# Marys Peak Resource Area (Alsea Area) Coarse Woody Debris/Snag Creation and Older Forest Legacy Tree Release

**Environmental Assessment,**
**Finding of No Significant Impact, and**
**Decision Record**

Environmental Assessment Number OR080-08-13

June 30, 2008

United States Department of the Interior
Bureau of Land Management
Oregon State Office
Salem District
Marys Peak Resource Area

BLM-managed lands located in multiple sections within the Upper Alsea River Watershed
River and Lower Alsea River Watersheds
Benton County, Oregon

Responsible Agency: USDI - Bureau of Land Management

Responsible Official: Trish Wilson, Field Manager
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1717 Fabry Road SE
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BLM
Salem District

As the Nation's principal conservation agency, the Department of Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering economic use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

**BLM/OR/WA/AE-08/061+1792**

**Environmental Assessment, Finding Of No Significant Impact, And Decision Record**

**Type of Project:** Snag/CWD (coarse woody debris) creation, older forest legacy tree release and potential removal of excess CWD for aquatic habitat restoration purposes located within 233 acres of LSR (Late Successional Reserve) and RR (Riparian Reserve) LUAs (Land Use Allocations).

**Location of Proposed Action:** The project areas are located in multiple sections within the Upper Alsea River and Lower Alsea River Watersheds located in Benton County and within 10 miles of Alsea, Oregon (see location map).

**Conformance with Applicable Land Use Plan:** The proposed action is in conformance with the

- *Salem District Record of Decision and Resource and Management Plan* (RMP), dated May 1995 Plan and implement silvicultural treatments inside Late-Successional Reserves that are beneficial to the creation of late-successional habitat (pg. 16) and enhance or restore habitat (e.g. CWD, snag habitat, in-stream large wood) for populations of native riparian-dependent plants, invertebrates, and vertebrate species (pg. 7);
- *North Fork Alsea River Watershed Analysis*, dated July 1996;
- *Lower Alsea River Watershed Analysis*, dated December 1999;
- *South Fork Alsea Watershed Analysis* dated October 1995;
- *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* and *Standard and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl*, dated April 1994;
- *2007 Record of Decision To Remove the Survey and Manage Mitigation Measure Standards and Guidelines from Bureau of Land Management Resource Management Plans Within the Range of the Northern Spotted Owl*, dated July 2007.

The analysis in this EA (Environmental Assessment) is site-specific and supplements analyses found in the RMP/FEIS *(Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994). The RMP/FEIS includes the analysis from 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*, February 1994 (NWFP/FSEIS).

The RMP/FEIS is amended by the *Final Supplement to the 2004 Supplemental Environmental Impact Statement to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines*, (SEIS) June 2007.

The above documents are incorporated by reference and are available at the Salem District Office.

The proposed action is located within the coastal zone as defined by the Oregon Coastal Management Program. This proposal is consistent with the objectives of the program, and the State planning goals which form the foundation for compliance with the requirements of the Coastal Zone Act. Management actions/directions found in the RMP were determined to be consistent with the Oregon Coastal Management Program.

**Survey and Manage Review**

The Bureau of Land Management (BLM) is aware of the August 1, 2005, U.S. District Court order in Northwest Ecosystem Alliance et al. v. Rey et al. which found portions of the *Final Supplemental Environmental Impact Statement to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines* (January, 2004) (EIS) inadequate. Subsequently in that case, on January 9, 2006, the court ordered:

- set aside the 2004 Record of Decision *To Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (March, 2004) (2004 ROD) and
- reinstate the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (January, 2001) (2001 ROD), including any amendments or modifications in effect as of March 21, 2004.

The BLM is also aware of the November 6, 2006, Ninth Circuit Court opinion in Klamath-Siskiyou Wildlands Center et al. v. Boody et al., No. 06-35214 (CV 03-3124, District of Oregon). The court held that the 2001 and 2003 Annual Species Reviews (ASRs) regarding the red tree vole are invalid under the Federal Land Policy and Management Act (FLPMA) and National Environmental Policy Act (NEPA) and concluded that the BLM's Cow Catcher and Cotton Snake timber sales violate federal law.

This court opinion is specifically directed toward the two sales challenged in this lawsuit. The BLM anticipates the case to be remanded to the District Court for an order granting relief in regard to those two sales. At this time, the ASR process itself has not been invalidated, nor have all the changes made by the 2001-2003 ASR processes been vacated or withdrawn, nor have species been reinstated to the Survey and Manage program, except for the red tree vole. The court has not yet specified what relief, such as an injunction, will be ordered in regard to the Ninth Circuit Court opinion. Injunctions for NEPA violations are common but not automatic.

We do not expect that the litigation over the Annual Species Review process in Klamath-Siskiyou Wildlands Center et al. v. Boody et al will affect the Marys Peak Resource Area (Alsea Area) CWD/Snag Creation and Older Forest Legacy Tree Release Project because review of existing maps, databases etc. indicate there are no known sites and the area is generally not considered as suitable habitat for any bureau sensitive species.

The Marys Peak Resource Area (Alsea Area) CWD/Snag Creation and Older Forest Legacy Tree Release Project conforms with the 2007 Record of Decision *To Remove the Survey and Manage Mitigation Measure Standards and Guidelines from Bureau of Land Management Resource Management Plans Within the Range of the Northern Spotted Owl*. The decision is consistent with the Northwest Forest Plan, including all plan amendments in effect on the date of the decision. The EA analysis here tiers to that of the Northwest Forest Plan and supporting environmental impact statements in effect on the date of the decision.

**Compliance with the ACS (Aquatic Conservation Strategy)**

On March 30, 2007, the District Court, Western District of Washington, ruled adverse to the U. S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA-Fisheries)

and USFS (US Forest Service) and BLM (Agencies) in *Pacific Coast Fed. of Fishermen's Assn. et al v. Natl. Marine Fisheries Service, et al and American Forest Resource Council,* Civ. No. 04-1299RSM (W.D. Wash) (PCFFA IV). Based on violations of the Endangered Species Act (ESA) and the National Environmental Policy Act (NEPA), the Court set aside:

The USFWS Biological Opinion (March 18, 2004 ),
The NOAA-Fisheries Biological Opinion for the ACS Amendment (March 19, 2004),
The ACS Amendment Final Supplemental Environmental Impact Statement (FSEIS) (October 2003), and
The ACS Amendment adopted by the Record of Decision dated March 22, 2004.

Previously, in *Pacific Coast Fed. Of Fishermen's Assn. v. Natl. Marine Fisheries Service,* 265 F.3d 1028 (9th Cir. 2001)*(PCFFA II)*, the United States Court of Appeals for the Ninth Circuit ruled that because the evaluation of a project's consistency with the long-term, watershed level ACS objectives could overlook short-term, site-scale effects that could have serious consequences to a listed species, these short-term, site-scale effects must be considered. The EA (pp. 35 and 36) shows how the Marys Peak Resource Area (Alsea Area) CWD/Snag Creation and Older Forest Legacy Tree Release Project meets the Aquatic Conservation Strategy in the context of PCFFA IV and PCFFA II.

## Purpose of and Need for Action:

A mounting body of research has demonstrated the importance of maintaining and enhancing forest legacy features, CWD, and in-stream wood structures. The Northwest Forest Plan, Late Successional Reserve Assessment Oregon Coast Province-Southern Portion and local watershed analyses have all identified these types of treatments as a key component of restoration efforts within the LSR LUAs.

The purpose for the proposed action is to release declining older forest legacy trees (see Figure 1) that are undergoing encroachment from densely-stocked younger conifer stands and to enhance terrestrial wildlife habitats by creation of snags and CWD within such forest stands where this structural component is lacking. An additional purpose will be to create a source of in-stream log structures that will be removed for aquatic habitat restoration purposes.

The proposed action will address the immediate need for treatment of declining older forest legacy trees in forest stands where the ascending canopy of densely-stocked younger conifers threatens to shade out and kill these older forest legacy trees (see Figure 1). There is a need to cut, girdle or top individual trees or trees in clumps (¼ acre to one acre in size) which are encroaching on and adversely affecting the survivability of older forest legacy trees. Saving the declining old forest legacy trees and creating high quality CWD is expected to benefit numerous wildlife species that are associated with late-successional forest structure. In particular, the threatened marbled murrelet is known to nest on large mossy limbs of live old-growth trees. This project will benefit the marbled murrelet by helping maintain and recover habitat quality within CHUs (Critical Habitat Units) that have been designated for this species. Felled trees that are in excess of that needed to meet local CWD objectives will be removed for in-stream log structure for fish-bearing streams where large woody structures are lacking.

Many of the proposed treatment units have been deemed infeasible to include within traditional timber sale thinning harvests because of their small size, widely scattered arrangement, and difficult access. Such areas will not receive any treatment if not for their inclusion within this type of enhancement/ restoration project.

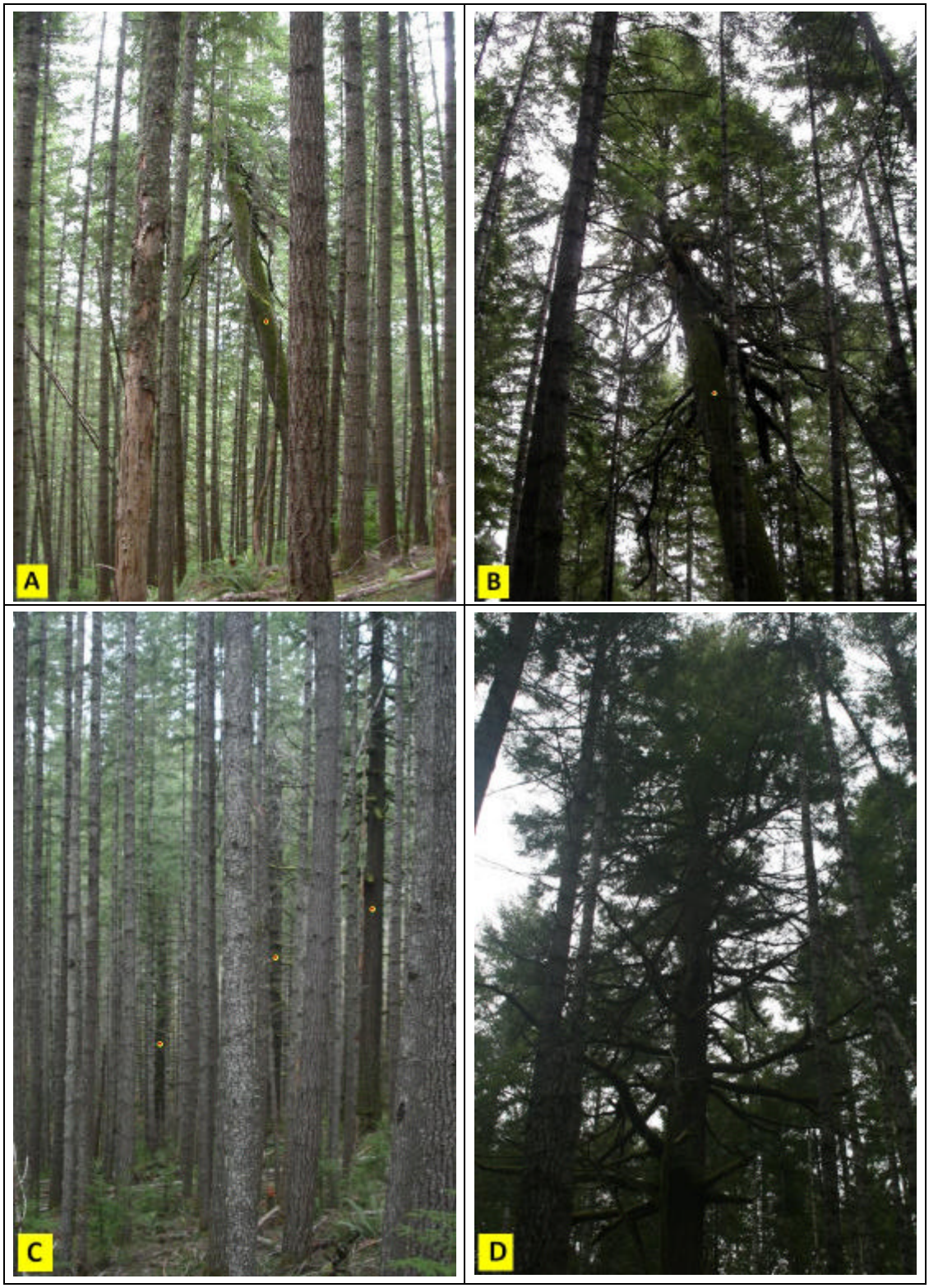



**Figure 1.** Examples of declining older forest legacy trees that will benefit from release from encroaching younger conifer forest stand. (A) Declining old forest legacy tree. (B) Older forest legacy tree showing dead lower limbs and deformed top. (C) Three older forest legacy trees within dense young conifer stand. (D). Older forest legacy tree showing dead lower limbs and canopy encroachment.

## Description of the Proposed Action:

Older forest legacy trees (mature open-grown trees or old-growth remnant trees) that occur in densely-stocked conifer stands (30 to 90 years old) will be released through the felling, girdling and topping of individual trees or creation of gaps (¼ acre to one acre in size). Treatments in selected forest stands will release the older forest legacy trees so that this complex crown structure will be released from adjacent tree competition for light and water. The majority of trees targeted to be felled, topped or girdled will be 7 to19 inches DBHOB (diameter breast height outside bark) Douglas-fir trees and none will be greater than 30 inches DBHOB. The felled, girdled or topped trees will function as snags and CWD adjacent to older forest legacy trees. Trees will not be felled within the SPZ (stream protection zone) which consists of a buffer along streams and identified wet areas (minimum distance of 50 feet from streams). Some felled trees will be removed for use as fish logs where large woody structures are lacking. See **Figure 2** for an example of potential treatment unit design.

*Design Features*

**Table 1: Season of Operation/Operating Conditions**

| Season of Operation and/or Operating Conditions | Applies to Operation | Objective |
|---|---|---|
| During periods of low soil moisture, generally July 15-October 15 | Ground-based yarding | Minimize soil erosion/compaction |
| During periods of low precipitation, generally May 1-October 31 | Restoration Log Hauling | Minimize soil erosion/stream sedimentation |
| No restrictions from August 6 to March 31 | All operations | Minimize noise disturbance (marbled murrelet) |
| Noise above ambient forest noise must occur beyond 100 yards of un-surveyed marbled murrelet habitat (April 1 to August 5) | Operation of power equipment | Minimize noise disturbance (marbled murrelet) |
| Daily timing restriction (activity allowed from two hours after sunrise until two hours before sunset) within 440 yards of un-surveyed suitable marbled murrelet habitat from April 1 through September 15. | Operation of power equipment | Minimize noise disturbance (marbled murrelet) |

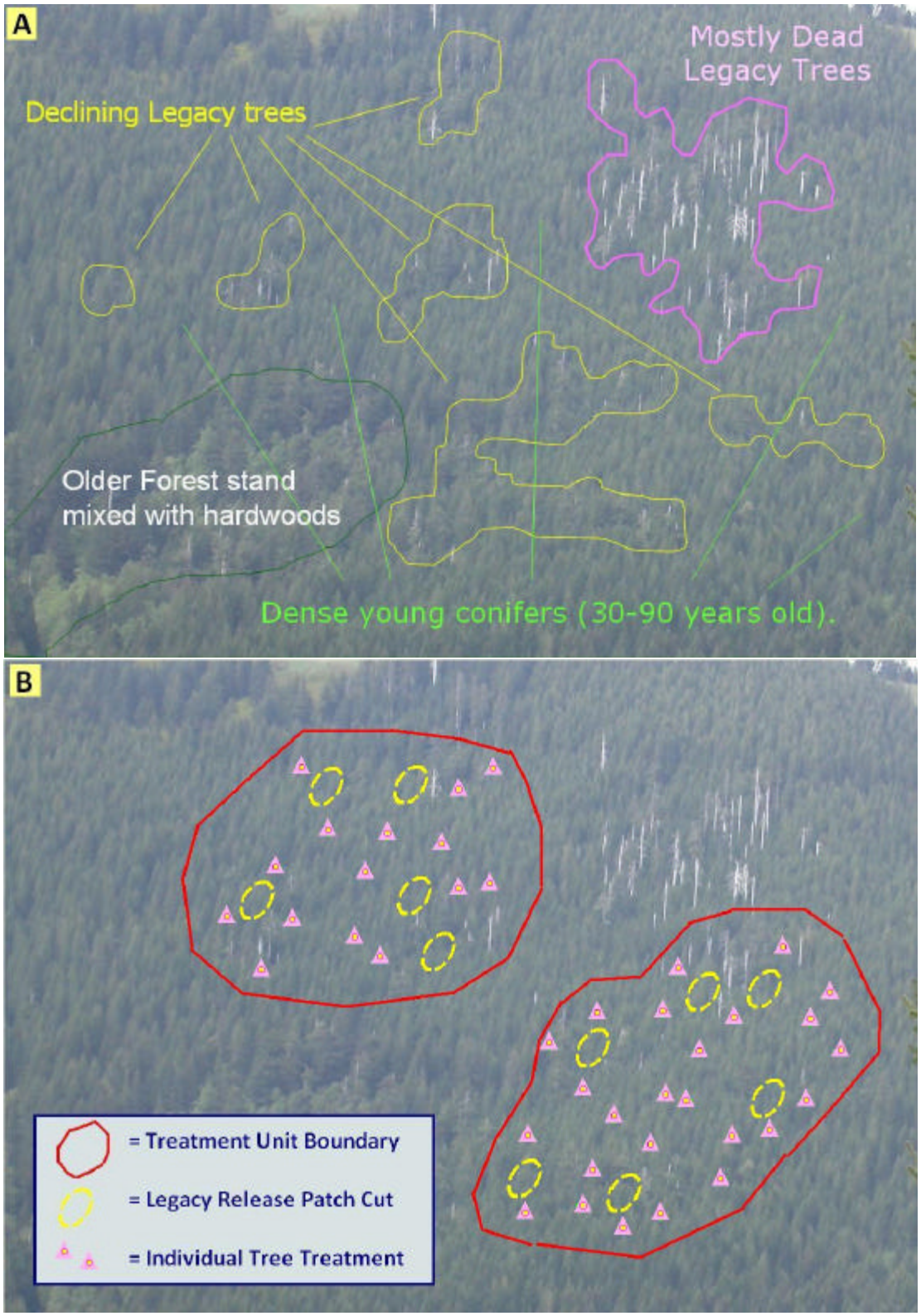



**Figure 2.** Forest Landscape with declining legacy trees and potential treatment units. (A) Declining legacy trees within forest landscape. (B) Example of potential treatment unit to release declining legacy trees and enhance coarse woody debris structure.

**To minimize soil erosion as a source of sedimentation to streams and to minimize soil productivity loss from soil compaction, loss of slope stability or loss of soil duff layer:**

- Trees to be used for aquatic habitat restoration will be yarded utilizing ground and/or skyline equipment and transported to the Alsea Road Maintenance Shop (Township 14 South., Range 8 West., Section 26). Only trees adjacent to or in close proximity (within approximately 300 feet) of roads will be yarded utilizing ground-based or skyline equipment;
- The removal of trees utilizing ground-based yarding equipment will be accomplished by wheeled or tracked equipment off the existing roadway. The equipment will be limited to slopes less than 35 percent;
- Waterbars will be constructed where they are determined to be necessary by the contract adminstrator;
- In the skyline yarding area, one end suspension of logs will be required over as much of the area as possible to minimize soil compaction, damage to reserve trees, and disturbance. Yarding corridors will be 15 feet or less in width. Lateral yarding up to 75 feet from the skyline will be required.

**To protect and enhance stand diversity and wildlife habitat components:**

- Treatment areas within defined boundaries have been identified that include one or more older forest legacy trees selected for release (see EA Maps);
- Up to 5 large trees per acre (trees having greater than average stand diameter, pretreatment) and up to 20 small trees per acre (trees having less than average stand diameter, suppressed trees) will be selected for CWD treatment within the patches;
- Trees selected for CWD treatment will occur within patches (¼ acre to one acre in size) that surround older forest legacy trees. No more than one acre of patches will occur per three acres of treatment area (less than 33 percent in patches), and maintain a canopy closure greater than 60 percent over the entire treatment unit;
- No older forest legacy trees or large conifer trees exhibiting complex upper canopy structure will be cut.

**To Protect Threatened and Endangered and Bureau Special Status Plants and Animals:**

- No suitable northern spotted owl or marbled murrelet nest trees will be cut or damaged to unsuitable conditions;
- No trees greater than 30 inches DBHOB will be felled, and no trees having existing stick nests will be selected for cutting;
- Site management of any federal or Oregon state Threatened and Endangered (T and E) or Bureau special status (SS) botanical and fungal species found as a result of additional inventories will be accomplished in accordance with, BLM Manual 6840- *Special Status Species Management* and the *Record of Decision To Remove the Survey and Manage Mitigation Measure Standards and Guidelines from Bureau of Land Management Resource Management Plans Within the Range of the Northern Spotted Owl (*July, 2007*);*
- Project implementation will be conducted in conformance with the applicable biological opinion or letter of concurrence concerning federally listed wildlife species. Pertinent terms and conditions from these consultation documents will include:
    - ✓ No project activities will occur within 300 feet of unsurveyed suitable marbled murrelet habitat during the critical breeding period (April-1 to August-5);
    - ✓ Project activities occurring within 300 feet of unsurveyed suitable marbled murrelet habitat during the period of August-6 to September-15 must not begin until 2 hours after sunrise, and must end 2 hours before sunset.

- ✓ The Area Biologist will be notified if any federally listed wildlife species are found occupying stands proposed for green tree selection during project activities.

**To Protect Threatened and Endangered Fisheries:**

- Application of design criteria from the *Aquatic Restoration Biological Opinion* (2007) for Riparian Vegetation Treatments (non-commercial, mechanical) and Tree Removal for Large Wood Projects will be implemented as appropriate. Pertinent Terms and Conditions from this consultation document will include:
  - ✓ Trees may be removed by cable, ground-based equipment, horses or helicopters, or felled directly into the streams. Felled trees may be stock-piled for later use in instream restoration projects.
  - ✓ Individual trees or small groups of trees (less than five) should come from the periphery of permanent openings (roads etc) or from the periphery of non-permanent openings (*e.g.* plantations, along recent clear-cuts etc).
  - ✓ Trees selected for large wood restoration projects must be spaced at least one site potential tree height apart and at least one crown width from any trees with potential nesting structure for ESA-listed bird species.
  - ✓ An experienced silviculturist, botanist, ecologist, or associated technician, and wildlife biologist shall be involved in designing vegetation treatments.
  - ✓ No roads or landings will be constructed.
  - ✓ Thin dense understories to maintain survival of late-seral trees.
  - ✓ Trees felled within riparian area will be used to restore aquatic and terrestrial habitat by returning CWD levels to within the range of natural variability (RNV). Felled trees in excess of the RNV can be removed.

**To meet the objectives of the Aquatic Conservation Strategy (ACS) Component #1 (Riparian Reserves):**

- Stream protection zones where no cutting is permitted, will be established along all streams and identified wet areas within the treatment areas. These zones will be a minimum of approximately 50 feet from the high water mark.

**To contain and/or reduce noxious weed infestations on BLM-managed lands using an integrated pest management approach:**

- All soil disrupting equipment moved into the project area from outside the north and central Coast Range Physiographic Province (see map in Appendix) or moved into the project area from known Oregon Department of Agriculture "A" designated weed infestation areas will be required to be clean of dirt and vegetation as directed by the contract administrator.
- All large areas of exposed mineral soil (skid roads), as determined by the contract administrator will be grass seeded with Oregon Certified (blue tagged) red fescue (*Festuca rubra*) as a rate equal to 40 pounds per acre or sown/planted with other native species as approved by the resource area botanist.

**To reduce fire hazard risk**

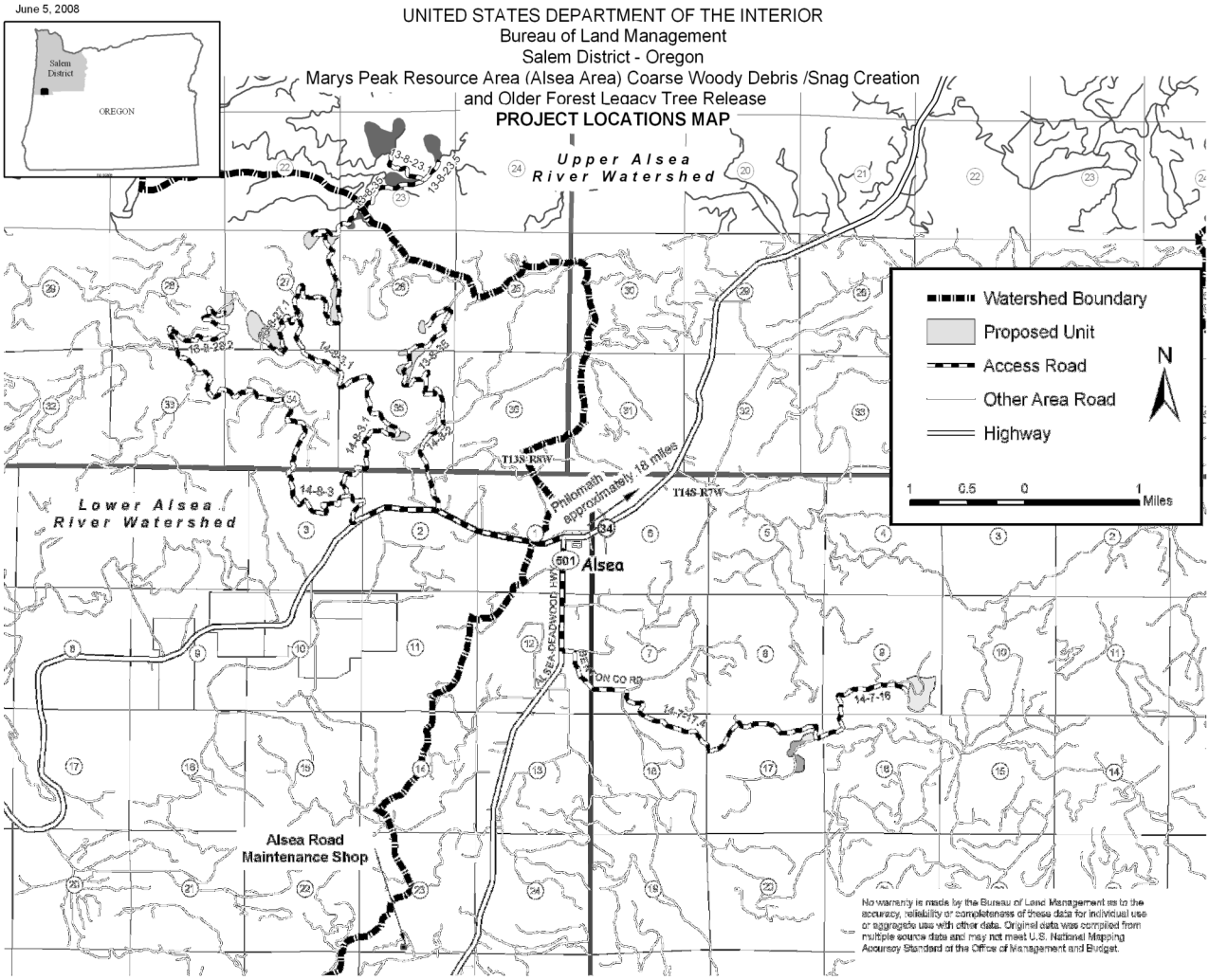
- Light accumulations of debris along roads that will remain in drivable condition following the completion of the project will be scattered along the length of rights-of-way.
- Trees to be removed as fish logs will be whole tree yarded and not limbed until reaching a landing.
- Large accumulations of debris on or within 30 feet of the edge of existing roads will be

machine or hand piled for burning. In order to reduce the amount of material to be burned, suitable firewood material close to the road should be separated and set aside in accessible areas adjacent to the road and made available to the public. Logs, tops, and debris will be decked or piled as directed by the contract administrator (except for logs removed from the project areas).

- Slash created during the felling or logging operation that is more than 30 feet from roads will generally be left in place, on site, untreated. If determined to pose an un-acceptable risk by the contract administrator, slash beyond 30 feet from roads may be treated in the patch cut areas where heavy concentrations exist. For example, if multiple trees are felled in close proximity, slash accumulations may be lopped and scattered, chipped and/or piled and burned to reduce the concentration of fuel.
- During the late summer before the onset of fall rains, all piles to be burned will be covered at least 80 percent with 4 mil black polyethylene plastic.
- All burning will occur under favorable smoke dispersal conditions in the fall, in compliance with the Oregon State Smoke Management Plan (RMP pp. 22, 65).
- As an alternative to piling and burning, when ever possible, alternative waste recycling of slash material should be encouraged. This may be: providing firewood to the public, chipping for co-gen power production, chipping for soil amendments, soil protection, etc. For chipping off road, the chipper shall be track mounted and be restricted to areas with slopes less than 50 percent.

## Alternatives Considered but not Analyzed:

None.


June 5, 2008
UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Salem District - Oregon
Marys Peak Resource Area (Alsea Area) Coarse Woody Debris /Snag Creation
and Older Forest Legacy Tree Release
PROJECT LOCATIONS MAP
Salem District
OREGON
Upper Alsea River Watershed
Lower Alsea River Watershed
Alsea
Philomath approximately 18 miles
T13S R7W
T14S R7W
ALSEA-DEADWOOD HWY
Alsea Road Maintenance Shop
Watershed Boundary
Proposed Unit
Access Road
Other Area Road
Highway
N
1 0.5 0 1 Miles
No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual use or aggregate use with other data. Original data was compiled from multiple source data and may not meet U.S. National Mapping Accuracy Standard of the Office of Management and Budget.

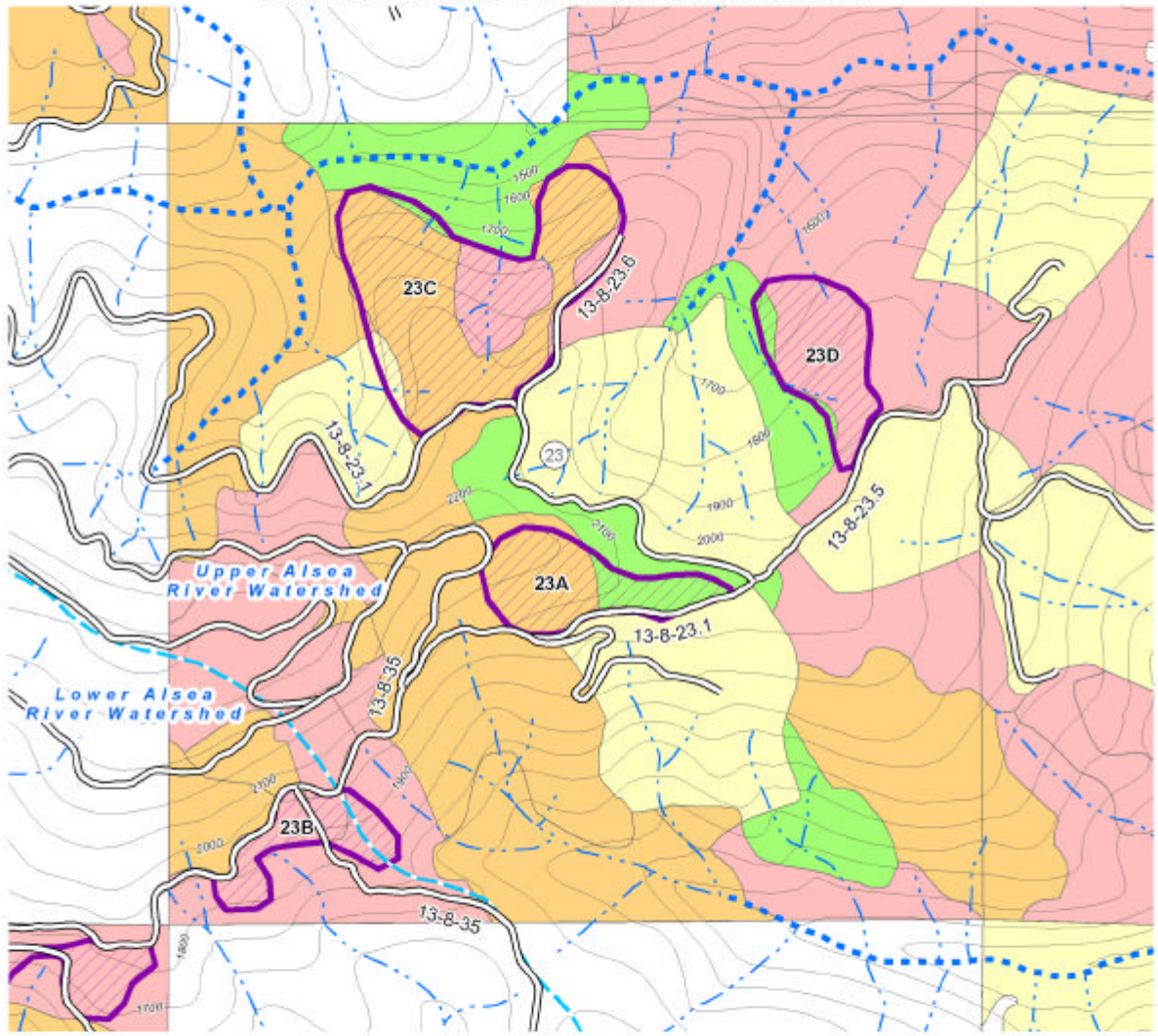
Project Maps

June 18, 2008

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Salem District - Oregon
Marys Peak Resource Area (Alsea Area) Coarse Woody Debris/Snag Creation
and Older Forest Legacy Tree Release
**EA MAP**

Sheet 1 of 4

T. 13 S. R.8 W.,Section 23, W.M. - SALEM DISTRICT - OREGON



N

1,000 500 0 1,000 Feet

Contour Interval = 100 ft.

EA Units - 233 acres
Watershed Boundary
Non-fishbearing stream
Fishbearing stream
Road
Contours

**Forest Age**
200+ years old
120 - 199 years old
80 - 119 years old
40 - 79 years old
0 - 39 years old

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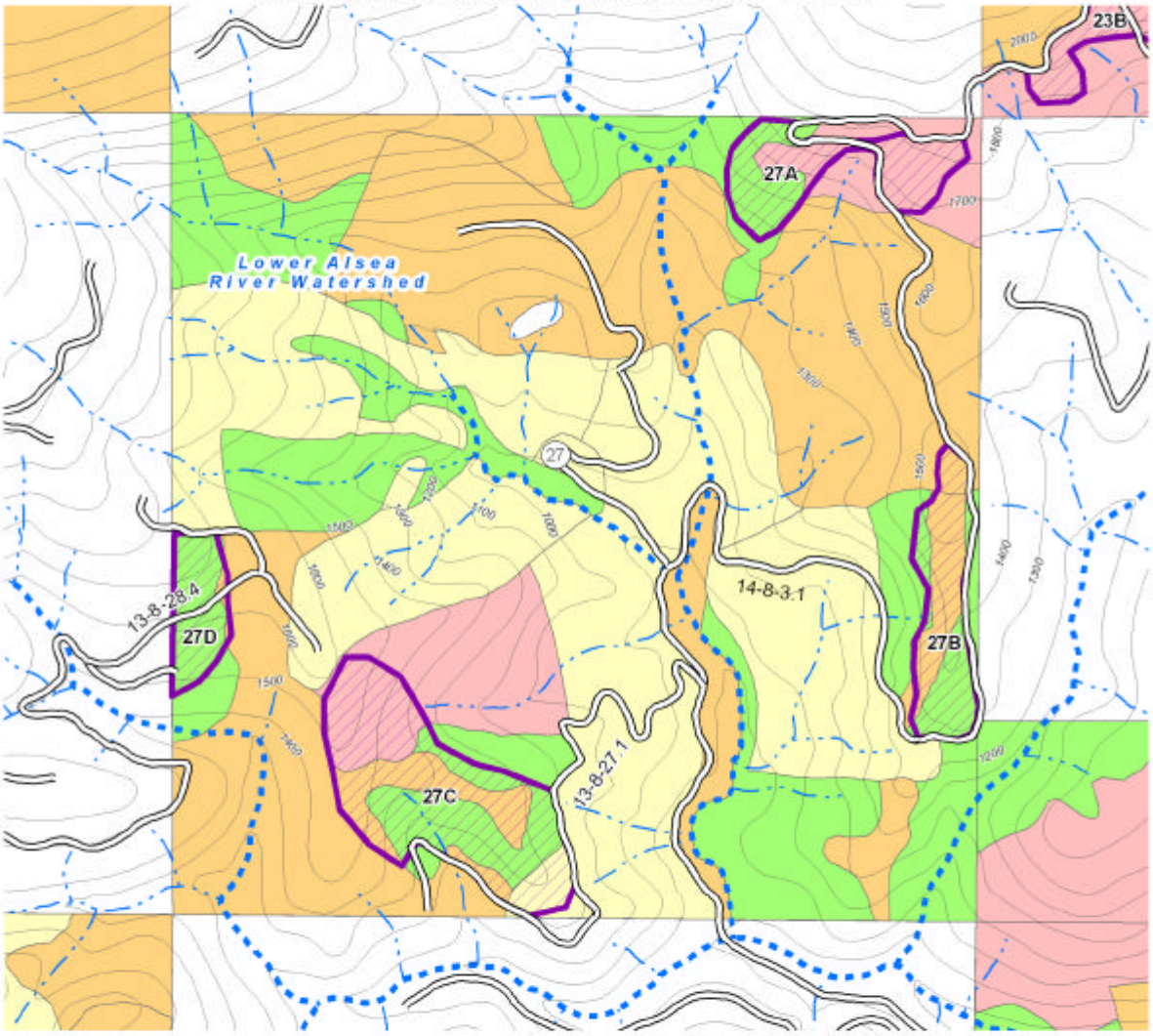
June 18, 2008

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Salem District - Oregon
Marys Peak Resource Area (Alsea Area) Coarse Woody Debris/Snag Creation
and Older Forest Legacy Tree Release
**EA MAP**

Sheet 2 of 4

T. 13 S. R.8 W., Section 27, W.M. - SALEM DISTRICT - OREGON



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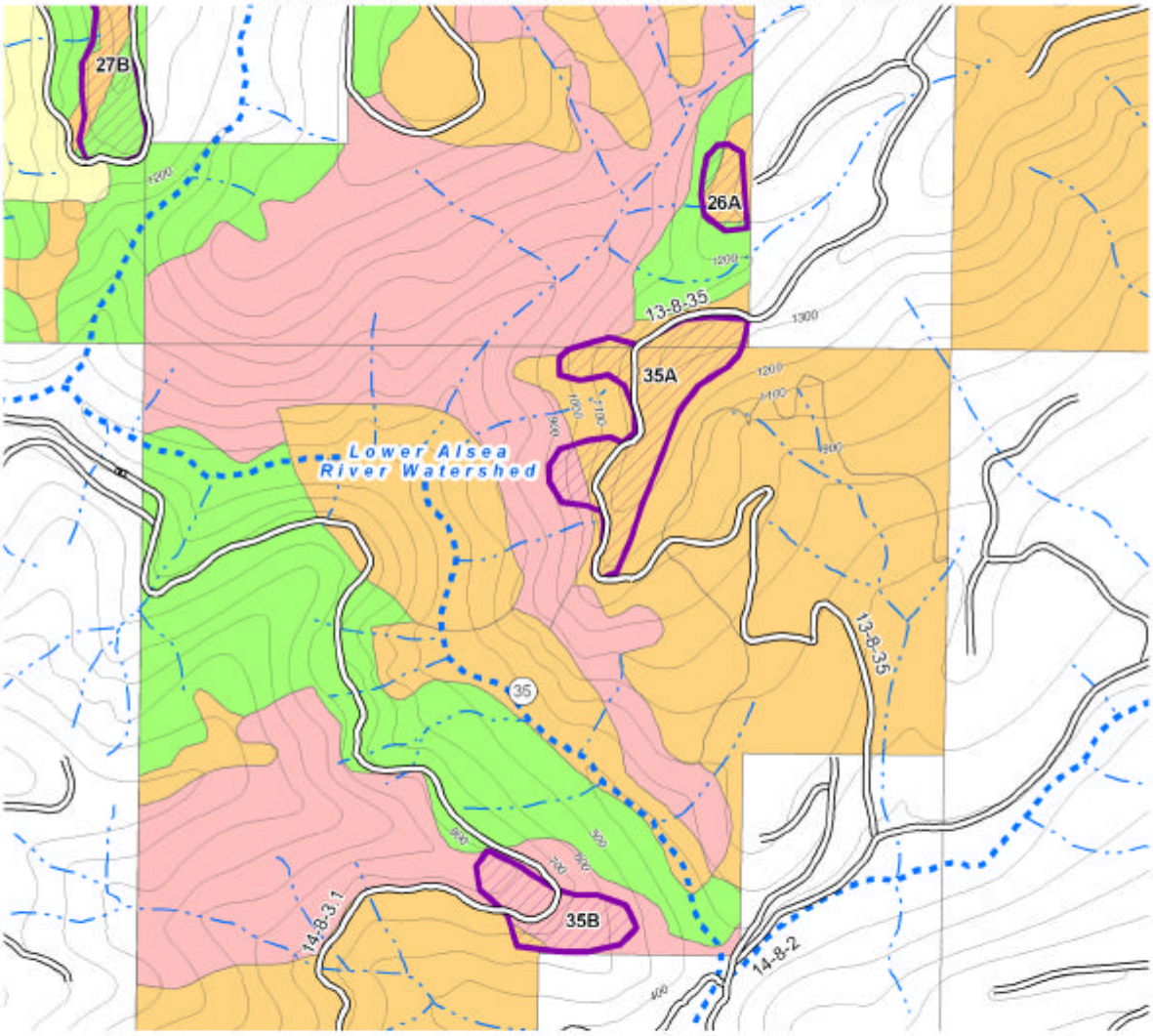
June 18, 2008

Sheet 3 of 4

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Salem District - Oregon
Marys Peak Resource Area (Alsea Area) Coarse Woody Debris/Snag Creation
and Older Forest Legacy Tree Release
**EA MAP**

T. 13 S. R.8 W., Sections 26 & 35, W.M. - SALEM DISTRICT - OREGON



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June 18, 2008

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Salem District - Oregon
Marys Peak Resource Area (Alsea Area) Coarse Woody Debris/Snag Creation
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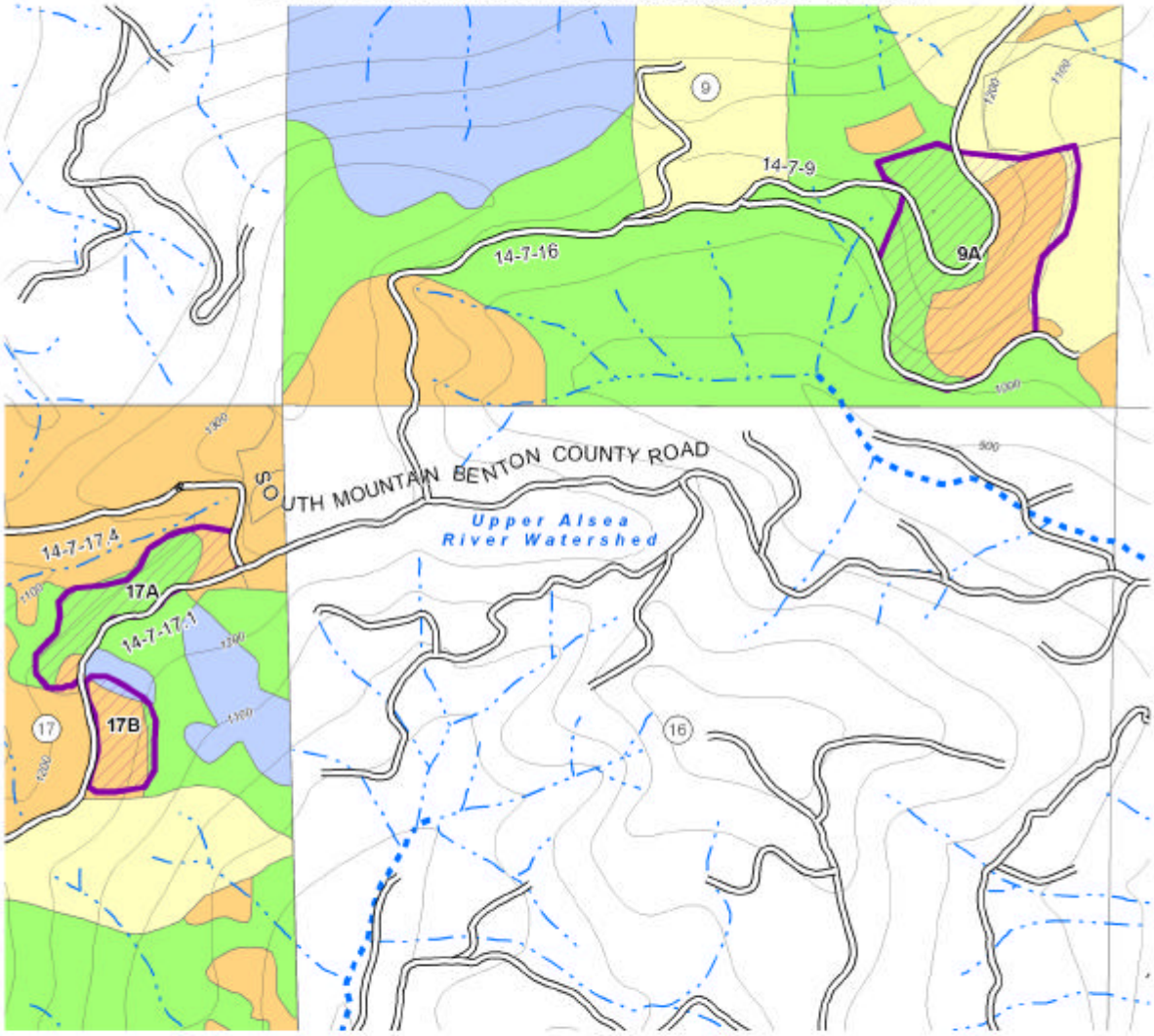
**EA MAP**

Sheet 4 of 4

T. 14 S. R.7 W., Sections 9 & 17, W.M. - SALEM DISTRICT - OREGON



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## Consultation and Public Involvement:

*ESA consultation:*

**Wildlife:** To address concerns for effects to federally listed wildlife species and potential modification of critical habitats, the proposed action was consulted upon with the U.S. Fish and Wildlife Service, as required under Section 7 of the ESA. Consultation for this proposed action was facilitated by its inclusion within a programmatic Biological Assessment (BA) that analyzed all projects that may modify the habitat of listed wildlife species on federal lands within the Northern Oregon Coast Range during fiscal years 2007 and 2008. The resulting Letter of Concurrence (ref# 1-7-2006-I-0190, dated October 3, 2006) concurred with the BA, that this action was not likely to adversely affect northern spotted owl and marbled murrelet critical habitat. This proposed action has been designed to incorporate all appropriate design standards set forth in the BA which form the basis for compliance with the letter of concurrence.

**Fish:** On February 11, 2008, the NOAA NMFS listed the Oregon Coast Coho salmon Evolutionarily Significant Unit as threatened under the Endangered Species Act (ESA). The project is not expected to adversely affect Endangered or Threatened Species listed under the Endangered Species Act (ESA) of 1973 [40 CFR 1508.27(b) (9)].

Consultation with NOAA NMFS is required for all actions which may affect listed fish species and critical habitat under the ESA [40 CFR 1508.27 (b)(9)].

Proposed actions which may affect will comply with existing programmatic consultation and relevant design criteria, and no additional consultation will be necessary. The proposed action is covered under NOAA NMFS *Endangered Species Act Section 7 Programmatic Consultation Biological and Conference Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Fish Habitat Restoration Activities in Oregon and Washington, CY2007-CY2012*.

Protection of Essential Fish Habitat (EFH), as described by the Magnuson/Stevens Fisheries Conservation and Management Act, and consultation with NOAA NMFS is required for all projects which may adversely affect EFH of Chinook or coho salmon in the action area. The proposed action, with the incorporation of project design features, is not expected to adversely affect EFH. Thus, no consultation with NOAA NMFS on EFH is required for this project. Actions and effects beyond the scope of the analysis provided will require additional review and potentially result in the need to consult with NOAA NMFS.

*Public Involvement:* In compliance with the NEPA, a scoping letter dated February 5, 2007, was sent to 48 potentially affected and/or interested individuals, groups, and agencies. One comment letter (generally in favor of the proposal) was received in response to this scoping.

**Review of the Elements of the Environment:**

The interdisciplinary team reviewed the elements of the environment, required by law, regulation, Executive Order and policy, to determine if they will be affected by the proposed action. *Table 1* (Critical Elements of the Environment from BLM H-1790-1, Appendix 5) and *Table 2* (Other Elements of the Environment) and *Table 3* (Aquatic Conservation Strategy Summary) summarize the results of that review. Affected elements are **bold**. Unless otherwise noted, the effects apply to the proposed action; and the No Action Alternative is not expected to have adverse effects to these elements.

*Table 1: Environmental Review for the Critical Elements of the Environment (BLM H-1790-1, Appendix 5)*

| *Critical Elements Of The Environment* | *Status: (i.e., Not Present , Not Affected, or Affected)* | *Does this project contribute to cumulative effects? Yes/No* | *Remarks / Environmental Effects* |
|---|---|---|---|
| **Air Quality (Clean Air Act)** | **Affected** | **No** | **See Fuels/Air Quality section** |
| Areas of Critical Environmental Concern | Not Present | No | |
| Cultural, Historic, Palentological | Not Affected | No | Cultural resource sites in the Oregon Coast Range, both historic and prehistoric, occur rarely. The probability of site occurrence is low because the majority of BLM-managed Oregon Coast Range land is located on steep upland mountainous terrain that lack concentrated resources humans would use. Post-disturbance inventory will be completed on slopes less than 10 percent. (Cultural Resource/ Archeological Report pg. 2) |
| Energy (Executive Order 13212) | Not Affected | No | There are no known energy resources located in the project area. The proposed action will have no effect on energy development, production, supply and/or distribution. |
| Environmental Justice (Executive Order 12898) | Not Affected | No | The proposed action is not anticipated to have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. |
| Prime or Unique Farm Lands | Not Present | No | |
| Flood Plains (Executive Order 11988) | Not Affected | No | The project is small in scale and will not change the character of any floodplain, change floodplain elevations, or affect overbank flooding. |
| Hazardous or Solid Wastes | Not Present | No | |
| **Invasive, Nonnative Species (Executive Order 13112)** | **Affected** | **No** | **See Vegetation section** |

| *Table 1: Environmental Review for the Critical Elements of the Environment (BLM H-1790-1, Appendix 5)* | | | | |
|---|---|---|---|---|
| *Critical Elements Of The Environment* | | *Status: (i.e., Not Present , Not Affected, or Affected)* | *Does this project contribute to cumulative effects? Yes/No* | *Remarks / Environmental Effects* |
| Native American Religious Concerns | | Not Affected | No | Past projects of this type within this area have not resulted in tribal identification of concerns. |
| **Special Status Species or Habitat (Threatened or Endangered Species or Habitat)** | Fish | Not Affected | No | See Fisheries section |
| | Plants | Not Present | No | |
| | **Wildlife (including designated Critical Habitat)** | **Affected** | **No** | **See Wildlife section** |
| **Water Quality (Surface and Ground)** | | **Affected** | **No** | **See Water section** |
| Wetlands (Executive Order 11990) | | Not Present | No | |
| Wild and Scenic Rivers | | Not Present | No | |
| Wilderness | | Not Present | No | |

| *Table 2: Environmental Review for the Other Elements of the Environment (Required by law, regulation, policy or management direction)* | | | | |
|---|---|---|---|---|
| *Other Elements Of The Environment* | | *Status: (i.e., Not Present , Not Affected, or Affected)* | *Does this project contribute to cumulative effects? Yes/No* | *Remarks / Environmental Effects* |
| Essential Fish Habitat (Magnuson-Stevens Fisheries Cons. /Mgt. Act) | | Not Affected | No | See Fisheries section |
| **Fire Hazard/Risk** | | **Affected** | **No** | **See Fuels/Air Quality section** |
| Forest Productivity | | Not Affected | No | The dispersed nature of the green tree removal portion of the project and the minor site level compaction expected suggest no detectable effects to forest productivity will occur. |
| Land Uses (ROWs, permits, etc) | | Not Present | No | |
| **Late successional / old growth** | | **Affected** | **No** | **See Vegetation section** |
| Mineral Resources | | Not Present | No | |
| Recreation | | Not Affected | No | There are no established recreational sites or uses that will be impacted as a result of the proposed action. Dispersed recreation will not be affected. |
| Rural Interface Areas | | Not Present | No | |
| **Soils** | | **Affected** | **No** | **See Soil section** |
| Special Areas outside ACECs (Within or Adjacent) (RMP pp. 33-35) | | Not Present | No | |
| Other Special Status Species/Habitat (sensitive species) | Fish | Not Present | Yes | |
| | Plants | Not Present | No | |
| | Wildlife | Not Affected | No | No special status wildlife will be affected. |
| Visual Resources | | Not Affected | No | Project is located in VRM IV class and creating ¼ to one acre gaps complies with management objectives. |
| Water Resources (except Water Quality) | | Not Affected | No | No surface or ground water sources will be intercepted as a result of this action.<br><br>There are no domestic or commercial water rights which will be impacted by this action. |

| *Table 2: Environmental Review for the Other Elements of the Environment (Required by law, regulation, policy or management direction)* | | | |
|---|---|---|---|
| *Other Elements Of The Environment* | *Status: (i.e., Not Present , Not Affected, or Affected)* | *Does this project contribute to cumulative effects? Yes/No* | *Remarks / Environmental Effects* |
| **Other Wildlife Structural or Habitat Components (Snags /CWD / Special Habitats, road densities)** | **Affected** | **No** | **See Wildlife section** |

## Affected Environment and Environmental Effects

***General:*** The proposed project will occur within the Upper Alsea River and Lower Alsea River fifth field Watersheds. Land Use Allocations for the BLM-managed lands will be LSR and RR.

***Vegetation:***

**Affected Environment**

The project areas are in the western hemlock plant associations described in the Field Guide to Forested Plant Associations of the Northern Oregon Coast Range [McCain and Diaz (2002)]. The most common plant association found in the project areas are the western hemlock/dwarf Oregon grape/swordfern Northwest Oregon Coast.

Present Stand Condition and History

The proposed treatment areas consists of approximately 233 acres of conifer forest stands of moderate to high density. Although the project maps indicate the project treatments occur within four different forest age classes (greater than 200, 120 to 199, 80 to 119 and 40 to79 years of age), there is a reoccurring habitat type that seems common to the project areas. The stands are dominated by Douglas-fir with smaller components of western hemlock, western red cedar, and red alder. The stands originated with natural regeneration or planting, following fire or harvest. A scattering of Douglas-fir and western hemlock trees originated before the majority, as they are relatively large (about 36 inches to 60 inches DBHOB), full-crowned, and open-grown. These trees form a layer somewhat taller than the majority of the conifer in the stands aged 30-90 years, and are generally 100 to over 200 years old. They are a small component of these early to mid-seral stands, but are a very important structural and functional component of them because of their size, crown structure, deep and fissured bark, large limbs, and (in some cases) defect, dead or broken tops, and cavities. These trees either survived past fire or harvest, or established after fire or harvest a decade or more before the majority of the stand. Because they experienced little inter-tree competition for a majority of their growth period, they grew rapidly, achieved large diameters, and developed very large crowns and long, thick limbs. A subset of these older forest legacy trees are targeted for release under the proposed action.

The dominant younger aged trees within the individual stands have a dense canopy and limit the amount of direct sunlight to the lower canopy. The limited direct sunlight does not allow for the maintenance of conifer limbs below the upper canopy and restricts vegetative growth of other shrubs and forbs. Understory vegetation is limited by overstory density and is generally sparse, but is more abundant in the canopy openings.

Coarse Woody Debris

Coarse wood is an important component of the late-successional structure desired for the treatment area. It includes downed wood, snags, and live trees with dead or broken tops or decay. Typically, mid-seral stands in the Marys Peak Resource Area such as those in the project area have relatively low levels of coarse wood (less than 1200 cubic feet per acre), especially in the more recent (sound) decay classes. This is due to past disturbance that removed or burned much of the previous stand, and what coarse wood that remains from the previous stand has decayed for many decades.

Forest Health

There are no known current threats to forest health beyond the following endemic processes in the proposed project area, including laminated root rot and Douglas-fir bark beetles.

Federal and Oregon State Threatened/Endangered, Bureau Special Status Botanical and Fungal Species
Inventory of the project area for bureau sensitive vascular plant, lichen, bryophyte and fungal species were accomplished through review of; 1) existing survey records and spatial data, 2) habitat evaluation and evaluation of species-habitat associations and presence of suitable or potential habitat, and 3) field clearances, field reconnaissance and inventories utilizing intuitive controlled surveys, in accordance with survey protocols for the specific groups of species.
There are no "known sites" of Threatened and Endangered or any other bureau special status vascular plant, lichen, bryophyte or fungi species within the project area nor were any found during subsequent surveys.

Invasive (Noxious Weeds, Invasive Non-native Species)
The following noxious weeds are known to exist within the vicinity of the project area, Tansy ragwort, bull and Canadian thistles, St. John's wort, Himalayan blackberry, False brome and Scot's broom.

**Environmental Effects**

**Alternative 1 (No Action Alternative)**

Without treatment, only natural disturbance agents such as disease, insects, and wind would create stand structural diversity and contribute to late-successional structural development. These events would generally be small in scale and random locations, and unlikely to contribute to release of declining legacy trees.

Stand development would remain on the current trajectory of increasing density and decreasing individual tree growth rates. Declining older forest legacy trees would continue to slow in growth and to lose crown depth and width due to competition from surrounding trees. The effectiveness of release treatments decrease as decline of the legacy trees continues because the condition of legacy trees becomes irreversible – large diameter lower limbs once lost cannot be re-grown, and as total crown area is reduced, the capacity to rebound after release is greatly reduced. The number and diversity of understory and shrubs/forbs species in many areas may remain low due to low light levels. As openings in the canopy are created (blowdown, dying trees from pathogens & insects) additional sunlight would be available to the understory, shrubs and forbs. Additional openings may increase the number and diversity of botanical and fungal species in the area. Open slash covered areas may become dominated by shrubs (salal) and ferns.

The main input of CWD would come from density mortality and would result in gradual recruitment of coarse wood. Typically, high density mid-seral stands will produce annual mortality of 0.5 to 2 snags per acre due to density mortality (based on Organon modeling, Hann, 2003). However, they would be of the smallest diameter classes, generally less than 16 inches DBHOB. Mortality from disturbance and unusual events could produce coarse wood as well. One study of stands aged 14 to 38 years, over 22 years showed total annual stem mortality of one to five percent. Since the stands in the project area are older than the researched stands and have fewer trees per acre, annual mortality would likely be somewhat less. In the study, wind damage accounted for 18 percent of the stem mortality, but represented 50 percent of the bole biomass lost because mortality resulting from wind is relatively larger than density mortality (Lutz and Halpern, 2006).

There would be no short-term elevated risk of bark beetle infestation.

This alternative does not meet the objectives to release declining older forest legacy trees that are undergoing encroachment from densely-stocked younger conifer stands or to enhance terrestrial wildlife habitats by creation of snags and downed wood.

Federal and Oregon State Threatened/Endangered, Bureau Special Status Botanical and Fungal Species

Not affected, since no known sites exist within the project area.

Invasive (Noxious Weeds, Invasive Non-native Species)

Without any new human caused disturbances in the proposed project area the established noxious weed populations would remain low.

**Alternative 2 (Proposed Action)**

Stand Development

The proposed action to cut, girdle or top up to five large trees and 20 smaller trees, within a patch ¼ to one acre in size surrounding older forest legacy trees will have a very small impact at the stand level, but will effectively meet the purpose and need to release declining older forest legacy trees and increase levels of snags and downed wood. Removing competition affecting older forest legacy trees will increase their growth rates, halt the loss of lower crown limbs due to shading, and maintain or increase crown depth and width. Maintaining or increasing vigor of the legacy trees may result in greater longevity. The removal of the smaller trees around the larger trees will allow for additional direct sunlight to reach the lower canopy and ground. This will allow for the development of the shrub and forb layers around legacy conifers creating vegetative diversity.

Cut, girdled or topped trees that remain on site will directly increase the quantity of coarse wood in the project areas. The coarse wood will be of high wildlife habitat value because it will be in early decay classes and of larger size than coarse wood through density mortality. There will be a short-term (one to three years) elevated risk of a bark beetle infestation from the increased fresh down wood, resulting from the creation of snags and down wood. Fresh downed wood allows bark beetles to lay their eggs and produce brood unimpeded by the natural 'pitching out' response of a living tree. This can lead to a buildup of bark beetle populations that are then more likely to attack and overwhelm nearby live trees. A study of beetle response to coarse wood creation of larger magnitude than the proposed action resulted in less than one tree per acre of live tree mortality from bark beetles (Ross and Hostetler, 2006).

At the stand level, cutting, girdling or topping a small proportion of the stand will be similar in scale to small natural disturbances such as root disease or bark beetle mortality, or small-scale wind disturbance. The proposed action will increase diversity and increase late-successional stand attributes by creating small gaps, snags, and down logs that are important components of older forest structure, and help restore species diversity by retaining hardwood trees, and allowing development of understory vegetation.

Federal and Oregon State Threatened/Endangered, Bureau Special Status Botanical and Fungal Species

This project will not directly affect any threatened and endangered or other bureau special status vascular plant, lichen, bryophyte or fungi species since there are no known sites within the project area or adjacent to the project.

This project could have positive effects on rare and uncommon species by creating additional sunlight to the lower portions of the larger older forest legacy trees creating additional habitat.

This project could affect any species that are: 1) not practical to survey for and known sites were not located during subsequent surveys and 2) mycorrhizal (fungal) associated with a conifer tree that is to be killed. These species will mainly include special status fungi species. However, the majority of these species have no known sites within the Marys Peak Resource Area or the Northern Oregon Coast Range Mountains.

Invasive (Noxious Weeds, Invasive Non-native Species)
All of the noxious weeds species that are known to occur near the project area are common, regionally abundant and are widespread throughout all of western Washington and Oregon and a fully integrated Oregon statewide management plan has not been implemented. The Marys Peak Resource Area has an integrated non-native plant management plan in place for the control of non-native plant species.

The risk rating for the long-term establishment of noxious weed species and consequences of adverse effects on this project area is low because; 1) the implementation of the Marys Peak integrated non-native plant management plan allows for early detection and rapid response of invasive non-native plant species, 2) seeding the exposed soil areas will reduce the opportunity of spread.

**Cumulative effects**
The proposed action consists of falling trees around selected older forest legacy trees on approximately 233 acres located on the western slopes of the Oregon Coast Range Mountains and within the Upper and Lower Alsea River watersheds. These watersheds encompass about 181,078 acres. This project occurs on less than 0.1 percent of the watersheds. Effects of the proposed action on native vegetation are expected to be localized within the project area.

The implementation of this project is not likely to increase the number of common and widespread non-native plant species that are known to occur within the project areas, because the amount of exposed mineral soil is expected to be minimal.

