



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
MEDFORD DISTRICT OFFICE  
3040 Biddle Road  
Medford, Oregon 97504  
email address: or110mb@or.blm.gov

IN REPLY REFER TO:

1792(116)  
How Perfect EA  
A7002(WHY:jl)

JAN 27 2003

Dear Interested Public:

The *Environmental Assessment* (EA) for the How Perfect project is being advertised in the Medford Mail Tribune for a 30-day public review period. This proposal is a refinement of the actions authorized under the 1997 How Brushy EA and Decision Record. This How Perfect Project would complete the implementation of prescriptions designed for the Brush Cut and How Brushy projects to ensure that the desired forest health objectives in the original How Brushy EA # 97-03 are met.

The primary purpose of a public review is to provide the public with an opportunity to comment on the Bureau of Land Management's determination that there are no significant impacts associated with the proposed action and, therefore, an environmental impact statement is not necessary.

This EA is published on the Medford District web site, [www.or.blm.gov/Medford/](http://www.or.blm.gov/Medford/), under "Planning Documents."

We welcome your comments on the content of the EA. We are particularly interested in comments that address one or more of the following: (1) new information that would affect the analysis, (2) information or evidence of flawed or incomplete analysis; and (3) alternatives to the Proposed Action that would respond to purpose and need. Specific comments are the most useful. Comments, including names and addresses, will be available for public review. Individual respondents may request confidentiality. If you wish to withhold your name and/or address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

All comments should be made in writing and mailed to Bill Yocum, Ashland Resource Area, 3040 Biddle Road, Medford, OR 97504. Any questions should be directed to Kristi Mastrofina or Bill Yocum at (541) 618-2384.

Sincerely,

Richard J. Drehobl  
Field Manager  
Ashland Resource Area

Enclosure (1)  
- EA

**ENVIRONMENTAL ASSESSMENT**

**for**

**How Perfect**

U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MEDFORD DISTRICT  
ASHLAND RESOURCE AREA

EA No. OR-110-03-10

Public notice of the availability of this EA was provided through the BLM Medford District's central register and advertisement in the Medford Mail Tribune.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MEDFORD DISTRICT

EA COVER SHEET

RESOURCE AREA: Ashland

ACTION/TITLE: How Perfect

LOCATION: Sections 25 & 27, T38S,R4E &  
Section 3, T39S,R4E, Willamette Meridian

EA NUMBER: OR-110-03-10

<b>List of Preparers</b>	<b>Title</b>	<b>Responsibility</b>
<b>Dave Squyres</b>	Hydrologist	Hydrology
<b>Mark Steiger</b>	Botanist	Special Status Plants
<b>Matt Broyles</b>	Wildlife Biologist	T&E Animals, Wildlife
<b>Karen Bolda</b>	Fisheries Biologist	Fisheries, Riparian
<b>John Samuelson</b>	Forest Engineer	Engineering and Roads
<b>Blair Moody</b>	Forester	Layout and Implementation
<b>Scott Haupt</b>	Forester	Silviculture
<b>Bill Yocum</b>	Planning and Environmental Coordinator	NEPA

**ASHLAND RESOURCE AREA  
HOW PERFECT ENVIRONMENTAL ASSESSMENT  
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## CHAPTER I

### A. PURPOSE AND NEED

The Brush Cut and How Brushy Timber Sales were commercial thinning projects that were implemented in the late 1990's. Post-harvest silvicultural surveys identified that previously prescribed vegetation prescriptions were not fully implemented and additional actions would improve the desired forest health objectives. This proposal is a refinement of the actions authorized under the 1997 How Brushy Environmental Assessment (EA) and Decision Record. This How Perfect Project would complete the implementation of prescriptions designed for the Brush Cut and How Brushy projects to ensure that the desired forest health objectives in the original How Brushy Environmental Assessment (EA) # 97-03 are met.

The Ashland Interdisciplinary Team (ID Team) reviewed this proposal and determined that the impacts had been previously assessed in the How Brushy EA. Considering the time difference between the completion of the How Brushy EA and today, and the additional Survey & Manage requirements, the ID Team decided a new EA would be appropriate.

Issues were identified in the How Brushy EA. An issue which was identified since the How Brushy EA is Annosus root rot of white fir, which occurs when freshly cut stumps are infected with *Heterobasidion* basidiospores from adjacent entered stands where infection has taken place. Previously infected stumps contain sporocarps that emit basidiospores. Annosus infected stands exhibit mortality and growth loss of white fir at significant levels over time as the root rot spreads tree to tree via root grafts within a stand. The root rot changes stand structure by creating openings and reducing canopy and stocking levels. No known stand treatments performed more than one year after harvest would prevent initial or subsequent spread of the disease. Stands entered more than one year previously may already be infected with the fungus although treatment of these stands may prevent further basidiospore infection of new white fir stumps.

Sporax® (borax), an EPA approved product developed by Wilbur-Ellis, can prevent infection of fresh cut stumps by covering the surface with this powder after tree felling. In the instance where stumps were not treated during harvest, a 1 to 3 inch thick “wheel” can be cut off the top of the stump within one year of tree felling so as to expose a new surface for covering with Sporax®.

The objective of this treatment program is to reduce stand mortality and promote healthy tree growth while maintaining canopy and stocking levels in white fir and mixed conifer forest communities. The most important stands to treat are those white fir plant associations where white fir is the predominant species. Red fir are not affected by annosus root rot. However, where white fir is a component in these stands stump treatment would occur. Mixed conifer stands may receive treatment where white fir is present though white fir mortality would not be as critical in these forest types.

## **B. CONFORMANCE WITH EXISTING LAND USE PLANS**

The proposed activities are in conformance with and tiered to the *Medford District Record of Decision and Resource Management Plan* (RMP) (USDI 1995b), as amended by the *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (USDI, USDA 2001) and the *Medford District Record of Decision and Resource Management Plan* (RMP) (USDI 1995b). The Medford District RMP incorporates the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and the Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* (NWFP) (USDA and USDI 1994). These documents are available at the Medford BLM office and the Medford BLM web site at <http://www.or.blm.gov/Medford/>.

## **C. RELATIONSHIP TO STATUTES, REGULATIONS, AND OTHER PLANS**

The proposed action and alternatives are in conformance with the direction given for the management of public lands in the Medford District by the Oregon and California Lands Act of 1937 (O&C Act), Federal Land Policy and Management Act of 1976 (FLPMA), the Endangered Species Act (ESA), and the Clean Water Act.

## CHAPTER 2 ALTERNATIVES

### A. INTRODUCTION

This chapter describes the proposed action and an alternative to the proposed action. In addition, a “No Action” alternative is presented to form a base line for analysis. This chapter also outlines project mitigation which is designed into the alternatives. The mitigation or Project Design Features (PDFs) are included for the purpose of reducing or eliminating anticipated adverse environmental impacts. Analysis supporting the inclusion of PDFs can be found in the appendices of this EA and Appendix D and E of the RMP.

The proposed action is designed to meet the purpose and need of the RMP, the project objectives outlined in the Jenny Creek Watershed Analysis (pages 86-112) and incorporates the best management practices outlined in the RMP (pages 149-177).

### B. ALTERNATIVES

***Proposed Action Alternative*** (Unit location on Map in the Appendix)

- Group selections were prescribed but not implemented with the Brush Cut and How Brushy Timber Sales. The proposed action would create group selection areas for early seral species in Unit 2 identified in Section 25, T38S,R4E.
- There are approximately 5 to 7 acres (upper portion of Unit 3) that were inadvertently not treated (O.I. Unit 004 in T.38S.-R.4E.-34). This area is proposed to be thinned.
- A pine stand (remainder of Unit 3) has 192 ft<sup>2</sup> of basal area per acre (O.I. Unit 008). Basal area would be reduced as prescribed in the original How Brushy EA.
- Laminated root rot pockets (Unit 1) have been identified in Section 27, T38S,R4E that are in need of the root rot prescription. Also, old-growth trees were not adequately released. Understory trees would be removed from around the shade-intolerant old-growth trees.
- Borax stump treatment would be conducted on all white fir stumps greater than or equal to 12 inches in diameter. *Project Design Features for the Proposed Action Alternative*

**The PDFs followed by an asterisk (\*) are Best Management Practices (BMPs) to reduce nonpoint source pollution to the maximum extent practicable.** BMPs are considered the primary mechanisms to achieve Oregon Water Quality standards. Implementation of PDFs in addition to establishment of Riparian Reserves would equal or exceed Oregon State Forest Practice Rules.

No timber harvesting, treatments, ground disturbance, or use of mechanized equipment would occur in any Riparian Reserve as part of this project, except for use of system roads and the replacement of a stream crossing structure, outlined below.

An intermittent stream adjacent to Unit 3 would have a minimum of 150' each side of the stream channel Riparian Reserve boundary posted prior to any adjacent work.

There would be no new road construction. Construction of landings would be minimal and limited to those necessary for operational concerns. Any construction would be limited to the dry season (generally June 1 to Oct. 15). Any landing construction needed would be located away from Riparian Reserves, unstable soil conditions and away from headwalls.

Equipment used for road or landing work would be subject to the same project design features listed under *Harvest and Logging Systems*.

If short temporary roads (referred to as operator spurs) are needed to facilitate yarding, the length of road would be less than 300 feet. Temporary roads would be waterbarred and blocked at a minimum. Other treatments such as decommissioning (ripping, seeding, and mulching) would be completed where appropriate.

The contractor would be notified that he is responsible for meeting all state and federal requirements for maintaining water quality. Standard contract stipulations would include the following:

- Heavy equipment would be inspected and cleaned before moving onto the project site in order to remove oil and grease, invasive, non-native species (for example, noxious weeds) and excessive soil.\*
- Hydraulic fluid and fuel lines on heavy mechanized equipment must be in proper working condition in order to prevent leakage into streams.\*
- Waste diesel, oil, hydraulic fluid and other hazardous materials and contaminated soil near the stream would be removed from the site and disposed of in accordance with Department of Environmental Quality (DEQ) regulations.\* Areas that have been saturated with toxic materials would be excavated to a depth of 12 inches beyond the contaminated material or as required by DEQ.\*
- Equipment refueling would be conducted within a confined area outside Riparian Reserves.\*
- Use spill containment booms or other equipment as required by DEQ.\*
- At no time would mechanical equipment be used or stored in Riparian Reserves.\*

Make every effort to practice snow logging whenever appropriate conditions exist. Appropriate conditions mean a snow depth of at least 24 inches and negligible ground surface exposure occurs during the operation. The intent is to diminish any direct impact of mechanized equipment on the soil surface.

If snow logging cannot occur, yarding should take place when soil moisture (in the top 6") is less than 20 percent, usually June 1 to October 15. The intent is to minimize compaction by operating when soil moisture is less than optimum needed for maximum density.

All units would be yarded and site prepped in such a way that duff, litter, coarse woody debris remaining after logging would be maintained at or greater than current levels to protect the surface soil and maintain productivity.

Wherever trees are cut to be removed, directional felling away from draw bottoms would be practiced.\* Maximum operational suspension would be practiced to alleviate gouging and other disturbance on steep draw side slopes and headwalls.\* Trees would be felled to the lead in relation to the skid roads. The intent is to minimize the yarding damage to leave trees and regeneration that would occur under a conventional groundbased system.

Yarding would be avoided up and down bottoms of draws. The intent is to minimize occurrence of erosion in existing areas of concentrated surface flow and prevent initiation of new areas of concentrated surface flow.\*

All skid roads should be located as designated by BLM and existing skid roads would be used before designating new skid roads. Skid roads would be limited to less than 12 percent of the harvest area.. The intent is to minimize area affected by tractors and other mechanical equipment (disturbance, particle displacement, deflection, and compaction)\* and thus minimize productivity loss.

All ground based yarding operations would be restricted to slopes less than 35 percent.

All skid roads should be waterbarred according to BLM standards (RMP page 167).\* The intent is to minimize erosion and routing of concentrated snow melt to streams.

Wherever existing roads occur adjacent to project units, yarding to the existing road would be practiced by bull lining. The intent is to maintain impact levels (compaction, displacement, deflection) at lowest possible extent.

Every effort should be made to maintain canopy cover over skid roads.\* The intent is to minimize effect of snow accumulation due to canopy opening that would increase peak flows from runoff.

No ground disturbance would occur within 50' of the inlets of culverts located along Road 39-4E-3 at the southern edge of the treatment unit in Section 3.\*

There would be a seasonal log hauling restriction on natural surfaced (dirt) roads during the wet season (October 15-June 1). This would decrease the amount of sedimentation that would occur

in the watershed. Some variations in these dates would be permitted dependent upon weather and soil moisture conditions of the roads.

To minimize loss in soil productivity and surface erosion, underburning would be planned and scheduled to result in low intensity burns, whenever possible, to reduce the loss of organic matter, nutrients, and subsequent site productivity.

To prevent disturbance to potentially reproductive spotted owls in or adjacent to the southern lobe of proposed Unit 1, Unit 2, and the southern portion of proposed Unit 3 (the area within 1000 feet of the 39-4E-3.0 road) a seasonal restriction would be imposed on harvest activities from March 1 to Sept. 30. This restriction could be lifted if protocol survey reveal that the site is not reproductive in a given year.

In order to protect habitat for woodpecker species and other snag associated wildlife species, reserve all snags 16 inches DBH and greater by maintaining a one snag length buffer of green trees around class 2-5 snags; a 35-foot green tree buffer around class 1 snags. In the root rot prescription areas where 2 crown widths of green trees must be removed from around root rot pockets to prevent the spread of the fungus, snags would not be buffered (see appendix for a description of snag classes).

#### ***No Action Alternative***

Under the “no action” alternative, no vegetation management projects would be implemented; there would be no additional management for the area.

## CHAPTER 3 AFFECTED ENVIRONMENT

### General description of the project area

A more detailed description of the land areas and resources in the Medford District is presented in Chapter 3 of the Final Medford District Proposed Resource Management Plan/Environmental Impact Statement (RMP/EIS, pp. 3-1 through 3-122). Descriptions can also be found in the Jenny Creek Watershed Analysis. Additional information and analysis of this area is also provided in the earlier How Brushy EA.

### Vegetation

Unit #1 of the How Perfect project was previously in Section 27 (38-4E) of the Brush Cut timber sale area. This forest stand has numerous laminated root rot (Phellinus weirii) areas. This root rot is continuing to spread to the young white fir trees in the area and more patches of dead trees are evident in the last three years. Heterobasidium annosum has also been found in the area as well as Armillaria root rot. The shade intolerant species (Douglas-fir, sugar pine, and ponderosa pine) are showing resistance to the root rots compared to the white fir.

Numerous Douglas-fir, sugar pine, and incense cedar old-growth trees are scattered throughout Unit #1. Many of these old-growth trees were not released sufficiently from the white fir. Group selection areas also need to be created around these old-growth. For the long term health of this forest stand, root rot disease resistant tree species need to be reintroduced.

Unit #2 of the How Perfect project was previously in Section 25 (T38S,R4E) of the How Brushy timber sale area. This unit was previously specified for the creation of group selection areas and none were created. There are numerous sugar pine, Douglas-fir, and incense cedar old-growth trees in the unit and openings are needed in the tree canopy layer to allow for regeneration of these species.

Unit #3 of the How Perfect project was previously in Section 3 (39-4E) of the How Brushy timber sale area. Because of the extremely dense shrub layer in this area, 5 to 7 acres of the timber sale unit were not thinned as prescribed. Adjacent to the unthinned area, there is a pine stand that was not thinned sufficiently. If basal areas of pine stands are too high the pine trees are subject to mountain pine beetle or western pine beetle attack.

Many of the timber stands in the project area developed after the 1910 fire. Previous stands were a mixed conifer type with more shade intolerant, early seral species and probably fewer trees per acre. Historically the overstory was dominated by Douglas-fir, sugar pine, ponderosa pine, and incense cedar, but these species were replaced by white fir following the 1910 fire.

### Botany Bureau Special Status Species

All of the proposed activity areas were surveyed for Bureau Special Status and Survey and Manage vascular plants as well as the federally listed *Fritillaria gentneri* by qualified botany contractors over a time period extending from 1996 through 1998. Surveys documented two occurrences of the “Bureau Tracking” species *Asarum wagneri*. This species tends to occupy semi-open conifer stands and does not appear to do well under conditions of dense shade. The two known sites in the center of Unit# 1, T38S,R4E, SEC 25 would be buffered with a 25 ft radius buffer to minimize direct trampling of individual plants.

### Botany Northwest Forest Plan Species

All of the proposed activity areas were surveyed for the presence of Survey and Manage fungi, lichens, and bryophytes in the spring and fall of 1998 and in the fall of 2000, in accordance with established protocols. Surveys documented 1 occurrence of the “Bureau Tracking” species *Pithya vulgaris*. This species is restricted to fruiting from detached twigs and down foliage of white fir, *Abies concolor*, and seldom occurs in stands less than 50 years of age. Tracking species do not require mitigation and this species is very abundant in white fir stands throughout the Medford BLM District.

### Soils

The proposed treatment area in the northeast portion of the Jenny Creek Watershed. The elevation ranges from 4,100 to 6,000 feet on gently to moderately sloping high Cascade flow plains and dormant shield volcano slopes. The predominate form of precipitation is snow. Soils identified in the project area are Pokegama and Woodcock.

The Pokegama soil is deep and well drained. It formed in residuum primarily from andesite. Typically, the surface is covered with a layer of needles and twigs about ½ inch thick. The surface layer is reddish brown loam about 8 inches thick. The subsurface consist of dark reddish brown clay loam and gravelly clay loam about 30 inches thick. The substratum is dark reddish brown gravelly clay about 14 inches thick. Depth to weathered bedrock ranges from 40 to 60 inches. In some areas the surface layer is stony. Permeability in the Pokegama soil is moderately slow, runoff is slow on slopes less than 12 percent, and medium on slopes between 12 and 35 percent. The hazard of water erosion on this soil is slight on slopes less than 12 percent, and moderate on slopes between 12 and 35 percent.

The Woodcock soil is very deep and well drained. It formed in colluvium derived dominantly from andesite. Typically, the subsurface is covered by a layer of needles and twigs about 1 inch thick. The surface layer is dark reddish brown stony loam about 4 inches thick. The next layer is dark reddish brown very gravelly loam about 12 inches thick. The subsoil is dark reddish brown very gravelly clay loam about 23 inches thick. The substratum to a depth of 62 inches is dark reddish brown gravelly clay loam. The depth to bedrock is 60 inches or more. Permeability in the Woodcock soil is moderate, runoff is slow on slopes less than 12 percent and medium on slopes between 12 and 35 percent. The hazard of water erosion on this soil is slight on slopes less than 12 percent and moderate on slopes between 12 and 35 percent.

Generally, forests in the project area have a moderate amount of coarse wood (>16 inch diameter). Coarse wood on the forest floor functions as a moisture storage element during the dry season and as a nursery for invertebrates and ectomycorrhizal fungi. Duff and coarse woody debris (CWD) are important elements in long term site productivity and resistance to erosion. Duff, the fine organic material that accumulates over the mineral soil in forested stands, is usually ½ to two inches thick in the project area. It provides a slow release form of nutrients and acts as a media for beneficial organisms.

### Hydrology

The proposed project area is in the Jenny Creek Watershed, a tributary to the Klamath River. Project units are located in areas draining to Grizzly Creek, Jenny Springs Creek, and Johnson Creek within the Upper Jenny and Johnson Creek subwatersheds.

There are no stream channels exhibiting evidence of scour, deposition, or defined channels within the units proposed for treatment. One small intermittent stream and Riparian Reserve is adjacent to the treatment unit located in Section 3. This stream requires a Riparian Reserve at least one site-potential tree height in width on each side of the stream.

There are no other areas requiring Riparian Reserves within the project area.

Both Grizzly Creek and Jenny Creek downstream of the project area are on the Oregon Department of Environmental Quality's (DEQ) 1998 list of water quality limited streams, also known as the 303(d) list from Section 303(d) of the 1972 Federal Clean Water Act (CWA).

### Fisheries

There are no fish bearing streams in any of the units in the project area.

For Unit 1, at 38-4W-27, the nearest fish bearing stream is Jenny Creek, approximately 1 ½ miles away. Jenny Creek supports redband trout (*Oncorhynchus mykiss ssp.*), Jenny Creek suckers (*Catostomus rimiculus*), and speckled dace (*Rhinichthys osculus*). The closest fish bearing stream to Unit 2, 38-4W-25, is Grizzly Creek, over 3 miles away, which supports redband trout and dace. The closest fish bearing stream to Unit 3, 39-4W-3 is again Jenny Creek, approximately 1 mile away.

There are 3 unnamed springs in the vicinity of Unit 3 which were checked for the presence of aquatic mollusks (BLM surveys, Oct. 2002). No mollusks were present, and all three springs were dry at the time of the surveys.

### Wildlife

Special Status Species (SSS) include those species that are listed as threatened or endangered, are proposed for listing as threatened or endangered, or are a candidate for listing as threatened or endangered by the U.S. Fish and Wildlife Service, under the auspices of the Endangered

Species Act (ESA) of 1973, as amended. Also included are those species listed by the BLM as Sensitive and Assessment species.

#### Northern Spotted Owl (*Strix occidentalis caurina*)

The northern spotted owl is listed as a Threatened species under the auspices of the Endangered Species Act. All three proposed units fall into Spotted Owl Critical Habitat Unit # OR-37. This species uses habitat in the general vicinity of the project area and may use the proposed units for various life functions. One hundred four (104) acres of habitat in the proposed project area are classified as suitable for spotted owl roosting and foraging. However, none of the acres in the proposed project area are considered suitable for spotted owl nesting due to low canopy closure and/or small tree size. There are no known spotted owl nest sites within the boundaries of the proposed units. There are 3 spotted owl sites within 1.2 miles of the proposed units.

The Lower Horse spotted owl site is immediately adjacent to the eastern lobe of proposed Unit #2. This site has no established 100 acre core area of suitable nesting habitat because it was established as a known site after Jan. 1, 1994 (NWFP, pp. C10-11). The nest stand was degraded in habitat quality by the harvest due to the reduction in canopy closure and stand structure changes. The stand still appears to be marginally suitable for roosting and foraging, but not for spotted owl nesting. In 2002 spotted owls nested, but failed to reproduce, in a small old growth stand in a riparian reserve. The 2002 nest tree is less than ¼ mile from the eastern lobe of proposed Unit 2. Many of the historically partial cut stands in the vicinity of this site are experiencing canopy closure recovery, and may become suitable for spotted owl nesting, roosting and foraging in the future.

The Jenny Springs spotted owl site is just south of proposed Unit #3. This site has an established 100 acre core area (NWFP, pp. C10-11), however as a result of a BLM timber sale, which was sold in 1990, prior to implementation of the NWFP, the 100 acre core area was subject to a partial cut harvest during 1996 to 1997. The provincial home range (1.2 mile radius) was affected by partial-cut harvesting between 1999 and 2000. Due to the cumulative loss of habitat resulting from historic management there is essentially no suitable habitat in or around the owl site. The northern portion (the part in section 34) of Unit 2 appears to be marginally suitable for spotted owl roosting and foraging, but not for nesting.

The Keno Road spotted owl site has experienced habitat loss and degradation due to past harvest activities. This site has an established 100 acre core area that has not been harvested, however most of the habitat within 1.2 miles of the site was removed or degraded by earlier harvest activity.

#### Terrestrial mollusks

Surveys for terrestrial mollusks have been conducted in the proposed project area and resulted in one known site of *Monadenia Chaseana* (a land snail). This site is located in the northwest corner of Unit 3 and has been protected with a circular no-harvest buffer with a radius of one site potential tree (180 feet).

### Great Gray Owl (*Strix nebulosa*)

The great gray owl receives protection as a Survey and Manage species under the *Jan 2001 S&M ROD*. Great gray owls in this part of their range nest in mature/late seral mixed conifer and white fir forests, and forage primarily in the meadows/grassland or early seral stand conditions of conifer forests (recent, grassy clearcuts and open partial cuts). Numerous Great Gray Owl sightings have been identified in the vicinity of the Keno access road. Two seasons of formal protocol surveys for this species were completed in 1997 in the proposed project area. These formal surveys resulted in no great grey owl sites being located. There is no “sunset” or ‘expiration date’ for GGO surveys. The closest known site for this species is four miles away from the proposed units.

### Northern Goshawk (*Accipiter gentilis*)

This Bureau sensitive species is known to occur in the general vicinity of the proposed project. A nest is known to occur in the area between Units 1 and 2. The goshawk is a late successional habitat associated species in this part of its range. Nests are usually in the lower portion of the canopy in late successional stands. This species forages in a wide variety of habitats including open forest stands and openings. There are no known nest sites in the proposed project area. No surveys for this species have been conducted in the proposed project area, none are not required.

### Golden Eagle (*Aquila chrysaetos*)

While the golden eagle is not listed under the Endangered Species Act and is not a Bureau Sensitive species, it is protected under the Bald and Golden Eagle Protection Act of 1940. There are no known nests in the proposed project area. This species uses late-successional forest habitat for nesting in this part of its range. Golden eagles build large nests in dominant overstory trees. Nest trees often have blown out tops or unusually large branches, and are often among of the largest diameter trees in mature and old growth stands. Golden eagle nests in southwest Oregon are usually on or near the tops of major ridges. There have been numerous golden eagle sightings in the Dead Indian plateau area over the years. It is possible that there is an undiscovered nest in or near the proposed project area. No surveys for this species have been conducted in the proposed project area, none are required.

### Flammulated Owl (*Otus flammeolus*)

The flammulated owl is occasionally observed throughout southwest Oregon. This owl receives protection under the *S&M NWFP*. Primary habitats include conifer forest and conifer forest intermixed with oak-woodland and grassland in the Mixed Conifer Zone. This species nests in cavities created by other birds species (pileated woodpecker, flicker) in large pine trees and snags. No surveys for this species have been conducted in the proposed project area, none are required.

### Fisher (*Martes pennanti*)

The fisher is a Bureau assessment species. Preferred habitat is dense conifer forests in the mixed conifer and white fir zones. This species has been detected in the southern Oregon Cascades in

habitats similar to those in the proposed harvest units, and several reported fisher sightings exist in the greater Dead Indian Plateau area. However, the closest confirmed detection is approximately 18 miles away. No surveys for this species have been conducted in the proposed project area, none are required.

White-headed Woodpecker (*Dendrocopos albolarvatus*).

This woodpecker is a BLM Sensitive species in Oregon, and is listed as Critical by the Oregon Dept. of Fish and Wildlife. The *S&M NWFP* provides management direction for this species. Large pine trees are essential features of nesting habitat for this species. Snags are used for foraging habitat. No surveys for this species have been conducted in the proposed project area, none are required.

Black-backed Woodpecker (*Picoides arcticus*)

This woodpecker is a BLM Sensitive species in Oregon, and is listed as Critical by the Oregon Dept. of Fish and Wildlife. The *S&M NWFP* provides management direction for this species. This species nests in and forages on snags in true fir and mixed conifer habitats. No surveys for this species have been conducted in the proposed project area, none are required.

The following is a list of special status species that are **not** likely to occur in the proposed project area.

Western Pond Turtle (*Clemmys marmorata*)

Bald Eagle (*Haliaeetus leucocephalus*)

Peregrine Falcon (*Falco peregrinus*)

Lewis' Woodpecker (*Asyndesmus lewis*)

Townsend's Big-eared Bat (*Plecotus townsendii*)

Red Tree Vole (*Arborimus longicaudus*)

Northern Three-toed Woodpecker (*Picoides tridactylus*)

## ENVIRONMENTAL CONSEQUENCES

### Chapter 4

#### A. INTRODUCTION

This chapter forms the scientific and analytic basis for comparison of alternatives. Discussions include the environmental impacts of the alternatives and any adverse environmental effects which cannot be avoided. It also identifies and analyzes mitigation measures which may be taken to avoid or reduce projected impacts. The impact analysis in the Medford District Proposed Resource Management Plan/Environmental Impact Statement (RMP/EIS)(Oct. 1994) analyzed the significant impacts associated with road building and commercial harvesting of conifers (pages 4-3 to 4-21) to which this EA is tiered.

The impact analysis addresses direct, indirect, and cumulative impacts on all affected resources of the human environment, including critical elements.

#### B. MITIGATION MEASURE

##### 1) Eliminate Unit 2 from the Proposed Action

a) Wildlife Impacts: The likelihood that spotted owls would successfully reproduce at a site is dependant to a large degree on the quantity and quality of habitat in the vicinity of the nest stand. Eliminating Unit 2 from the proposed action would mitigate the effects of the proposed action on the Lower Horse spotted owl site. If this mitigation is implemented, the degradation of the eastern lobe of the unit from a condition suitable for spotted owl roosting and foraging to a condition suitable only for spotted owl dispersal would not occur. The eastern lobe of the unit is less than ¼ mile from the 2002 nest tree. This increases the importance of the habitat conditions of the eastern lobe of the proposed unit. The on-going recovery of canopy closure in the entire proposed unit would be allowed to continue. This mitigation would allow spotted owl habitat quality, within this unit, to recover faster than if the unit was subject to thinning as described in the proposed action.

b) Vegetation Impacts: If this measure is adopted, the vigor of old-growth sugar pine, Douglas-fir, and incense cedar would remain low, making these scarce trees susceptible to bark beetle attack. Not enough second growth white fir trees were harvested from around the old-growth trees during the previous timber sale. In addition to the poor vigor of the trees, the future reproduction of these early seral species would be negatively affected. Group selection areas are needed around the early seral old-growth trees to provide a suitable microenvironment for seedling regeneration. Adopting this mitigating measure would allow disease susceptible white fir to maintain dominance of the forest site.

##### 2) Eliminate Unit 3 from the Proposed Action

a) Wildlife Impacts: The likelihood that spotted owls would successfully reproduce at a site is dependant to a large degree on the quantity and quality of habitat in the vicinity of the nest stand. Eliminating Unit 3 from the proposed action would mitigate the impacts of the proposed action on the Keno Road and Jenny Springs spotted owl sites. The degradation of habitat in the

northern portion of the unit (portion in section 34) from a condition suitable for spotted owl roosting and foraging would not occur. The on-going recovery of canopy closure in the entire proposed unit would be allowed to continue. This mitigation would allow spotted owl habitat quality, within this unit, to recover faster than if the unit was subject to thinning as described in the proposed action.

b) Vegetation Impacts: If this measure is adopted, 5 to 7 acres of the original How Brushy timber sale unit would remain unthinned. Mortality is already occurring in this unthinned area because of tree stress from overstocking. The surrounding pine stand also needs basal area reduction because previous marking was too conservative. The prescription specified 160 ft<sup>2</sup> of basal area to be left and the present stocking is 192 ft<sup>2</sup> of basal area. Some pine trees have already died because of bark beetle attack. This unit is mostly pine site and should be managed accordingly, i.e. in a more open condition with underburning to control white fir regeneration (treatments not conducive for spotted owls).

### **C. PROPOSED ACTION**

#### 1) Vegetation Proposed Action

Direct and Indirect Effects - Reapply Silviculture Prescriptions to the 3 Units.

In How Perfect Unit #1 the laminated root rot prescription should be applied to slow the rate of spread to adjacent healthy, susceptible trees. Laminated root rot spreads by live root contact and the disease cannot spread into dead tree roots. The old-growth release prescription should also be used. By utilizing the 2 prescriptions shade intolerant tree species would be favored. This would enhance species diversity of the forest by increasing stocking levels of shade intolerant conifer species in the future forest. This would also ameliorate the effects of laminated root rot. Shade intolerant tree species are more resistant to laminated root rot.

In How Perfect Unit #2 the group selection prescription would be applied especially around old-growth sugar pine. Old-growth Douglas-fir and incense cedar are also present. These group openings would enhance conditions for shade intolerant species and would allow for seedling regeneration. Species diversity of the future forest would be enhanced by favoring these tree species.

In How Perfect Unit #3 the mixed conifer stand prescription would reduce tree densities to the specified level. Low thinning would be applied and any old-growth trees would also be released. Tree densities would be reduced thus allowing for improved individual tree vigor and growth, and improved forest health. Again, shade intolerant tree species would be favored so that forest diversity would be enhanced. White pine (a tree species associated with the red fir plant association grouping) is also present.

#### Vegetation Cumulative Effects

By utilizing various prescriptions, future silvicultural options would be greater. Units #2 and 3 could be thinned again in the future. Tree species would be favored on sites where they are best adapted especially in regard to root rot resistant species. This is critical to species diversity and forest health.

The prescriptions being applied would create diverse vertical stand structure in the future. Old-growth trees are present as well as second growth trees. Patches of tree regeneration are also present so some areas already have 3 canopy layers. In Unit #1 tree canopy closure would be approximately 40 percent. In Unit #2 the canopy closure would be unchanged except where group selection areas are created. In Unit #3 canopy closure would range from 40 to 60 percent.

If surrounding private lands are harvested, the BLM forest lands would provide for forest connectivity and future old-growth forests.

#### Vegetation - Borax Stump Treatment Impacts

Forest stands should retain canopy closure at post thinning levels by preventing introduction of annosus root rot which further reduces stocking levels thereby opening the canopy and potentially allowing understory vegetation to become established.

### **2) Wildlife Proposed Action**

#### Northern Spotted Owl (*Strix occidentalis caurina*)

This project occurs within the Matrix land allocation of the RMP and within designated Critical Habitat (CHU # OR-37) for the Northern Spotted Owl. The proposed sale units are within the provincial home range radius (1.2 miles) of three known spotted owl sites. The loss of suitable habitat within the provincial home range radii of these three sites constitutes Incidental Take of these owl sites. Incidental Take, the removal of suitable spotted owl habitat in general, and the removal of designated Critical Habitat from CHU OR-37 as a result of this proposed project require consultation with the U.S. Fish and Wildlife Service (USFWS). This consultation occurred as part of the Medford District programmatic consultation for fiscal year 2002 and 2003 projects. A Biological Opinion addressing this consultation was issued by the USFWS on Oct. 12, 2001. (BO# 1-7-01-F-032). The USFWS concluded that the projects covered in the consultation (including the proposed action of this proposed project) were not likely to jeopardize the survival of the spotted owl as a species. The anticipated impacts to spotted owl habitat as described below are within the range of impacts addressed in the Medford District RMP of 1995, thus the proposed action is consistent with the RMP.

#### Effects of Unit #1.

This unit is currently classified as suitable for spotted owl dispersal but not for roosting, nesting or foraging, but suitable for spotted owl dispersal. This stand was partial cut between 1997 and 2000 and is experiencing canopy closure recovery. This stand is expected to return to a condition suitable for spotted owl nesting, roosting and foraging in a matter of a few decades unless this canopy closure recovery is interrupted. The proposed harvest would set back this recovery process by removing trees and thus lowering the canopy closure below current levels. This set back would delay the recovery of the stand to a condition suitable for spotted owl nesting, roosting and foraging. The Keno Road spotted owl site is adjacent to Unit 1 and the Proposed Action would adversely affect the potential for habitat availability recovery within 1.2 miles of the site.

### Effects of Unit #2

The eastern lobe of this unit is currently classified as suitable for spotted owl roosting and foraging but not for nesting. The eastern lobe of proposed Unit #2 is immediately adjacent to the Lower Horse site nest stand and represents some of the best roosting and foraging habitat available in the vicinity of the Lower Horse site. This stand is expected to return to a condition suitable for spotted owl nesting, in a matter a few decades unless this canopy closure recovery is interrupted. The proposed action would set back this recovery process by removing trees and thus lowering the canopy closure below current levels. The Lower Horse spotted owl site is adjacent to Unit 2 and the Proposed Action would adversely affect the potential for habitat availability recovery within 1.2 miles of the site.

The Western Lobe is classified as dispersal habitat, but unsuitable for nesting, roosting or foraging. This stand is expected to return to a condition suitable for spotted owl nesting, roosting and foraging in less than 30 years unless this canopy closure recovery is interrupted. The proposed action would set back this recovery process by removing trees and thus lowering the canopy closure below current levels.

### Effects of Unit 3

Unit 3 currently consists of two habitat types. Most of the stand was partial cut in between the years of 1997 to 2000 and is classified as dispersal habitat, unsuitable for nesting, roosting or foraging by spotted owls. The proposed action would leave this portion of the stand in a condition suitable for spotted owl dispersal but would delay the recovery of canopy closure and thus delay the development of the stand to a condition where it would be suitable for spotted owl nesting, roosting and foraging.

The northern portion of the Unit 3 (portion in Section 34) has sufficient canopy closure to be considered suitable for spotted owl roosting and foraging. The proposed action would change the suitability from roosting and foraging to dispersal. Unit 3 is north of the Jenny springs spotted owl site, and south of the Keno Road site but within 1.2 miles of both sites. The northern portion of proposed Unit 3 is some of the last suitable habitat in and around the Jenny springs and Keno Road spotted owl sites.

**Table 1. Spotted Owl habitat changes anticipated under the action alternative of the Howperfect project.**

<b>Current Rating</b>	<b>Post-harvest rating</b>	<b>Acres</b>	<b>Location</b>
<b>Suitable</b>	<b>Suitable</b>	0	
<b>Suitable</b>	<b>Dispersal</b>	72	Eastern lobe of unit 2; the portion of unit 3 in Sect. 34.
<b>Suitable</b>	<b>Non-habitat</b>	0	
<b>Dispersal</b>	<b>Dispersal</b>	186	All of Unit 1; The western lobe of Unit 2; the portion of Unit 3 in Sec. 3.
<b>Dispersal</b>	<b>Non-habitat</b>	0	

Golden Eagle (*Aquila chrysaetos*)

The proposed thinning may be beneficial to this species in the long-term because it would increase the likelihood of retention of the large overstory trees in the treated stands. These large overstory trees in a forested setting are potential nest trees for this species.

Great Gray Owl (*Strix nebulosa*)

The more open forest condition that formed by the proposed action might improve foraging conditions for this species.

Northern Goshawk (*Accipiter gentilis*)

Canopy closure would be reduced on 258 acres of forest habitat. These acres would be potentially less suitable for nesting goshawks. The more open canopy condition would still be suitable for goshawk foraging.

Flammulated Owl (*Otus flammeolus*)

This species is strongly associated with large green and dead pine trees. The proposed action does not target snags or large pines for removal. Some existing snags may need to be cut as hazard trees. The proposed action includes a project design feature that instructs the marking crew to avoid marking green trees to be harvested if they are near potentially hazardous snags. Based on the above provisions, it is anticipated that the proposed action would have negligible effects on this species. The treatment may have positive long-term benefits for this species as it should result in a higher likelihood of retention of the large pine component of the stands in question.

Fisher (*Martes pennanti*)

It is largely unknown what steps are necessary to protect the species and its habitat other than retention/protection of potential dens, which are hollow logs, snags and trees; large cavities in trees and snags, and large horizontal brooms. The proposed action does not target snags or large, down woody material for removal. Some existing snags may need to be cut as hazard trees. The proposed action includes a project design feature that instructs the marking crew to avoid marking green trees to be harvested if they are near potentially hazardous snags. Individuals of this species are known to be reluctant to cross major, paved roads. The proposed action does not include any new road construction. Based on the above provisions, it is anticipated that the proposed action would have negligible effects on this species.

White-headed Woodpecker (*Dendrocopos albolarvatus*)

This species is strongly associated with large green and dead pine trees. The proposed action does not target snags or large pines for removal. Some existing snags may need to be cut as hazard trees. The proposed action includes a project design feature that instructs the marking crew to avoid marking green trees to be harvested if they are near potentially hazardous snags. Based on the above provisions, it is anticipated that the proposed action would have negligible effects on this species. The treatment may have positive long-term benefits for this species as it

should result in a higher likelihood of retention of the large pine component of the stands in question.

#### Black-backed Woodpecker (*Picoides arcticus*)

The proposed action does not target snags for removal. Some existing snags may need to be cut as hazard trees. The proposed action includes a project design feature that instructs the marking crew to avoid marking green trees to be harvested if they are near potentially hazardous snags. Based on the above provisions, it is anticipated that the proposed action would have negligible effects on this species.

#### Mollusks

The one mollusk site, a Survey and Manage species (*S&M NWFP*) in the proposed project has been buffered in accordance with the interagency guidance for mollusk site management. There is no effect anticipated.

#### Other Special Status Species

The following is a list of special status species that would not likely be affected by the proposed action. They (or their habitat) are not known or suspected to occur in the proposed project area, or no negative effect to their habitat is anticipated under the proposed action.

Bald Eagle (*Haliaeetus leucocephalus*)

Peregrine Falcon (*Falco peregrinus*)

Lewis' Woodpecker (*Asyndesmus lewis*)

Western Meadowlark (*Stunella neglecta*)

Northern Three-toed Woodpecker (*Picoides tridactylus*)

Western Pond Turtle (*Clemmys marmorata*)

Townsend's Big-eared Bat (*Plecotus townsendii*)

#### Borax Stump Treatment Impacts

Vertebrates: Borax is anecdotally reported to be toxic to vertebrates in high doses. A project design feature would require the "wheel" to be put back on the stump on top of the Sporax® to limit the possible exposure of larger vertebrates to concentrations of the powder. There is evidence that boron is not a mutagenic or carcinogenic element (USDA, 1996).

Mollusks: The potential effects of borax on mollusks are undocumented and unknown. There is one species of Survey & Manage mollusk (*S&M NWFP*) known to occur in the project area. Any adverse effects on this species would be limited to the time it takes the borax to break down and become inactive and/or unavailable. There is no indication that mollusks would be attracted to the borax.

Insects: Borax is used commercially to keep wood boring insects out of wood structures. Wood boring insects (carpenter ants in particular) are important species in forest ecosystems. They are critical to the decomposition of wood and are favored prey for a variety of forest birds. The proposed borax treatment would only effect the top of the treated stumps. Insects would still be

able to enter the treated stumps from the sides and from below ground.

**3) Range Proposed Action - Borax Stump Treatment Impacts**

Cattle lick residues from stumps. Cattle do not appear to be attracted to free borax. However, dosages involved are small enough that when compared to the large size and metabolism of cattle, injury is unlikely.

**4) Soils Proposed Action**

This alternative proposes to remove a small number of trees per acre using a feller/buncher (crawler tractors equipped with shears mounted on the front) that would reach out to each tree, cut it while grasping it, then carry it back to the skid road where it would be yarded out. Existing skid roads used during the previous harvest projects would be used, therefore the area in skid roads would remain at less than 12 percent. As a result of the seasonal restrictions for harvesting and hauling, the negative effects to the soil resource would be minimal.

No new roads would be built for this project, therefore road density and its effects on runoff and stream peak and low flows is not an issue.

As there is a small amount of volume proposed for removal from the area and existing skid roads would be used under a seasonal restriction (or snow logging), the cumulative effects of the proposed activities would be negligible.

**Borax Stump Treatment Impacts**

Borax is generally active in the soil. The main break-down product of borax in the soil is boron. Boron from borax is absorbed from the soil by plants. Boron is usually found in soils and is an essential plant micro-nutrient. Soil naturally contains boron at a concentration of 5 to 150 ppm. Borax remains unchanged in the soil for varying lengths of time, depending on soil acidity and rainfall. The average persistence is one year or more. Borax is less persistent in acid soils and in areas with high rainfall. Soil microorganisms do not break down borax. The soil resource would experience minimal affect from the proposed action.

**5) Hydro & Fish Proposed Action**

Road density is at moderate and high levels. No new roads would be built for this project, therefore road density and its effects on runoff and stream peak and low flows are not issues here.

Percent of a draiange area in early seral stage of vegetation is an indicator of the hydrologic effect of increased yield in streams. The How Brushy EA indicated that areas in early seral vegetation for the project analysis area are at low to moderate levels (<10%). For the type of logging proposed here, additions of early seral vegetation would be minimal and acreage to be treated is small, so it is not an issue of concern.

The project is located primarily in a snow-dominated zone, so Transient Snow Zone concerns are not applicable here.

The proposed action would have no effect on stream temperatures in any stream. Streamside shade producing vegetation would be removed, and therefore would have no effect at the watershed scale including streams listed under 303d downstream of the project area.

Road density would not be affected at any scale.

Riparian Reserves would be protected through implementation of the Project Design Features.

### Fisheries

There would be no direct or indirect impacts to fisheries or aquatic wildlife from the treatments proposed under this alternative. None of the treatments proposed are in stream channels or Riparian Reserves, and the closest fish bearing stream to any of the units is approximately one mile away. Because there are no direct or indirect impacts, there would also be no change in cumulative impacts.

### Adherence of Proposed Action to Aquatic Conservation Strategy Objectives

The proposed treatments would not be located in stream channels or Riparian Reserves. The effects of treatments proposed would be limited to the immediate site. The project would not violate any of the Aquatic Conservation Strategy Objectives (ACS). Water quality, distribution, diversity and complexity of watershed features, spatial and temporal connectivity within and between watersheds, physical integrity of the aquatic system, the sediment regime, in-stream flows, species composition and structural diversity of plant communities in riparian areas and wetlands, populations of native plant, invertebrate, and vertebrate riparian-dependent species would all be maintained at current levels.

### Borax Stump Treatment Impacts

Borax is partially soluble in water. The potential for leaching is low. Borax is adsorbed by mineral particles in soil. Borax may leach more rapidly under high rainfall conditions. The potential for surface water contamination with borax is low. Surface waters naturally contain low levels of boron. The average boron concentration in surface waters ranges from 0.001 mg/L to 0.1 mg/L. No treatment is planned in any Riparian Reserve, therefore, the potential for affects to the water resource is minimal.

## **6) Botany Proposed Action**

Under the action alternative, there would be no direct affect to the one buffered population of *Asarum wagneri*. The buffer should result in the continued persistence of *Asarum wagneri* on the site while allowing the remainder of the stand to be thinned and potentially enhanced for future recolonization by *Asarum wagneri*. However, direct effects to undiscovered populations of *Asarum wagneri* could occur. Most of these would be the result of physical disturbance to the plants themselves, including trampling by workers during the thinning operation, and crushing of plants by logging equipment.

Indirect and cumulative effects would be beneficial to the persistence of *Asarum wagneri* on the site. Opening up the stand would allow for reduction in the potential for a stand replacing fire

and allow for the persistence of light levels conducive to retention of *Asarum wagneri* on the site.

#### Fungi - Borax Stump Treatment Impacts

*Heterobasidion annosum* is an aggressive pathogen. It precludes other fungal activity by colonizing the stump first. Other wood rotting fungi would invade in its absence.

In an Oregon borax stump treatment study to determine the distribution of boron in the environment, the following generalizations were made:

- a) There was not a deep, measurable penetration of boron into stumps (average of 4.6 cm in sapwood and 2.4 cm in heartwood).
- b) There were no treatment related increases in boron content of adjacent foliage, litter, or soil.
- c) There was not a detectable uptake of boron by plants which indicates that migration of boron away from treated sites into water, flora and fauna is unlikely (USDA, 1996).

There are several known Survey and Manage fungi sites within the proposed project area that could potentially be adversely affected by the Sporax® treatment. All of these sites have been buffered or are currently being buffered with a 100 foot radius buffer in accordance with established district protocols. All Sporax® treatments would occur outside of these buffers to minimize potential impacts to Survey and Manage fungi.

#### **D. NO ACTION ALTERNATIVE**

##### **1) Vegetation No Action**

#### Direct and Indirect Effects

No action would allow Unit #3 to remain overstocked and individual tree vigor and growth would remain poor. When radial growth is less than .5 inches per decade, pine trees cannot pitch-out bark beetles and tree mortality results (Dolph, 1985). Excess tree mortality represents a reduction in stand volume production and a loss of revenue and poor forest health.

Without action, forest structure and species composition could not be controlled. White fir would remain the predominant species throughout most of the units, and the shade intolerant tree species would continue to decline in number.

Without action white fir trees would continue to die because of root rot diseases. With tree mortality, forest stand structure would gradually shift to the understory reinitiation stage. The hundreds of dead trees per acre also present a high fuel hazard. No action contradicts the Medford District Resource Management Plan forest condition objectives in regard to forest health. The plan states that management emphasis be placed on treatments and harvests that restore stand conditions and ecosystem productivity.

#### Cumulative Effects

Without the harvesting of white fir, and an increase in shade intolerant tree species, forest diversity would remain poor. Shade tolerant white fir would continue to dominate forest stands

without active management. Tree root rot species would continue to spread without active management. With no forest stand density reduction, slow tree growth and vigor would result in individual tree and perhaps stand mortality. If severe stand mortality results, silvicultural options in the future would be reduced. It is possible that after bark beetle attack, or the spread of root rot diseases, there may be less than 16 trees per acre remaining in some forest overstories. If this happens we would not be able to harvest live commercial size trees for approximately 30 to 50 years and spotted owl habitat would be degraded. Shrub, forb, and grass species would become more abundant and provide forage and hiding cover for big game animals. Song bird habitat for certain species would be enhanced also.

Fire hazard would increase with the abundance of dead vegetation and ladder fuels. Forest fires could burn thousands of acres.

If surrounding private lands are harvested, the BLM forest lands may provide poor forest connectivity and old-growth trees may be non-existent.

#### Without Borax Stump Treatment

Root rot infected stands would have reduced canopy over time resulting in more understory vegetation.

#### **2) Wildlife No Action**

The no action alternative would have no direct effect on the following species: Northern Spotted Owl, Golden Eagle, Great Gray Owl, Northern Goshawk, Flammulated Owl, Fisher, White-headed Woodpecker, Black-backed Woodpecker, and Special Status mollusks.

#### Without Borax Stump Treatment

The effects of no action would be to allow the stands to continue the spread of annosus root rot. This would result in a reduction of stocking levels and canopy closure over time. This would make these stands less useful for late successional habitat associated wildlife and wildlife that prefer closed canopy stands. Snags would increase as additional trees become infected and die.

#### **3) Botany - No Action - Direct, Indirect, and Cumulative Effects**

The no action alternative would have no direct affect on the continued persistence of the “Bureau Tracking” species *Asarum wagneri*.

Indirect and cumulative effects might be detrimental to the continued persistence of *Asarum wagneri* within the confines of Unit# 1. *Asarum wagneri* tends to occupy semi-open areas and does not appear to do as well under conditions of dense shade. As the younger trees on the site continue to mature, the amount of light reaching the *Asarum wagneri* plants would continue to decrease, resulting in less than optimum conditions for this species. The current tree density also greatly increases the possibility of a stand replacing fire which would probably eliminate *Asarum wagneri* from this site.

At least two noxious weed species, *Cynoglossum officinale* and *Linaria Dalmatica* are known to

occur on the periphery of the sale area. Noxious weeds can out-compete the native flora, and rare plants, for water, light and space. If left un-treated, noxious weeds can reduce habitat suitability for the Bureau Special status plants adapted to those habitats. With the no action alternative, noxious weeds would continue to spread.

**4) Soils - No Action**

Under the no action alternative there would be no impact to the soil resource.

**5) Hydrology - No Action**

There would be no direct, indirect, or cumulative impacts to hydrology or water quality if no action took place.

**6) Fisheries - No Action**

There would be no direct, indirect, or cumulative impacts to fisheries or aquatic wildlife if no action took place.

**CRITICAL ELEMENTS**

The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order and must be considered in all EAs.

Critical Element	Affected		Critical Element	Affected	
	Yes	No		Yes	No
Air Quality		✓	T & E Species	✓*	
ACECs		✓	Wastes, Hazardous/Solid		✓
Cultural Resources		✓	Water Quality		✓
Farmlands, Prime/Unique		✓	Wetlands/Riparian Zones		✓
Floodplains		✓	Wild & Scenic Rivers		✓
Nat. Amer. Rel. Concerns		✓	Wilderness		✓
Invasive, Nonnative Species		✓	Energy Resources (EO 13212)		✓
			Environmental Justice		✓

\*These affected critical elements would be impacted by implementing the Proposed Action. The impacts are being reduced by designing the Proposed Action with project design, Best Management Practices, Management Action/Direction, Standard and Guidelines as outlined in the Environmental Impact Statements (EIS)/Record of Decisions (RMP) (USDI BLM 1995)(USDA FS; USDI BLM 2001) tiered to in Chapter 1. The impacts are not affected beyond those already analyzed by the above-mentioned documents.

**CONSULTATION WITH OTHERS**

An interdisciplinary team of resource specialists reviewed the proposal and all pertinent information, and identified relevant issues to be addressed during the environmental analysis.

### **EA Availability and Distribution List**

Upon completion of this EA, a legal notification was placed in the Medford Mail Tribune offering a public review and comment period. For additional information, please contact Bill Yocum at (541) 618-2384.

This EA was distributed to the following agencies, organizations, lease holders, and tribes:

#### **Organizations and Agencies**

Association of O&C Counties  
Audubon Society  
Friends of the Greensprings  
Jackson County Stockmen's Association  
Headwaters  
Jackson County Commissioners  
Jackson Co. Soil and Water Conservation District  
Klamath Siskiyou Wildlands Center  
Northwest Environmental Defense Center  
Oregon Department Forestry  
Oregon Natural Resources Council  
Oregon Department of Fish and Wildlife  
Rogue River National Forest (RRNF)  
The Pacific Rivers Council  
Southern Oregon University

