

INTRODUCTION

The Environmental Assessment (EA) is a site specific analysis of potential environmental impacts that could result with the implementation of a proposed action. The EA assists the Agency in planning and in making a determination as to whether any "significant" impacts could result from proposed actions. This EA has been prepared for the Swiftwater Resource Area's proposed **HAPPY SUMMIT Density Management Harvest**. This proposal is in conformance with the *Roseburg District Record of Decision and Resources Management Plan* (RMP) dated June 2, 1995. This proposal is also in conformance with the *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* (FSEIS); otherwise known as the "Northwest Forest Plan" (NFP) dated Feb. 1994 and its associated *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (ROD) and *Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Related Species Within the Range of the Northern Spotted Owl* (S&G) dated April 13, 1994. The ROD establishes management direction consisting of ". . . extensive standards and guidelines including land allocations, that comprise a comprehensive ecosystem management strategy" (ROD pg. 1).

The project described in this EA will undergo formal public review. After the completion of public review a "Finding of No Significant Impact" (FONSI) would be signed as appropriate. A signed FONSI would find that no "significant" environmental impact (effect) would occur with the implementation of the proposed actions beyond those already addressed in the FSEIS when the project design features specified in this EA are followed. "Significance" has a strict National Environmental Protection Act (NEPA) definition and is found in regulation 40 CFR 1508.27. The FONSI documents the application of this definition of significance to the proposed action.

A Decision Document would be completed after public review to document the decision and reflect any changes as the result of public review, however, Forest Management Regulation 43 CFR 5003.2 states that "[w]hen a decision is made to conduct an advertised timber sale, the notice of such sale shall constitute the decision document." This notice would be placed in *The News Review* and constitute a decision document with authority to proceed with the proposed action.

I. PURPOSE OF AND NEED FOR ACTION

This section provides a general overview of the proposed action. Included are: the need for the action, a general description and background of the proposal, the issues to be analyzed, and issues eliminated from detailed analysis in this EA.

A. Need for Action

The ROD (pg. 8), the S&G (pg. C-12) and the RMP (pg. 29) permit silvicultural treatments within the Late-Successional Reserves (LSR) "... in stands up to 80 years if the treatments are

beneficial to the creation and maintenance of late-successional forest conditions." Additionally, the LSR Assessment for the Oregon Coast Province has prioritized areas for restoration treatments (LSRA, page 31-33). Since the Roseburg District, BLM manages only the southern most portion of this LSR, treatment opportunities were selected based on the opportunities available within the Roseburg District boundary. This particular project fell within the "Early Seral Link to Mature" category (LSRA, page 33 and Map 12) which would be the highest priority for LSR treatment within the Roseburg District boundary. The Swiftwater Resource Area proposes to accomplish this treatment by offering the **HAPPY SUMMIT Density Management Harvest** timber sale for auction in fiscal year 1998 or later to help meet those goals set out in the LSRA.

B. Description of the Proposal

The proposal is to harvest timber in the Smith River Watershed located in Sections 25, and 35; T20S R6W; and Sections 1, 11 and 12; T21S R6W; W.M. (see maps, Appendix A through C). The proposed project area is approximately 13 road miles north of Drain and 39 air miles north of Roseburg, Oregon. Approximately 500 acres were analyzed for potential Density Management activities. This project is within the Late-Successional Reserve Land Use Allocation (LUA) and is in a Key Watershed.

C. Background (Watershed Analysis)

The Happy Summit project occurs across three drainages: Sleezer Creek, Peterson Creek and Summit Creek. These drainages are within the Smith River Watershed Analysis Unit (WAU) which covers approximately 49,350 acres (77 square miles). This area is also covered by the Late Successional Reserve Assessment [LSRA] for the southern portion of the Oregon Coast province (RO267 and RO268), covering approximately 550,000 acres. The Watershed Analysis (WSA) for the Smith River Watershed and the "Late Successional Reserve Assessment Oregon Coast Province - Southern Portion" were used in this analysis and is available for public review at the Roseburg District office.

Within the Smith River Watershed 38% is privately owned. Current landscape patterns include natural stands that are the result of fire and managed stands established following timber harvest. Stand surveys suggest there are at least 6000 acres within the WAU that would benefit from thinning within the next 10 years. Within LSR RO267 there are over 30,000 acres with treatment potential (LSRA 1996, Table 6). Management triggers, criteria, and appropriate activities within LSR's have been listed in Table 7 page 42 of the LSRA.

For the Smith River Watershed, analysis of current forest inventories shows that of the 30,550 acres of Federal ownership, approximately 13,500 acres (44%) are late-successional forests (80 years or older). 3,600 acres (12%) are greater than 195 years (Old Growth). Because the Proposed Action Alternative in this EA proposes to thin timber stands that are 30 to 50 years of age there would be no change in the amount or percentage of late-successional type forests on Federal lands within the Smith River Watershed.

