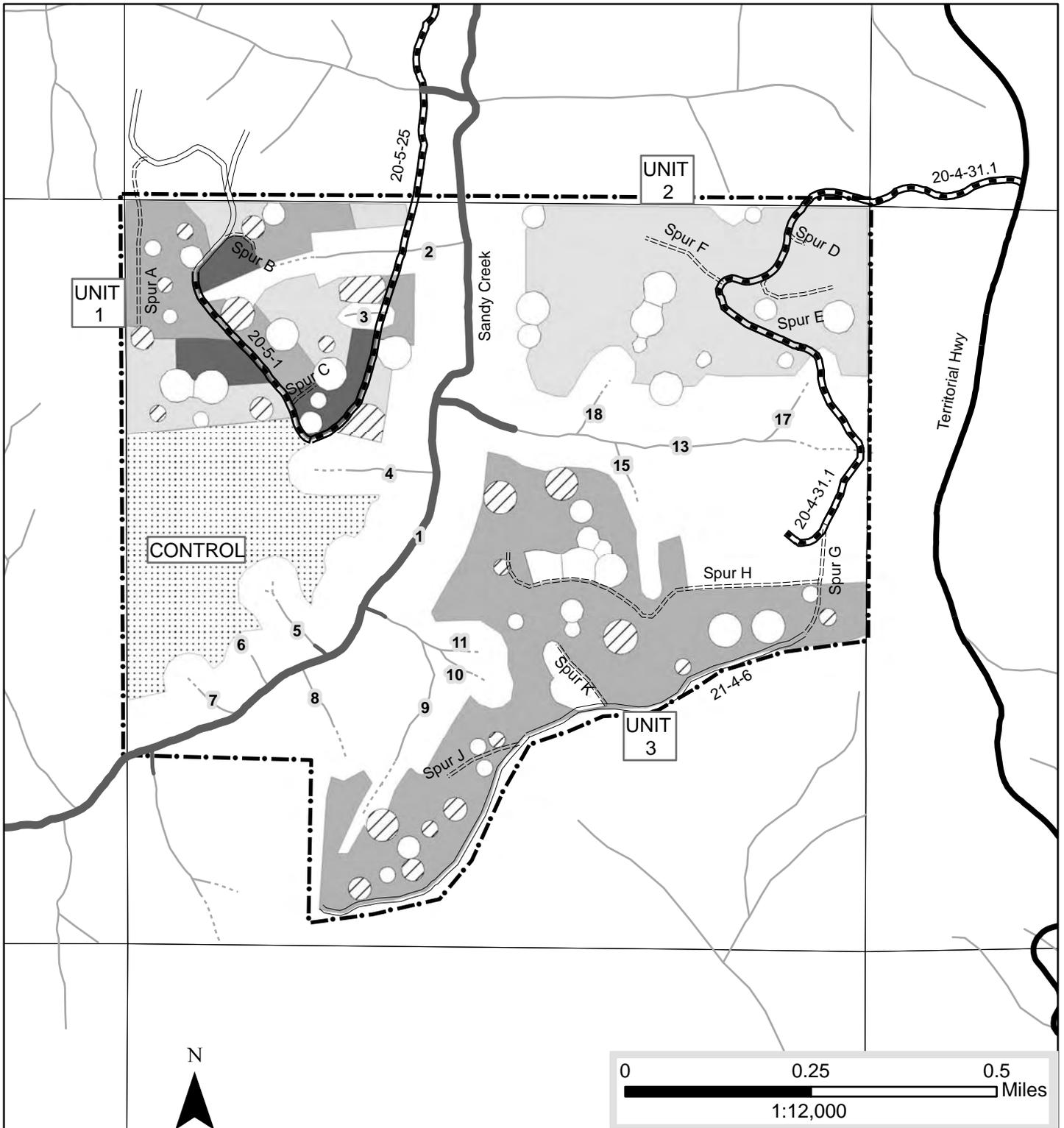
**S&Gs, pp. D-7, 8:**

“Monitoring and research, with careful experimental design, will be conducted in Adaptive Management Areas. Research in forest ecology and management as well as social, biological, and earth sciences may be conducted. Each Adaptive Management Area will have an interdisciplinary technical advisory panel that will provide advice to managers and the local communities involved with this effort. The technical advisory panels will provide advice and information on the appropriateness of the project.

Direction and review are provided by the Regional Interagency Executive Committee, through the Regional Ecosystem Office. This review will help assure that plans and projects developed for the various Adaptive Management Areas will be both scientifically and ecologically credible. It will assure that new, innovative approaches are used, that the laws and the goals of the plan are met, and that validation monitoring is incorporated.”

**S&Gs pp. E-17, 18:**

“The Research and Monitoring Committee will review and evaluate ongoing research; develop a research plan to address critical natural resource issues; address biological, social, economic, and adaptive management research topics; and develop and review scientifically credible, cost efficient monitoring plans; and facilitate scientific review of proposed changes to the standards and guidelines.”