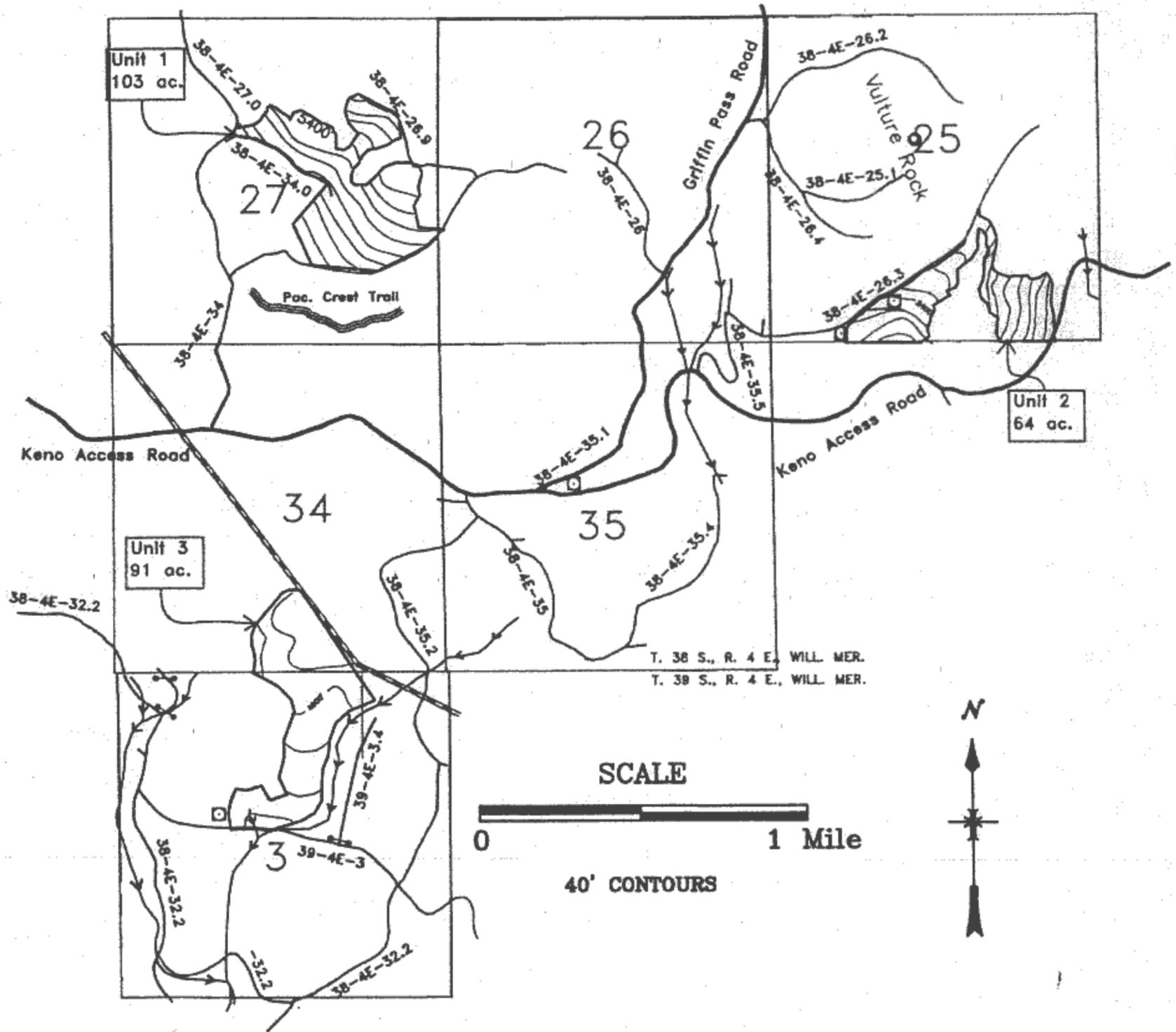
#### **Federally Recognized Tribes**

Cow Creek Band of Umpqua Indians  
Confederated Tribes of Grand Ronde  
Confederated Tribes of Siletz  
Klamath Tribe  
Quartz Valley Indian Reservation (Shasta Tribe)  
Shasta Nation

#### **Other Tribes**

Confederated Bands [Shasta], Shasta Upper Klamath Indians  
Confederated Tribes of the Rogue-table Rock and Associated Tribes

# How Perfect E.A. Map

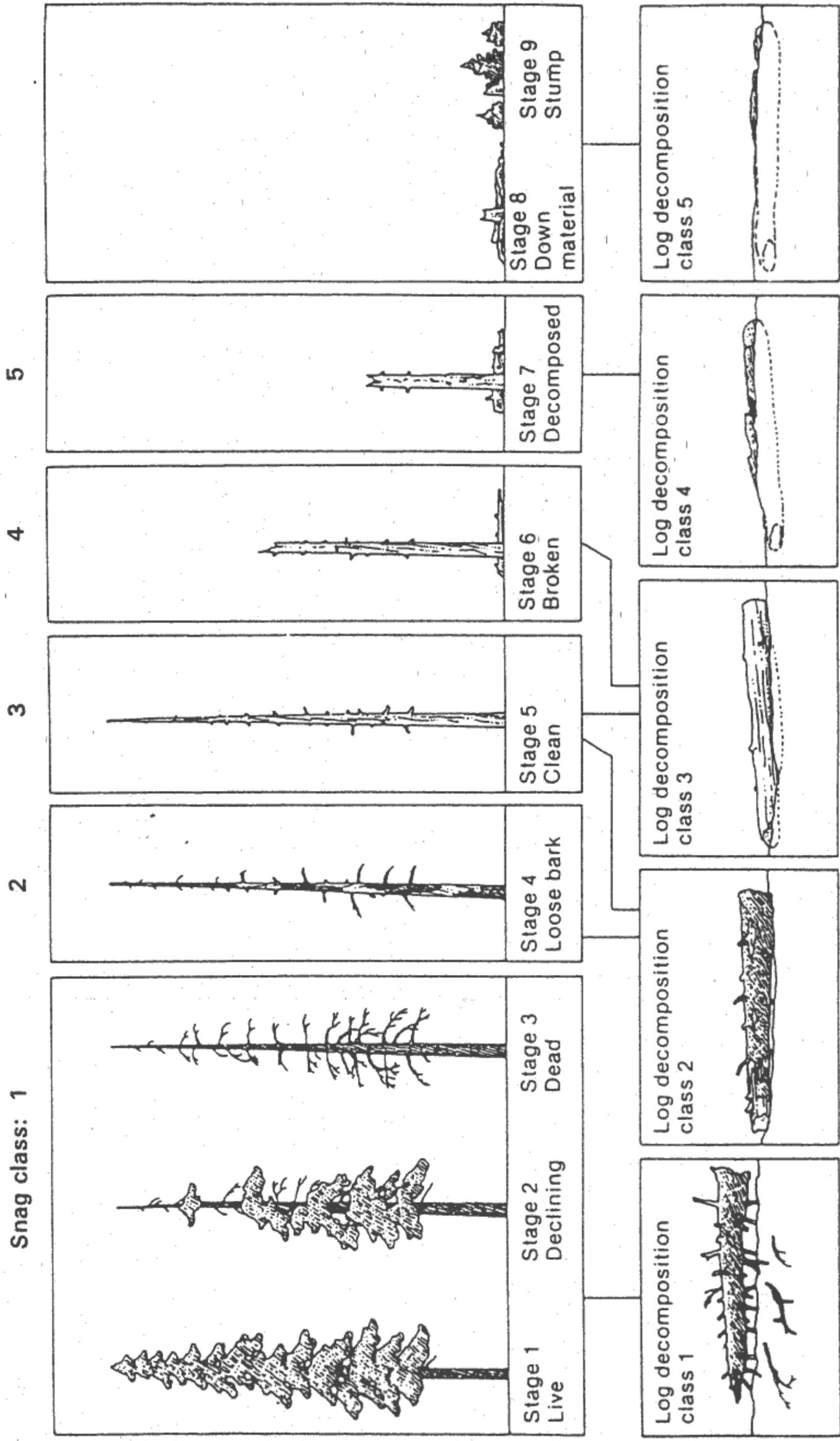


## Legend

- Existing Road
- Stream
- Underground Gasline
- Harvest Unit Boundary with Contours
- Genetically superior trees

H-5250-1 FOREST SURVEY HANDBOOK  
STAND EXAM DETAIL SCREEN

THE FIVE SNAG CLASSES AND THEIR RELATIONSHIP TO LOG CLASSES



Source: Brown, E. R., tech. ed. 1985. Management of wildlife and fish habitats in forests in western Oregon and Washington, Part 1 - Chapter Narratives. Publ. R6-F and WL-192-1985. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Region: 172.