D. Objectives

1. **For the density management portion:**

Protect and enhance conditions of late-successional forest ecosystems, which serve as habitat for late-successional forest species. (LSRA Oregon Coast Province - Southern Portion, pg. 1).

2. **For riparian areas:**

"Apply silvicultural practices. . . to . . . acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives [RMP, pg. 25; S&G's, pg. C-32].

3. **For Key Watershed:**

Reduce existing road mileage and pursue watershed restoration projects to conserve watershed conditions for at-risk anadromous salmonids and resident fish species.

4. **Practice ecosystem management as outlined in the NFP and RMP:**

- avoid damage to riparian ecosystems and meet the objectives of the "Aquatic Conservation Strategy" (S&G, pg. B-11; RMP pg. 19)
- improve and/or maintain soil productivity (RMP pg. 35)
- "Maintain or enhance the fisheries potential of the streams . . . " (RMP pg. 40)
- protect, manage and conserve all special status and Supplemental Environmental Impact Statement special attention species habitat (RMP pg. 41)

E. Decisions to be Made to Meet Proposal Objectives

The Decision Maker (the Swiftwater Area Manager) will need to decide:

- if this analysis supports the signing of a FONSI.
- whether to go with the Proposed Action Alternative, modify the Proposed Action Alternative, choose another alternative, or accept the No Action Alternative.

F. Issues Considered but Eliminated from Detailed Analysis

The Interdisciplinary (ID) Team identified the following concerns during project design. They were eliminated from further analysis because: (1) project design features (PDF's) were included in the Proposed Action Alternative to lessen the anticipated environmental impacts of specific activities, or (2) the concern was not considered as a key issue warranting detailed analysis, or (3) the impacts are within the limits addressed in the ROD/RMP. Section II, paragraph C (pg. 5-7) provides a list of specific PDF's incorporated into the preferred alternative to deal with these issues. These issues are summarized in Appendix D ("Scoping Summary") and addressed the Specialist's Reports in Appendix F.

1. Botany

- a. Noxious weeds and introduction of non-native plants
- b. Special Status, Survey and Manage and Protection Buffer Plants

2. Hydrology
 - a. Road impacts to streams and peak flows
 - b. Bank stability in Unit 11A

3. Silviculture
 - Blowdown areas and *phellinus weirii* infection in Unit 11A

4. Soils
 - Soil compaction

5. Wildlife
 - Blue-gray Tail Dropper presence

"Critical Elements of the Human Environment" is a list of elements specified in BLM Handbook H-1790-1 that must be considered in all EA's. These are elements of the human environment subject to requirements specified in statute, regulation, or Executive Order. These elements are as follows:

1. Air Quality
2. Areas of Critical Environmental Concern (ACEC)
3. Cultural Resources
4. Environmental Justice
5. Farm Lands (prime or unique)
6. Floodplains
7. Native American Religious Concerns
8. Threatened or Endangered Species
9. Wastes, Hazardous or Solid
10. Water Quality, Drinking / Ground Water
11. Wetlands / Riparian Zones
12. Wild and Scenic Rivers
13. Wilderness

These resources or values (except item #8) were not identified as issues to be analyzed because: (1) the resource or value does not exist in the analysis area, (2) no site specific impacts were identified, or (3) the impacts were considered sufficiently mitigated through adherence to the S&G's therefore eliminating the element as an issue of concern. These issues are also briefly discussed in Appendix E ("Critical Elements of the Human Environment"). Item #8 is addressed in the Specialist's Reports (Appendix F) and through formal Endangered Species Act consultation with applicable Agencies.

G. Issues to be Analyzed

The ID Team identified the following concerns as having sufficient potential affect to warrant more detailed analysis and will be addressed in section IV, "Environmental Consequences" (pg. 9-11) as a key issue.

1. **Creation of Late-Successional Habitat (LSH)**
2. **Water Quality (Tier 1 Watershed)**

II. ALTERNATIVES INCLUDING THE PREFERRED ALTERNATIVE

This section describes the No Action and Proposed Action alternatives, and any alternatives considered but eliminated from detailed study. These alternatives represent a range of reasonable potential actions. This section also discusses specific design features that would be implemented under the action alternatives. All action alternatives were designed to be in conformance with the RMP.

A. The No Action Alternative

The No Action Alternative is required by NEPA to provide a baseline for the comparison of the alternatives. There would be no entry for the purpose of enhancing conditions of late-successional forest ecosystems and applying silvicultural practices to meet ACS objectives.

B. The Proposed Action Alternative

The IDT considered two action alternatives:

Alternative #1 - A combination of helicopter, cable and tractor yarding with temporary road construction and limited decommissioning.

Alternative #2 - The same as #1 except that there would be no tractor logging or temporary road construction. Full road decommissioning would be pursued. This alternative was designed to further reduce potential sources of stream sedimentation.

Features common to all action alternatives:

- 20' no cut buffer along all streams
- within 50-100' of Sleezer Creek some cut trees would be left to provide initial amounts of Course Woody Debris (CWD)
- variable buffer (~100') along streams in 11A as determined by the soil scientist and hydrologist
- 3% (13 ac.) of the project would be in 1/4 - 3/8ac. patch openings
- at least 10% (70 ac.) of the project would be in unthinned islands

Since this project is in LSR and in a Tier 1 watershed, the ID Team selected Alternative #2 as the "Proposed Action" Alternative. Implementation of the Proposed Action Alternative would result in the harvest of approximately 6.0 MMBF (million board feet) or 9,000 CCF (hundred cubic feet) of timber.

A small amount of additional timber could potentially be included as a modification to this project. These additions would be limited to removal of individual trees or small groups of trees that are blowndown, injured from logging, are a safety hazard, or are trees needed to facilitate the

proposed action (ex. removal of guyline and tailhold trees). In most cases these trees would be left on site as CWD and snags. Harvest activities would occur on five units for 386 acres of density management harvest. Other activities would include: road renovation and improvement, and road decommissioning.

Approximately 5.4 miles of government and private road would have **road renovation** (restoring the road back to its original design) and 0.3 miles would have **road improvement** (improving the road beyond its original design). This would consist of replacing and/or installing additional culverts, constructing additional turnouts, grading the road surface and cleaning ditches), roadside brushing and spot surfacing with crushed rock. **Full decommissioning** - "roads determined through an interdisciplinary process to have no future need . . ." (TMO, pg. 15) would be pursued on 0.6 miles of government road (see pg. 6, para. 1d).

Timber harvest would be a result of density management. **Density Management harvest** is designed to reduce the stocking of the forest stand in order that the growth of the remaining trees would be accelerated. This would accelerate the attainment of old growth forest characteristics by encouraging the development of larger trees more quickly.

The proposed action would require a mix of skyline cable logging (approximately 143 acres or 37%) and helicopter logging (approximately 243 acres or 63%). Existing roads would be used for helicopter landing locations. Constructed landings would be a maximum of one-quarter acre in size. **Firewood cutting and salvaging** of logging debris (slash) could occur in landing cull decks. The firewood permit would address specific stipulations.

The **prescribed burning of slash** of landing cull decks could occur as a means of reducing fire hazard.

C. Project Design Features as part of the Proposed Action

This section describes the project design features (PDF's) which would be incorporated in the implementation of the action alternatives. PDF's are site specific measures, restrictions, requirements or structures included in the design of a project to reduce adverse environmental impacts. These are listed in the RMP (Appendix D, pg. 129) as "Best Management Practices" (BMP's) and in the ROD as "Standards and Guidelines" (S&G's). BMP's are measures designed to protect water quality and soil productivity. S&G's are "... the rules and limits governing actions, and the principles specifying the environmental conditions or levels to be achieved and maintained." (S&G, pg. A-6). The proposed action includes the following PDF's :

1. **To meet the objectives of the "Aquatic Conservation Strategy" and protect the riparian areas:**

- a. Stream bank stability would be maintained by reserving all trees within a no-cut buffer of 20 ft. along all stream channels. A 20 - 100+ ft. (variable) no-cut buffer would be maintained along the streams in Unit 11A where site specific conditions require additional protection

(Soils Report, pg. 4; Appendix F). Riparian habitat would be protected from logging damage by directionally felling trees designated for harvest within 100' of streams and yarding logs away from or parallel to the streams (i.e. logs would not be cable yarded across streams).

b. Silvicultural practices (thinning) would be applied within the riparian area's "to control stocking . . . and acquire vegetation characteristics needed to attain Aquatic Conservation Strategy objectives" (RMP pg. 25). The objective is to accelerate tree growth to promote larger trees and canopies, and provide a future source of large woody debris for stream structure.

c. Some trees greater than 12 inches in diameter and within the riparian area of Sleezer Creek would be directionally felled toward the stream and left to serve as interim large woody debris. These trees should produce both a short-term and long-term benefit to the riparian condition.

d. Road # 20-6-36.0 segment A (portion) and 21-6-14.1 segment A (portion) would receive **full decommissioning** (i.e. hydrologic obliteration - cross drains removed, stream channels and unstable areas restored, roadbed subsoiled, water barred, and mulched and seeded with native or sterile hybrid seed mix (if available) and the road blocked to prevent access. NOTE: Roads under private control or government roads covered under a reciprocal right of way agreement cannot be unilaterally decommissioned. Any private party with existing rights must also agree to the proposed decommissioning.

2. **To minimize the loss of soil productivity (i.e. reducing soil compaction, limiting erosion, protecting the duff layer and protecting slope stability):**

a. **Permanent roads** (Road No. 20-6-25.1, 35.0 and 36.0 and 21-6-1.0 and 14.1) would have existing culverts maintained and additional culverts added, drainage and erosion problems fixed and the road surfaced with crushed rock to reduce sedimentation. Road renovation and log hauling on unsurfaced roads would be limited to the dry season (normally May 15 to Oct. 15), however, operations would be suspended during periods of heavy precipitation. This season could be adjusted if conditions are such that no environmental damage would occur (ex. the dry season extending beyond Oct. 15).

b. **Skyline yarding** would be required where cable logging is specified. This method limits ground disturbance by requiring partial suspension during yarding (i.e., the use of a logging system that "suspends" the front end of the log during in-haul to the landing, thereby lessening the "plowing" action that disturbs the soil). In some limited, isolated areas partial suspension may not be physically possible due to terrain or lateral yarding. Excessive soil furrowing would be hand waterbarred. Dry season logging would be required in Unit 25A and the eastern part of Unit 35A. **Helicopter yarding** would be done in areas where road access is inadequate for cable yarding. Logs would be lifted vertically off the ground and flown to landing areas on existing roads.

c. All trees would be retained in several areas identified by the soil scientist in Unit 11A. These areas have some stability concerns but not enough to warrant reserve status. The added root strength of the extra trees would help maintain stability.

3. To provide wildlife legacies:

a. Future nesting and roosting habitat for **cavity dwellers** would be provided by reserving most existing hard or soft snags. Note: Any snag deemed as hazardous to worker safety could be felled at the discretion of the operator and the Sales Administrator. Such trees would be reserved and left in place as CWD.

b. Existing CWD would be reserved for the habitat of organisms that require this ecological niche (S&G, C-40, para. B). The LSRA suggests that the existing level of CWD be evaluated (LSRA, pg. 64) and a prescription alternative be selected. This was done (See Silviculture Report, May 5, 1998; Appendix F) and alternative #3 (Grow Large Diameter Trees for Inclusion as CWD in the Future) was selected. This alternative (LSRA, pg. 68) requires a range of 525-2844 cu. ft./ac. of CWD short-term. Analysis of inventory plots suggest an expected current level of 940 cu. ft./ac. with a predicted level of over 2,000 cu. ft./ac. in 70 years.

4. To protect air quality:

Any burning of landing piles would be conducted under the requirements of the Oregon Smoke Management Plan and done in a manner consistent with the requirements of the Federal Clean Air Act. The federal Clean Air Act is designed to reduce air pollution, protect human health and preserve the Nation's air resources. The Oregon Department of Environmental Quality is responsible for implementing the Federal Clean Air Act, and the resulting Oregon Smoke Management Plan that requires the Oregon State Department of Forestry to manage the amount of smoke released into the airshed as the result of slash and field burning.

5. To protect and enhance stand diversity:

a. All Pacific yew trees would be reserved.

b. Most hardwoods and unmerchantable understory trees would be retained.

c. All tree species currently represented in the stand would continue to be represented in the stand after the harvest. All mature and old growth, remnant trees would be retained as well as defective and deformed trees that could provide future snags and nesting habitat.

d. Snags and CWD would be reserved as described in paragraph three above.

e. The patch openings would be planted with hemlock and western redcedar.

6. To prevent and report accidental spills of petroleum products or other hazardous materials:

Hazardous materials (particularly petroleum products) would be stored in durable containers and located so that any accidental spill would be contained and not drain into riparian areas. All landing trash and logging materials would be removed. Accidental spills or discovery of disposal of hazardous materials would be reported to the Sale Administrator and the procedures outlined in the “Roseburg District Hazardous Materials (HAZMAT) Emergency Response Contingency Plan” would be followed.

7. To prevent the spread of noxious weeds:

Stipulations would be incorporated into the logging contract to prevent and/or control the spread of noxious weeds.

8. To protect the residual stand and promote stand health:

a. As much as possible, trees that would most likely survive logging and overall improve the stand condition and health would be selected for retention.

b. No falling and yarding would be permitted in the cable areas from April 15 through July 15 when the sap is up in the trees and damage due to bark slippage could occur. If the Sales Administrator determines that, based on local conditions, excessive damage would not occur this date could be adjusted.

c. Yarder size would be limited to match the size of the yarder to the size of the timber in order to minimize damage from an overly large yarder.

9. To protect the Port Orford cedar from introduction of Port Orford cedar root disease:

No Port Orford cedar would be marked for retention within 25' on both sides of the main Sleezer Cr. road, and 50' below the road where streams or culverts cross the road.

D. Alternatives Considered but Eliminated

There were no other alternatives considered by the ID Team during the formulation of this project. A single unit (1A) was dropped because the stand age was greater than 80 years and already showing diversity therefore was not appropriate for treatment.

III. AFFECTED ENVIRONMENT

This section describes the existing environment and forms a baseline for comparison of the effects created by the alternatives under consideration. Appendix F (Analysis File) contains Specialist's Reports with supporting information for this analysis.

This project lies within the Oregon Coast Range Physiographic Province. The affected environment for this province is described in the FSEIS on page 3&4-21.

A. Stand Description

All of the stands originated following logging. It is not known if slash burning occurred, or if these stands were planted, seeded, or allowed to naturally regenerate. Some of the stands have been precommercially thinned and fertilized. The density and distribution of overstory conifers is fairly uniform, and breast height ages of dominant trees range from 30 to 55 years. The range of age suggests that some conifer regeneration existed prior to logging and survived to become part of the current stand. There are also some scattered, large, old conifers that were left following logging. This is confined mostly to unit 25A.

Conifer regeneration in the understory is sparse. CWD exists as old logs left following logging and recently uprooted trees. Some of the large old trees have died and are still standing, and small snags are also present. The predominant conifer species is Douglas-fir. Incense-cedar, western red cedar and western hemlock are common associates. Plot data indicates 81% Douglas-fir, 3% western hemlock, 15% cedar and 1% hardwood. Port Orford cedar was planted in section 12 along Sleezer Creek in 1943 and is now mostly suppressed by the Douglas-fir. Hardwoods include madrone, chinkapin, big leaf maple, dogwood, red alder and Pacific serviceberry. The most prevalent understory shrubs are vine maple and ocean spray. Swordfern, salal and Oregon grape are common on the forest floor. Many of the hardwoods are being shaded out, but occasionally a large hardwood can be found in a dominant canopy position. Laminated root rot (*Phellinus wierii*) is a common forest disease in this area, and is a concern when management objectives are negatively affected.

B. General Site Description

The **topography** alternates between relatively gentle (mainly 10 to 15%) and dominantly steep (60 - 90%) slopes at breaks created by the major ridge lines and streams. The relatively gentle slopes tend to be benchy and periodically broken by scarps which are short and steep and dissected by side drainages which are not deeply incised. The steep slopes tend to have deeply incised side drainages. The inner gorges of some drainages have slopes in excess of 90 percent. Nearly all of Units 12A and 35A are on benchy topography. Approximately 45 percent of Unit 11A and 15 percent of Unit 25A are on steep topography. The proposed units have a variety of aspects. Elevation within the proposed project area ranges from about 800 to 1500 feet above sea level.

The **climate** is mediterranean, characterized by cool and mild winters and relatively dry summers. Precipitation in the form of rain averages about 50 inches a year and occurs mostly in the winter. Temperatures average 70 degrees F in the summer and 40 degrees F in the winter.

Soils are developed from a sandstone, siltstone parent material of the Tyee-Elkton formation, and range from shallow to very deep. Moderately deep-shallow soil complexes and occasional rock outcrops are dominant features on slopes exceeding 60 percent. Dominant soil textures are loamy-skeletal and clayey with the former concentrated on the steeper slopes. The skid trails from previous logging show a fair amount of recovery with light to moderate residual compaction and granular surface soil structure development. (see Soil's Report, Appendix F).

C. Affected Resources

Botanical - There have been no Special Status Plants (SSP) observed in any of the proposed units to date. Six Survey and Manage or Protection Buffer species were observed in the project area.

Cultural Resources - No known cultural resources exist in the project area.

Fisheries - The proposed project is in the Sleezer Creek, Peterson Creek, and Summit Creek drainages, all of which are tributaries to the Smith River. Smith River is a key (Tier 1) watershed, and by definition crucial for maintaining and recovering habitat for at-risk fish stocks (ROD, B-18). All of the units are either adjacent to or contain fish bearing streams (see Analysis File). All three streams have been surveyed for habitat using ODF&W protocol, and all three have documented degraded habitat conditions. In addition, Smith River was listed by DEQ as water quality limited. The riparian stands in the project area are varied. Some stands contain remnant large trees, while others are dominated by 12-16 inch DBH trees. The streams have fair amounts of large woody debris, both from past logging debris and self thinning of the stands. The streams, including the fish bearing streams, are generally small.

Hydrology - The streams within and/or adjacent to units are predominantly 1st and 2nd order streams. Perennial stream reaches are located within units 11A and 12A. Unit 11A, in particular, has a high drainage density with steep streambanks that have contributed sediment to stream reaches in some areas. Perennial streams are important to the aquatic environment and other wildlife, especially during low-flow periods in the summer. Streams in Unit 11A were heavily impacted by tractor logging approximately 50 years ago. Stream crossings were filled with soil and logs for logging access. The riparian function is improving and the stream channels are reaching equilibrium within adjacent valley slopes. The beneficial uses are predominantly the downstream fisheries and aquatic life, wildlife, irrigation, and livestock watering. There is a domestic water right in T20S R06W Section 34 in the NW 1/4 of SE 1/4, but would not be affected by BLM forest management activities. *Oregon's 1996 List of Water Quality Limited Streams* under Section 303d of the Clean Water Act identified Smith River (mouth to headwaters) being water quality limited for temperature.

Wildlife - The proposed density management action occurs in the Upper Smith subwatershed of the Coast Range Area of Concern. The proposed action also occurs within Critical Habitat for the northern spotted owl (NSO) and marbled murrelet. Approximately 390 acres of the proposed project area are within 1.5 miles of the seven NSO sites and approximately 1805 acres of dispersal habitat (40-79 years old) are within 1.5 miles of the seven NSO sites. There are no NSO core areas within 0.25 miles. Habitat is typical of the Western hemlock/Douglas-fir/salal plant association. The Upper Smith watershed exceeds the specifications listed in the red tree vole survey protocol (BLM - Instruction Memorandum No. OR-97-009) which would require red tree vole surveys, therefore surveys were not required.

IV. ENVIRONMENTAL CONSEQUENCES

This section forms the scientific and analytical basis for the comparisons of the alternatives. The probable consequences (impacts, effects) each alternative would have on selected resources are described. This section is organized by the alternatives and the effects on resources by the key issues identified in section I paragraph G as well as the direct, indirect and cumulative impacts on the other resource values. The environmental consequences for these resources are more fully analyzed in Appendix F (Analysis File). This Appendix contains Specialist's Reports and the supporting information for this analysis. NOTE: A detailed analysis "Compliance with Aquatic Conservation Strategy Objectives" is contained in the Analysis File (Appendix F).

No irreversible or irretrievable commitment of resources, other than fossil fuels, would result in either of the alternatives.

A. No Action Alternative:

Changes in stand structure and species composition would result from natural processes including growth and competition for growing space, fire, disease and insects. The area would naturally regenerate following disturbance events. These stands would continue to develop under competitive stress for some time. Stand health would be negatively affected and the risk of damage from blow down, insects and disease, and fire would be increased. The time required to develop effective old growth habitat may be increased.

Botanical - No change to the existing condition.

Fisheries - The riparian vegetation would continue to self thin and slowly add woody debris to the stream channels. The existing shade would be maintained, thereby maintaining stream temperatures.

Hydrology (Key Issue - Water Quality) - No ground disturbance would occur that would directly, indirectly, or cumulatively effect the current sediment or stream temperature regimes in the riparian areas. The streams in Unit 11A would continue to naturally erode streambanks to re-establish their natural meander and stream gradient, and effectively reach an equilibrium. Streams within the other units appear stable. Trees within riparian areas would continue to slowly self-thin themselves, and contribute coarse woody debris over time. Stream-side shade along perennial streams would maintain the current stream temperature regime.

Soils (Key Issue - Water Quality) - Short-term erosion and sedimentation would be less than the action alternatives but greater, with respect to roads, in the long-term. Under the no action alternative there is a higher risk for a stream crossing culvert failure in the future.

Wildlife (Key Issue - Creation of LSH) - There would be no direct impacts to wildlife or late-successional habitat. The continuing existence and use of roads would be a source of sedimentation, and therefore degradation, to stream dependant amphibians requiring stream cracks and crevices for habitat (Bury, Corn and Stephen, 1988). The trees would continue to contribute to dispersal habitat. The time required to develop roosting and foraging habitat would exceed that of the action alternatives. The current tree stocking rates are likely to be higher than a natural seeding, therefore growth rates would be slower. The lack of diversity in tree diameters would continue. The attainment of late-successional habitat would be delayed. Crown closure would continue to close and further reduce light penetration to the forest floor and reduce understory diversity until natural disturbances create openings.

B. Action Alternatives:

The following paragraph discusses the direct impacts (i.e. impacts caused by the action at the same time and place) and indirect impacts (i.e. impacts caused by the action but occur later in time and farther removed in distance) of the Proposed Action.

Botanical - Short-term impacts to non-vascular plant habitat, including lower humidity levels, higher temperatures, and greater rates of desiccation resulting from elevated wind speeds and direct sunlight, would likely occur, however the level of impact would be unquantifiable. Long-term impacts to vascular and non-vascular plants would likely be positive, by creating more diverse habitat.

Fisheries - Both alternatives have variable width no cut buffers on all streams to protect the stream banks and maintain stream temperatures. Trees within 50 feet of Sleezer Creek that are greater than 12 inches in diameter would be directionally felled toward the stream and left to serve as interim large woody debris in some of the riparian areas. These trees would not be yarded and this should produce both a short term and long term benefit to the riparian condition. The riparian treatments described above should protect and maintain certain habitat forming mechanisms that are important to fish.

Hydrology (Key Issue - Water Quality) - The greatest potential direct and indirect impact would be from short-term sedimentation due to road renovation, decommissioning and localized soil disturbances. Any sediment effects would be most noticeable during the proposed action, but would not adversely effect the on-site or downstream beneficial uses (identified above) either directly or indirectly.

Soils (Key Issue - Water Quality) - The greatest direct impacts (both positive and negative) would be from the upgrading of roads, new road construction (Alternative #1) and road usage during harvesting and yarding. Some degree of erosion and sedimentation can be expected during construction and harvest operations due to occasional storm activity during the dry season. Erosion and sedimentation would be slightly less for Alternative #2 due to the fact that the

temporary spur in Unit 25A would not be built and helicopter yarding would be substituted for cable in about 70 percent of the eastern part of Unit 35A and the eastern part of Unit 25A. Some sediment escape would be anticipated at helicopter landings. The upgrading of roads would improve existing erosion and sedimentation problems and benefit the watershed.

Indirect Impacts would include the potential for shallow translational failures primarily in the areas classified as fragile slopes in Unit 11A (about 45 percent of the unit area), Unit 25A (about 10 percent of the unit area) and Unit 35A (about 3 percent of the unit area). Utilizing Best Management Practices and developed mitigation would reduce the probability of a landslide being caused by thinning on these slopes to a moderately low range overall, therefore the probability of mass failure would not be significant.

Wildlife (Key Issue - Creation of LSH) - Reducing the artificially high tree density would accelerate the production of late-successional habitat characteristics, such as larger diameter and fuller crown trees, and larger down wood. The retention of hardwoods would maintain tree species diversity. The creation of small openings and planting with trees other than douglas fir, and allowing other small openings to regenerate naturally would increase the plant species and structural diversity of the ecosystem.

Direct impacts would consist of short-term negative impacts on some Special Status Species through the removal of trees and altering existing subcanopy microclimate conditions by increasing the extremity of the environmental conditions (i.e. temperature, humidity). The proposed action would reduce the quality of the dispersal habitat for spotted owls in the short term by modifying approximately 400 acres. The modified habitat would affect seven owl sites but would not remove any suitable spotted owl nesting habitat. No marbled murrelet suitable habitat would be removed. Removal of trees would reduce the number of trees available for nesting of red tree voles, however, the most suitable second growth trees for nesting would be retained, and all of the older residual trees would be left.

The indirect impacts consists of the removal of the smaller trees that would temporarily open the crown closure. During this time, there would be an increase forb and brush growth, benefiting species that utilize these for cover, feeding, and nesting (small mammals, deer and elk, resident and neotropical birds). Proposed temporary road construction and tractor logging (Alternative #1) would temporarily disturb ground vegetation used for forage, cover, and nesting by small mammals, resident and neotropical bird, deer and elk. The ground disturbance might also temporarily be a point source contributing sedimentation to red-legged frog and Southern Torrent's salamander stream habitat.

C. Cumulative Impacts Analysis

The following paragraph discusses the cumulative impacts (i.e. the incremental impacts of the action when added to other past, present and foreseeable future actions).

Botanical - Habitat for non-vascular plants would likely increase in the long term because of the anticipated creation of late-successional forest conditions. Cumulative impacts to vascular and non-vascular plants cannot be assessed due to lack of inventory data, but is likely to be positive by creating aq more diverse habitat.

Fisheries - The National Marine Fisheries Service (NMFS) Biological Opinion (March 18, 1997) on the RMP concluded that “[g]radual improvements in habitat conditions for salmonids are expected on these lands as a result of LRMP [Lands and Resource Management Plan] and RMP implementation.”

Hydrology (Key Issue - Water Quality) - The project would cause small, short-term erosion and sedimentation to the Upper Smith River Watershed; however, decommissioning and obliterating roads would have a small positive net effect in restoring the hydrologic function to this watershed. After decommissioning and obliteration operations, the hydrologic function would show a small gain. Promoting tree growth would produce large wood for stream structure recruitment more quickly than would occur naturally.

Soils (Key Issue - Water Quality) - Landslide activity in the upper Smith River watershed accelerated with road construction and timber harvesting. The cumulative effects of past management on water quality and stream structure, especially when combined with erosion and sedimentation, has likely been significant on a watershed scale. The risk that a management induced landslide would occur is considered not significant. The number of these landslides which do occur and contribute to cumulative impacts to streams would likely range from none to a few.