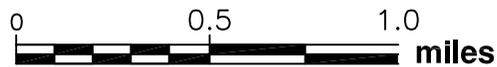
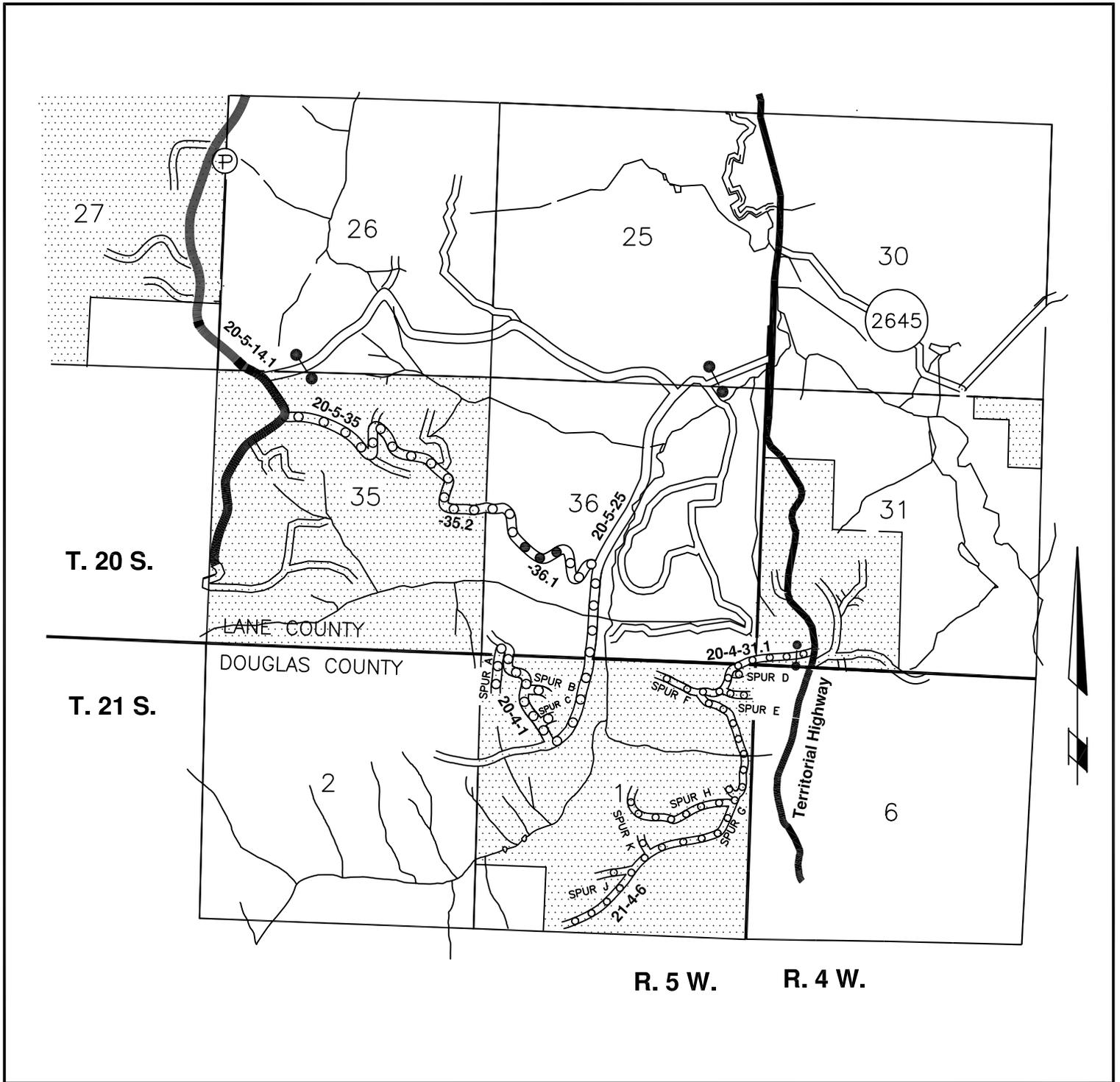


Department of the Interior  
 Bureau of Land Management  
 Bottomline Density Management  
 Alternatives A & B  
 T.21S, R.5W, Sec.1, Will. Mer.  
 Eugene District

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

**Legend**

- |                            |                  |                 |
|----------------------------|------------------|-----------------|
| — Streams                  | ▬ Rock Road      | ▫ Control       |
| - - - Intermittent Streams | ▬ Dirt Road      | ▫ Light Thin    |
| ▬ Coho Salmon Distribution | - - - Spur Roads | ▫ Moderate Thin |
| ▬ Fish Distribution        | ▨ Patch Opening  | ▫ Heavy Thin    |
| ▭ Project area             | ▭ Leave Island   |                 |



DEPARTMENT OF THE INTERIOR  
 Bureau of Land Management  
 Bottomline Density Management

Proposed Haul Route  
 Alternatives A and B

T. 21S, R. 5W, WILL. MER., EUGENE DISTRICT

10/30/2007

**Legend**

-  BLM-MANAGED LAND
-  STREAM
-  EXISTING GATE
-  HAUL ROUTE
-  NEW CONSTRUCTION
-  PAVED ROAD
-  OTHER ROADS

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
EUGENE DISTRICT OFFICE

Preliminary Finding of No Significant Impact  
for  
Bottomline Density Management Study

Determination:

On the basis of the information contained in the Environmental Assessment, and all other information available to me, it is my determination that implementation of the proposed action or alternatives will not have significant environmental impacts not already addressed in the Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (April 1994) and the Eugene District Record of Decision and Resource Management Plan (June, 1995), with which this EA is in conformance, and does not, in and of itself, constitute a major federal action having a significant effect on the human environment. Therefore, an environmental impact statement or a supplement to the existing environmental impact statement is not necessary and will not be prepared.

\_\_\_\_\_  
William Hatton  
Field Manager, Siuslaw Resource Area

\_\_\_\_\_  
Date: