

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 Field Office's proposed **DIAMONDBACK Regeneration Harvest**. This proposal is in conformance with the *Final - Roseburg District Proposed Resources Management Plan / Environmental Impact Statement (PRMP/EIS)* dated October 1994 and its associated *Roseburg District Record of Decision and Resources Management Plan (RMP)* dated June 2, 1995. The RMP is supported by and consistent 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's)* 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 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 FSEIS and the RMP respond to dual needs: ". . . the need for a healthy forest ecosystem with habitat that will support populations of native species and includes protection for riparian areas and waters . . . and the need for a sustainable supply of timber and other forest products that will help maintain the stability of local and regional economies . . ." (RMP pg. 15). The Swiftwater Resource Area proposes to offer the **DIAMONDBACK Regeneration Harvest** for auction in fiscal year 1999 or later. This proposal would help meet the Swiftwater Resource Area's annual harvest commitment or probable sale quantity (PSQ) as well as restore certain watershed values.

B. Description of the Proposal

The proposal is to harvest timber in the Elk Creek and Upper Umpqua Analytical Watersheds located in Sections 9 and 17; T. 24 S., R. 6 W., W.M. (see maps, Appendix A through C). The proposed project area is approximately 11 road miles northwest of Sutherlin and 10 air miles north northwest of Roseburg, Oregon. Approximately 120 acres were analyzed for potential harvest activities. This project is within the Matrix Land Use Allocation in what the RMP classifies as the "General Forest Management Area" (GFMA); i.e. lands available for timber harvest. The Matrix land allocation is one of the seven allocations specified in the ROD. "Stands in the matrix can be managed for timber and other commodity production, and to perform an important role in maintaining biodiversity" (S&G, pg. B-6) by providing for biological legacies (snags, large woody debris and retention trees) that bridge past and future forests. New road construction and renovation or improvement of existing roads would also occur. Section II (pg. 4) of this EA provides a more detailed description of the Proposed Action Alternative. This project is not in a Key Watershed.

C. Background (Watershed Analysis)

The Diamondback Regeneration Harvest project occurs within the Upper Umpqua Watershed. All units, except unit 17A, are located in the Yellow Creek drainage. Unit 17A is located in the Lost Canyon drainage. This project was designed to harvest only on matrix lands and not enter the Riparian Reserves. The Elkton-Umpqua Watershed Analysis (WA), completed in June 1998, and the Upper Umpqua 5th Field Watershed Second Iteration, completed in August 1998, were used in this analysis. The Upper Umpqua Watershed covers approximately 169,476 acres (265 square miles). 57,371 acres are in Federal ownership (34% of the watershed). Current landscape patterns include natural stands that are the result of fire, managed stands established following timber harvest, and non-forested agricultural and pasture lands.

The ROD requires that late-successional forests be retained in watersheds that comprise 15% or less late-successional forests on federal lands in fifth field watersheds, i.e., watersheds between 20 and 200 square miles (ROD, pg. C-44). Any timber stands greater than approximately 80 years of age are considered late-successional habitat (ROD, pg. B-2). For the Upper Umpqua Watershed, analysis of current forest inventories shows that of the 57,371 acres of Federal ownership, approximately 31,738 acres (55%) are late-successional forests (80 years or older).

Within the watershed approximately 8,965 acres (16%) is within the Matrix Land Use Allocation. Approximately 2,963 acres have timber stands that are 80 years or greater and thus available for regeneration harvests. The project as proposed would remove approximately 105 acres of these stands from within the watershed.

D. Objectives

1. For the Matrix portion:
"Produce a sustainable supply of timber and other forest commodities " (RMP pg. 33) and meet District PSQ goals.
2. Implement ecosystem management as outlined in the ROD and RMP.
 - avoid damage to riparian ecosystems and meet the objectives of the "Aquatic Conservation Strategy" (S&G, pg. B-11; RMP pg. 19)
 - "Provide habitat for a variety of organisms associated with both late successional and younger forests." (RMP pg. 33)
 - maintain "ecologically valuable structural components such as down logs, snags and large trees" (RMP pg. 33)
 - 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

1. 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, or accept the No Action Alternative.
2. Consultation with the National Marine Fisheries Service (NMFS) will need to be completed for the Cutthroat trout and Coho salmon. This project may have to be altered as the result of consultation (see Section V, para. A).

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 D (pg. 5) 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. *Buxbaumia viridis* (a protection buffer species) in Unit 9A and 17A
 - b. Potential *Buxbaumia viridis* in the southeast corner of Unit 17C as well as two C-3 fungi (strategy 3&4 - *Hydnum repandum* and *Gyromitra infula*) found in the same area
 - c. The southeast corner of Unit 17B is good fungi habitat
2. Fisheries

Cumulative effects to fish habitat
3. Hydrology

Small wet areas in the west corner of 17A and southwest corner of Unit 17D
4. Silviculture

Advanced regeneration on the west half of Unit 17A
5. Soils
 - a. Potential slope stability problem in south center of unit 17A
 - b. Area of slope instability in Unit 17B
 - c. Unit 17C has areas of potential ground lead
6. Wildlife
 - a. Red Tree voles
 - b. Potential golden eagle's nest northwest of unit 17A

"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. Floodplain
7. Native American Religious Concerns
8. Threatened or Endangered Species
9. Wastes, Hazardous or Solid
10. Water Quality, Drinking / Ground
11. Wetlands / Riparian Zones
12. Wild and Scenic Rivers
13. Wilderness

These resources or values 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).

G. Issues to be Analyzed

The ID Team identified the following concern as having sufficient potential affect to warrant more detailed analysis and will be addressed in section IV, "Environmental Consequences" (pg. 10) as a key issue.

Potential Impacts to Nonvascular Plants

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 ROD and RMP.

A. The No Action Alternative

The No Action Alternative is required by NEPA to provide a baseline for the comparison of the alternatives. This alternative represents the existing condition. If this alternative were selected there would be no harvesting of timber within the bounds of the project area. Harvest would, however, occur at another location within Matrix lands in order to meet harvest commitments. Selection of this alternative would not constitute a decision to reallocate lands to non-commodity uses. Future harvesting in this area would not be precluded and could be analyzed under a subsequent EA.

B. The Proposed Action Alternative

Implementation of the Proposed Action Alternative would result in the harvest of approximately 4.2 MMBF (million board feet) or 6270 CCF (hundred cubic feet) of the Swiftwater Resource Area's FY 1997 harvest commitment of 22.0 MMBF. 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 blowdown, injured from logging, or which are a safety hazard, and 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 coarse woody debris (CWD) and snags. Harvest activities would occur on five units for 97 acres of regeneration and one acre of road right-of-way clearcut. Other activities would include: temporary road construction, road renovation and improvement, subsoiling of previously compacted skid trails, road decommissioning, site preparation with fire (slash burning) and

replanting with young seedlings.

Temporary **road construction** would occur on approximately 0.1 mile of public land. Approximately 7.7 miles of public and private road would have **road renovation** (restoring the road back to its original design) and approximately 0.3 miles of public road would have **improvement** (improving the road beyond its original design). Approximately 0.05 mile of public road would have **full decommissioning** - "roads determined through an interdisciplinary process to have no future need . . ." (Transportation Management Plan [TMO], pg. 15).

Timber harvest would consist of regeneration harvest. Regeneration harvest is designed to open the forest canopy to allow the re-establishment of a new forest stand with early seral stage vegetation (even-aged). The technique of modified even aged management and reserve seed tree harvest (RMP, pg. 150) would be used. The traditional silvicultural system is modified to include biological legacies. This legacy consists of retaining a remnant of older aged, large (>20") green trees and snags (reserve trees), and coarse woody debris (CWD). CWD consists of trees, or portions of trees, that have fallen or have been cut and left in the unit for present and future wildlife habitat components (RMP, pg. 146) and to maintain site productivity.

The proposed action would require a mix of skyline cable logging, approximately 66 acres or 68%; helicopter logging, approximately 11 acres or 11%; and ground based (tractor) logging, approximately 20 acres or 21%. Helicopter landing locations are expected to be a minimum of one-half acre in size and no larger than one acre. **Firewood cutting and salvaging** of logging debris (slash) could occur in landing cull decks. The permit would address specific stipulations.

Subsoiling would occur on previously compacted skid trails as well as any new trails that would be needed.

The **prescribed burning of slash** would occur in the proposed unit to prepare the site for tree planting. Approximately 90 acres would be burned. Burning would be by a combination of broadcast burning (maximum of 34 ac.) and machine and/or hand pile and burn (see Appendix C). **Fire trails** would be constructed by hand around perimeters of units before they are burned.

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." (ROD, pg. A-6). The proposed action includes the following PDF's :

1. **To meet the components of the "Aquatic Conservation Strategy (ACS)" (S&G's, pg. B-12):**

a. **Riparian Reserves** (Component #1) would be established. Riparian Reserves consist of permanently flowing (perennial) and seasonally flowing (intermittent) streams, the extent of unstable and potentially unstable areas, and wetlands. The ROD (C-30) and RMP (pg. 24) specify Riparian Reserve widths equal to the height of two site potential trees on each side of fish bearing streams and one site potential tree on each side of perennial or intermittent nonfish bearing streams. Data has been analyzed from District inventory plots and the height of a site potential tree for the Elkton-Umpqua watershed has been determined to be the equivalent of 180 ft. slope distance. Therefore, Riparian Reserve boundaries would be approximately 180 ft. slope distance from the edge of nonfish bearing streams and 360 ft. from fish bearing streams in the project area (Elkton-Umpqua WA, pg. 1-2). There are no fish-bearing streams in the project area adjacent to any units. No road construction would occur within the Riparian Reserves.

- 1) Trees within 100' of the Riparian Reserve boundaries would be directionally felled and yarded away from, or parallel to, the Riparian Reserves to protect the reserve from logging damage.
- 2) All wetlands less than one acre would receive protection to the edge of the riparian vegetation. No logging would be allowed through the wetland. Trees designated for harvest, within 100' of the wetland, would be felled and yarded away from the wetland to protect this habitat. Two such wet areas were found within the project area (Units 17A and 17D).

b. This project is not in a **Key Watershed** (ACS Component #2).

c. **Watershed Analysis** (ACS Component #3) as been completed for this watershed (see pg. 2).

d. **Watershed Restoration** (ACS Component #4) in this watershed would be accomplished primarily through timber sale related projects. This project includes road decommissioning and road maintenance. An unnumbered spur southwest of Unit 17A (approximately 260') would have full decommissioning. Full decommissioning consists of "closing and stabilizing . . . to eliminate potential storm damage and the need for maintenance" (ROD, pg. B-31) as well as pulling culverts and subsoiling the roadbed.

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

a. **Measures to limit erosion and sedimentation from roads** would consist of:
(1) maintaining or improving existing roads (Road No 24-6-9.1, 17.0 and 19.3) to fix drainage and erosion problems. This would consist of maintaining existing culverts,

installing additional culverts, and surfacing the road with crushed rock. (2) Building, using and decommissioning temporary roads (spur #1 and 2) in the same operating season (i.e. no over-wintering of bare subgrade). When logging is completed, the roadbed would be subsoiled, water barred, blocked and seeded with native species or a sterile hybrid mix depending on availability. (3) Restricting road renovation and log hauling on unsurfaced roads 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). These are the BMP's (RMP, pg. 136-7) designed to minimize sedimentation and protect water quality.

- b. **Measures to limit erosion and sedimentation from logging** would consist of: (1) Requiring skyline yarding in the upper portion of 9A and all of 17B, C and D. 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 damage would be hand waterbarred. (2) Limiting ground based logging, including road right-of-way clearing (Unit 9A and 17B right-of-way) to the dry season (May 15 to Oct. 15), however, operations would be suspended during periods of heavy precipitation if resource damage would occur. This season could be adjusted if conditions are such that no resource damage would occur (i.e., the dry season extending beyond Oct. 15). (3) All fire trails that might route or channel water would be water barred to limit erosion.
- c. **Measures to limit soil compaction** would consist of:(1) Confining ground based activities to designated skid trails as identified in an approved logging plan. New trails would be limited to slopes less than 35% and with skidtrail spacings averaging at least 150 feet apart. Machines would be limited in size and track width to reduce compaction and trail width. Existing skid trails would be used wherever possible. (2) Subsoiling of decommissioned roads, temporary spur roads and skidtrails that with a winged subsoiler to mitigate compaction damage. Subsoiling is a practice that ameliorates soil compaction and improves water infiltration by pulling a device known as a "winged subsoiler" with a crawler tractor. Existing skidtrails, from previous entries, would also be tilled where practical (e.g., tilling saturated or very rocky soils or skid trails with advanced reproduction would not benefit soil productivity and therefore would not be practical). The Authorized Officer (Contract Administrator) may decide that additional minor ground based logging would be necessary. Such proposals may be subject to Interdisciplinary review. (3) Machine piling would be limited to slopes less than 30 percent under dry soil conditions and use existing trails as much possible. The equipment would be required to only make a single pass across a traveled path for most of the area involved and travel over slash to the maximum extent possible. Subsoiling would need be done where needed as determined by the Soil Scientist.

- d. **Measures to protect the duff layer** would consist of burning of slash during the late fall to mid-spring season when the soil and duff layer (soil surface layer of fine organic material) moisture levels are high and the large CWD has not dried. This practice would protect the soil duff layer and the CWD from being totally consumed by fire. The CWD reserved according to ROD guidelines would also be a source of organic material that can become incorporated into the soil structure (See para. 3b, below).

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 (at least 20" in diameter and 20 ft. in height) sufficient to meet the population needs of 40% of potential population (RMP pg. 64). This has been determined to be 1.2 snags per acre. Where this quantity is lacking, additional green trees would be reserved for future snag recruitment. 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. **Wildlife habitat values** would be maintained through the retention of six to eight large (greater than 20") green conifer trees per acre and occasional hardwoods as a biological legacy (RMP Appendix E, pg. 150). At least 120 linear feet of CWD per acre (at least 16" in diameter and 16 ft. in length) would be preserved for the habitat of organisms that require this ecological niche (ROD C-40, para. B). Where CWD is lacking in the above quantities, extra green trees would be reserved for future CWD recruitment (RMP pg. 65).

4. **To protect air quality:**

All slash burning 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. NOTE: the key points noted in the FSEIS page 3&4-100 will not be addressed in this EA but in the appropriate "Prescribed Burn Plan".

5. **To protect and enhance stand diversity:**

- a. All Pacific yew trees would be reserved.
- b. All tree species currently represented in the stand would continue to be represented in the stand after the harvest. Large "wolf" trees (large, full crowned, limby trees) would be retained for non-vascular plant legacy attributes.

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

6. To prevent 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 the dumping of any 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:

Logging equipment would be cleaned prior to entry on BLM lands to remove weed seeds (BLM Manual 9015 - Integrated Weed Management).

8. To protect SEIS Special Attention Plants:

Two found *Buxbaumia viridis* (protection buffer) sites would be protected with a 180 ft. radius buffer to maintain the site.

D. Alternatives Considered but Eliminated

An alternative to helicopter log Unit 17B in order to eliminate the temporary road construction was considered by the ID Team during the formulation of this project but was eliminated because there were no good helicopter landings available. The temporary roads would be decommissioned the same season and therefore not a concern for mitigation.

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 (Background Reports) 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

Hickman describes three broad vegetation zones as part of the Douglas Area Soil Survey; western hemlock, grand fir, and interior valley (Hickman 1994). Zones are used to describe such things as potential production capabilities, expected vegetative response following disturbance, and plant communities. This area is a transition between the western hemlock and the grand fir zone. The predominant conifer species is Douglas-fir, which acts as a pioneer after a significant disturbance event such as fire. Conifer species in association include incense-cedar, western hemlock, western red cedar, grand fir, and Pacific yew. Hardwoods including madrone, chinkapin, and maple are common when there is sufficient light and act as pioneers after disturbance. Ocean spray and hazel are common shrubs, and salal, Oregon grape, and sword fern are common on the forest floor. Species composition and structural differences are evident

and seem to correlate to some degree with changes in aspect. The southerly aspects do not contain as much western hemlock, and often have more understory development. The northerly aspects contain some of the largest Douglas-firs, more large Western hemlock and Western redcedar.

Natural stand history can be estimated from cut stumps in road right of ways and recently harvested areas and current stand conditions. Rings on stumps suggest there is a wide range of ages within the old natural stands. Many stumps that may represent the most recent cohort contain between 55 and 150 rings. The large range of ages suggests that trees often reestablish over long time periods following disturbance. Stand replacing fires are less common on north aspects, and this stand condition is persistent and somewhat resistant to damage from fire.

B. General Site Description

The **topography** of the general area consists of moderately gentle to very steep and dissected slopes. The gentle to moderate slopes tend to have westerly aspects while the steep to very steep slopes tend to be easterly. The geologic formation is Tyee. Slopes range from less than 30 to over 70 percent. Elevation ranges from about 900 feet at the stream bottom in section 9, to 2200 feet at the ridge top in section 17.

The **climate** is wet, characterized by mild winters and cool, relatively dry summers. Temperatures average about 70 degrees F in the summer and 40 degrees F in the winter. Temperatures over 100 degrees F in late summer and below freezing in winter are not uncommon. Periods of temperature extremes are usually of short duration but can adversely affect conifer seedling survival and growth. Precipitation amounts of 40 to over 70 inches occur primarily between October and March as rain. Approximately 2 percent of the Lower Yellow Drainage acreage occurs within the Transient Snow Zone (TSZ).

The soils are predominately deep to very deep gravelly loam and silty clay, however there are small areas (< 5 ac. in total) of shallow soils. All are well drained except for small patches of wetlands. The project area was heavily impacted by ground based yarding from past logging. A high density of skid trails were left, many of them still severely compacted. (see Soil's Report, Appendix F).

C. Affected Resources

Botanical - There were no Special Status Plants (SSP) observed in any of the proposed harvest units to date. SEIS Special Attention Species *Buxbaumia viridis*, *Hydnum repandum* and *Gyromitra infula* were found on the proposed project area. No threatened or endangered species were found.

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

Fisheries - The affected environment is the Yellow Creek and the Little Canyon Creek drainages. ODF&W stream habitat survey data are available for both creeks. Most of the reaches in both creeks rate as "fair", with one reach in each creek that rates as "poor". All of the

lower reaches are hindered by a lack of large woody debris. The streams adjacent to the proposed units are non-fish bearing and any impacts to fish due to the proposed action would be the result of changes in water quality or quantity. The roads leading into the proposed action currently do not meet RMP standards. There is an inadequate number of drainage features on the roads which causes the ditches to drain directly into the streams, thereby altering the drainage density and associated peak flows.

Hydrology - The Department of Environmental Quality (DEQ) conducted an assessment of nonpoint source (NPS) pollution related water quality conditions. The results of this assessment was published in 1988 (*1988 Oregon Statewide Assessment of Nonpoint Sources of Water Pollution*). Yellow Creek was rated as "No problem and/or No data available". This indicates that no information was received on the stream segment or that the segment fully supports all beneficial uses. Little Canyon Creek was not included in the NPS assessment. The Lower Yellow Drainage has a road density of 4.6 mi/mi² and the Little Canyon Creek Drainage has a road density of 4.44 mi/mi² (BLM GIS/ARCINFO road inventory).

Wildlife - Potential wildlife species of general interest, identified during the scoping process consist of Sensitive Species (Bald Eagle, Northern Spotted Owl and Marbled Murrelet) and other species of concern such as elk and deer (big game), Neotropical Passerines, Red-tree vole and the Northern Goshawk. The Northern spotted owl was surveyed for and not found on the project area. The closest owl site is located approximately 0.8 miles from the project area. Surveys for marbled murrelets were completed in 1995 and 1996 with no detections in the proposed project area.

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 resource(s) are described. This section is organized by the alternatives and the effects on resources by the key issue identified in section I paragraph G. The environmental consequences for those resources that were not considered as key issues to be analyzed in the main body of this EA are addressed in Appendix F (Background Reports). This Appendix contains Specialist's Reports and the supporting information for this analysis. The EIS and FSEIS analyzes the environmental consequences in a broader and more detailed context. This EA does not attempt to reanalyze all possible impacts that have already been analyzed in these umbrella documents but rather to identify the particular site specific impacts that could reasonably occur. NOTE: The Biological Assessment for the Endangered Species Act consultation contains a detailed analysis of how this project complies with the Aquatic Conservation Strategy Objectives and is contained in Appendix F.

Some irreversible and irretrievable commitment of resources would result from the implementation of this project. An irreversible or irretrievable commitment of resources in the loss of old growth forest would result, if this area is managed on an 80 to 150 year rotation. Crushed rock from quarries would be committed to reconstruction of the road system. An irretrievable commitment of the use of fossil fuels in management activities would result in either of the action alternatives.

A. No Action Alternative:

Key Issue - Potential Impacts to Nonvascular Plants

This Alternative would result in no forest management activities in the proposed project area. Barring any catastrophic events such as wildfire or storms, the forest stands would continue to support a variety of vascular and non-vascular species associated with late-successional forest stands.

B. Proposed Action Alternative:

Key Issue - Potential Impacts to Nonvascular Plants

This Alternative would convert the targeted forest stands from a late seral stage to an early seral stage. Soil disturbance associated with the Proposed Action would increase the potential for the invasion of noxious weeds. Vascular plant biomass and species diversity would likely be increased, although Special Status Plants associated with late-successional forest stands would not likely continue to be viable. Non-vascular plant diversity would likely be greatly diminished.

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. The Roseburg District's Biological Assessment (for Endangered Species consultation) was submitted to the **US Fish and Wildlife Service** (USF&WS) on March 14, 1997 and the Biological Opinion was received on June 16, 1997. The USF&WS concluded that the proposed action is ". . . not likely to jeopardize the continued existence of the bald eagle, peregrine falcon, spotted owl or murrelet or adversely modify designated critical habitat for spotted owl or murrelets" and an "Incidental Take (i.e., "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 . . . ") Statement" was issued. 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 Roseburg District's Biological Assessment (BA) for Endangered Species consultation has been

submitted to the **National Marine Fisheries Service** (NMFS). The BA was a "likely to adversely affect" for Umpqua River cutthroat trout and Oregon Coast steelhead trout. The Level 1 Team concurred with this determination. A BO has not been received from 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. Five letters were also sent to **adjacent or nearby landowners**. No comments were received.
2. This project was included in the Roseburg District Planning Update (Winter 96-97). No comments were received.
3. A 30-day public comment period will be established for review of this EA. A Notice Of Availability will be published in the 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 News Review. Notification has been provided to certain State, County and local governments (See Appendix G - Public Contact).

C. List of Preparers

Lyle Andrews	Engineering
Evan Olson	Botany
Isaac Barner	Cultural Resources
Trudy Rhoades-Flock	Hydrology
Kevin Cleary	Fuels Management
Elijah Waters	Fisheries
Dan Couch	Watershed Analysis
Steve Weber	Presale Forester
Dan Cressy	Soils
Joe Witt	Wildlife
Dave Erickson	Recreation / VRM
Dick Greathouse	Project Lead
Al James	Silviculture
Fred Larew	Lands
Jim Luse	EA Coordinator / EA Preparer