Wildlife (Key Issue - Creation of LSH) - There would be negligible negative cumulative impacts to wildlife. The Proposed Action would result in long-term production of larger trees and stands with old-growth characteristics and development of larger contiguous blocks of late seral stage habitat benefitting most wildlife species of concern more quickly than would occur naturally. Additional road decommissioning, no road construction and no tractor logging (alt. #2), would reduce road sedimentation to streams used by amphibian species (red-legged frog and Southern Torrent’s salamander).

V. CONTACTS, CONSULTATIONS, AND PREPARERS

A. Agencies, Organizations, and Persons Consulted

The Agency is required by law to consult with the following federal and state agencies (40 CFR 1502.25):

1. **Threatened and Endangered Species Section 7 Consultation** - The Endangered Species Act of 1973 (ESA) requires consultation to ensure that any action that an Agency authorizes, funds or carries out is not likely to jeopardize the existence of any listed species or destroy or adversely modify critical habitat. A Biological Opinion (BO) was received from the **US Fish**

and Wildlife Service (USF&WS) on February 13, 1998. The BO concluded the proposed action is ". . . not likely to jeopardize the continued existence of the bald eagle, white-tailed deer, spotted owl or murrelet or adversely modify designated critical habitat for spotted owl or murrelets" and an "Incidental Take Statement" was issued. "Incidental Take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency . . ." (BO, pg. 39). The USF&WS has stipulated terms and conditions for the Incidental Take having to do with seasonal restrictions for the Northern spotted owl and the Marbled murrelet. The BLM - Roseburg's Biological Assessment for Endangered Species consultation has been submitted to the **National Marine Fisheries Service** (NMFS). The Biological Assessment was a "may affect" for coastal cutthroat trout and coho salmon. A BO has not been received from the NMFS.

2. **Cultural Resources Section 106 Consultation** - Consultation as required under section 106 of the National Historic Preservation Act with the **State Historical Preservation Office** (SHPO) was completed on October 29, 1996 with a "No Effect" determination.

B. Public Notification

1. **Notification** was provided to affected **Tribal Governments** (Confederated Tribes of the Coos, Lower Umpqua and Siuslaw; Grande Ronde; Siletz; and the Cow Creek Band of Umpqua Indians). No comments were received. A letter was sent to an **adjacent landowner**. No comments were received.

2. This project was included in the Roseburg District Planning Update (Winter 1996-1997) going to over 200 addressees for **public scoping**. Comments were received from Francis Eatherington representing Umpqua Watersheds, Inc. (see Appendix D - Scoping Comments).

3. A 30-day **public comment period** will be established for review of this EA. A "Notice Of Availability" will be published in the Roseburg News Review. This EA and its associated documents will be sent to all parties who request them. If the decision is made to implement this project, a notice will be published in the Roseburg News Review. Notification will also be provided to certain State, County and local governments (See Appendix G - Public Contact).

C. List of Preparers

Lyle Andrews	Engineering Lead
Elijah Waters	Fisheries
Isaac Barner	Cultural Resources
Steve Weber	Presale Forester
Bruce Baumann	Layout Forester
Joe Witt	Project Lead
Kevin Cleary	Fuels Management
Dan Couch	Watershed Analysis
Dan Cressy	Soils
Tom Doss	Project Engineer
Dave Erickson	Recreation / VRM
Al James	Silviculture
Fred Larew	Lands
Jim Luse	EA Coordinator / EA Preparer
Evan Olson	Botany
Marlin Pose	Wildlife
Ed Rumbold	Hydrology

References Cited

- Biological Opinion and Conference Opinion - Implementation of Land Management Plans (USFS) and Resource Management Plans (BLM) (NMFS, March 18, 1997)
- BLM - Instruction Memorandum No.OR-97-009, "Interim Guidance for Survey and Manage Component 2 Species: Red Tree Vole", Nov. 4, 1996
- ESA Section 7 Consultation on FY98 Timber Sales on the Roseburg BLM District, Umpqua River Basin (NMFS, September 26, 1997)
- 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 (FSEIS) (Feb. 1994)
- Late Successional Reserve Assessment Oregon Coast Province - Southern Portion (RO267, RO268) (Oct. 1996)
- Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (ROD) and Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Related Species Within the Range of the Northern Spotted Owl (S&G) (April 13, 1994)
- Roseburg District Hazardous Materials (HAZMAT) Emergency Response Contingency Plan (FY 1998)
- Roseburg District Record of Decision and Resources Management Plan (RMP) (June 2, 1995)
- Smith River Watershed Analysis (October 31, 1995)
- Western Oregon Transportation Management Plan (BLM - Oregon State Office, June 1996)
- Other references as cited in the individual Specialist's Reports (Appendix F - Analysis File)