***Wildlife:***

**Affected Environment**

Special Habitats and Special Habitat Components
Special habitats in the conifer forests of the Oregon Coast Range are usually associated with the following environments: permanent shrub patches, oak woodlands, cliffs, caves, rock outcrops/talus, wet/dry meadows, ponds/lakes, and other wetland types. There are no known special habitats that occur within or adjacent to the project areas.

Large diameter live and dead legacy trees are the most common, and most important special habitat components for wildlife in unmanaged conifer forests of the Oregon Coast Range (Carey 2003, Hagar 2007, Mellen et al. 2006, O'Neil, et al. 2001). In addition to legacy structure, the following types of trees also function as special habitat components: wolf trees (stand-age trees and older cohorts which were open-grown, having full live crowns); trees with deformities like broken or forked tops and witches' brooms, and large diameter deciduous trees like bigleaf maple. All these tree types provide a more complex stand structure, meet more wildlife needs than most trees in the stand, and make for a healthier functioning forest ecosystem. Larger diameter hard snags and CWD will, over time, provide nesting and foraging opportunities for more wildlife species than smaller and softer snags and CWD.

Special Status Species

*Federally Threatened Species*
All of the treatment units, except units 9A, 17A, and 17B, are within CHUs (Mapped Owl Conservation Area OR-39; USDI-FWS 2008) that have been designated for the northern spotted owl. The northern spotted owl is known to occur in the vicinity of the proposed treatment units. The stands to be treated provide northern spotted owl dispersal habitat, and may provide foraging habitat, but are not known or expected to provide nesting habitat for the northern spotted owl. The proposed enhancement project lies within an area that receives a substantial amount of survey effort for northern spotted owls. The Coast Range Demographic Study Area has monitored all known northern spotted owl sites in this project vicinity since 1986. Private landowners, or their contractors, currently conduct annual surveys near their planned harvest units in between the known site locations. BLM staff has supplemented these efforts whenever northern spotted owls have been detected in between known sites.

Two currently active northern spotted owl sites have proposed treatment units located just beyond 0.4 miles of their site center. There are also three vacant northern spotted owl sites in this vicinity (determined by survey protocol to have no resident northern spotted owls present in the previous three years). In the 21 years of northern spotted owl surveys in this vicinity, no northern spotted owls have ever been detected inside of the proposed treatment units.

All project units are within CHUs designated for the marbled murrelet (CHU: OR-04-J, and OR-04-K). While none of the project units are within known occupied marbled murrelet sites or suitable habitat patches, the marbled murrelet is known to occur in the vicinity of several units. Project units in Section 23 and 27 are located about 0.3 miles away from an occupied marbled murreletl site. Most of the proposed treatment units include a few large Douglas-fir legacy trees that have large upper canopy branches that may provide suitable nesting structure for marbled murrelets. However, the scattered distribution of trees and the declining live foliage of many of these remnants make it unlikely that they will be currently used by nesting marbled murrelets.

*Other Special Status Species*
A great variety of wildlife species may utilize mid and late-seral habitats that are part of the proposed action area (O'Neil et al. 2001). The red tree vole is the only SS wildlife species that is likely to occur within the proposed treatment units. The red tree vole is a SS species and formerly a Survey and Manage Species (USDA-FS and USDI-BLM 2007). The SS designation only applies to the red tree vole populations in the northern Oregon coast range, north of Highway 20. Populations south of Highway 20 are believed to be more abundant and well distributed (USDA-FS and USDI-BLM 2007). Surveys for this species are not required in this portion of its range. A review of an interagency database (GeoBOB) and the Oregon Natural Heritage Database found no records of any other SS species locations within or adjacent to the planned treatment units.

*Bird Species of Conservation Concern*
There are 88 bird species, of which 34 are migratory bird species of conservation concern, that nest in the mid and late-seral forest habitats of the central Oregon Coast Range. Many of these species are expected to breed in and adjacent to the project areas. See Wildlife Biological Evaluation (Appendix B) for a table of all currently listed migratory birds and species of conservation concern that occur in the Marys Peak Resource Area.

## Environmental Effects

### Alternative 1 (No Action Alternative)

Under the no action alternative, the protection of legacy trees, the creation of small patches, and the creation of snags and CWD would not occur. The uniform and dense conifer understory would continue to grow and simplify the structural complexity of the stands by crowding out the overstory legacy trees. Existing marbled murrelet nesting structure would be lost over time as old-growth legacy trees lose their live crown and become snags. Development of dead wood structure would occur at a much slower rate then if created through active management. Wildlife use by species that are dependent on larger and more complex forest canopy structure would decline as the larger trees succumb to competition.

### Alternative 2 (Proposed Action)

Special Habitats and Special Habitat Components

This proposal addresses the immediate need for treatment of declining old-growth legacy trees in forest stands where the ascending canopy of densely-stocked young conifers threatens to shade out and kill these old-growth legacies. It also allows for the creation of small gaps, snags, and down logs that are important components of older forest structure, and helps restore species diversity by retaining hardwood trees, encouraging understory development, and revitalizing the shrub community. Existing Watershed Analyses and other planning processes (USDI-BLM 1995a, USDI-BLM 1996, USDA-FS and USDI-BLM 1997) have identified over 2000 acres in need of such treatments. Existing environmental assessments have analyzed over 400 acres of potential treatment areas but treatment was deferred in many cases because these areas were not feasible to include within traditional timber sale thinning units. These actions, because of their light touch, small size, and scattered locations, are expected to have no known negative impacts to forest stand composition or function, and have both immediate and long-term positive impacts to stand structural diversity and complexity.

Special Status Wildlife Species

*Federally Threatened Species*

This proposed action is considered to be a may affect, but not likely adverse affect to the northern spotted owl since some of the treatment units may currently function as foraging habitat for resident or dispersing northern spotted owls. These proposed units represent less than 5 percent of the available foraging and dispersal habitat within the provincial home range (1.5 mile radius) of the two adjacent active northern spotted owl sites. The proposed treatments will maintain dispersal and foraging habitats for the northern spotted owl because they are small in size, of low disturbance intensity, and scattered over a large watershed. None of the resident northern spotted owls have ever been detected within the proposed units. Noise disturbance is not expected to affect these resident northern spotted owls since project activities will take place outside of the critical breeding period (March 1 to July 7) and well beyond 0.25 miles from any active northern spotted owl site.

The proposed action is considered to be a may affect, but not likely to adversely affect to northern spotted owl critical habitat since it is expected to benefit some of the primary constituent elements of critical habitat by enhancing canopy complexity, restoring vigor to declining legacy trees, creating snags and down logs, and enhancing shrub layer complexity.

This action is considered to be a may affect, but not likely to adversely affect to the marbled murrelet due to the potential for noise disturbance to unsurveyed suitable that lies adjacent to some proposed units. This potential effect will be minimal since project activities will occur very late in the breeding season (after Aug-5), will follow a 2-hour daily timing restriction, and since very few acres of suitable unsurveyed habitat will occur within 300 feet of proposed treatment units.

This action is considered a may affect, but not likely to adversely affect to marbled murrelet critical habitat due to the expected beneficial effect of maintaining and enhancing the condition of overstory legacy trees and since gap creation and release of dominant overstory trees will likely hasten the development of structural characteristics of suitable marbled murrelet habitat.

*Other Special Status Wildlife Species*
Due to the small size of the treatment units, the low disturbance intensity of the treatments, and the scattered nature of their locations, the negative impacts to species which nest and forage in densely-stocked 30 to 90 year old conifer stands is anticipated to be insignificant. Saving the declining old-growth legacies and creating small gaps, high quality snags and CWD is expected to benefit numerous wildlife species that are associated with late-successional forest structure.

*Bird Species of Conservation Concern*
Due to the small size of the treatment units, the low disturbance intensity of the treatments, and the scattered nature of their locations, the negative impacts to bird species of conservation concern nesting in the proposed treatment units is anticipated to be insignificant. In addition, any breeding bird habitat within 300 feet of unsurveyed marbled murrelet suitable habitat will be protected from disturbance due to the marbled murrelet seasonal restriction imposed from April 1 through August 5. Saving the declining old-growth legacies and creating small gaps, high quality snags and CWD is expected to have long-term benefits for many of the birds associated with late-successional forest structure. The treatments will occur after July 15 when most birds will be beyond their nesting period.

**Cumulative Effects**

A mounting body of research has demonstrated the importance of maintaining and enhancing legacy features; snags, CWD, and in-stream wood structures. The Northwest Forest Plan, Late Successional Reserve Assessment Oregon Coast Province-Southern Portion, and local watershed analyses have all identified these types of treatments as a key component of restoration efforts within LSR and RR LUAs. The immediate, short-term (1-10 years), and long-term cumulative impacts of this, and similar enhancement actions in the Upper and Lower Alsea River Watersheds have been designed to have positive effects on wildlife habitats.

***Soil Resources:***

**Affected Environment**

Typical soils in the project areas formed from material rolling downhill from sedimentary, basalt, and intrusive rocks. Soils are primarily Bohannon-Preacher complex. These are moderately well-drained and moderately deep to very deep soils. They are not highly prone to surface erosion. Where slopes approach 60 percent or steeper, erosion potential is moderate to high. Soil rutting hazard is highest on bare soils or where the duff layer has been displaced (NRCS, 2005). Care must be taken to retain as much of the surface duff layer as possible and to avoid creating compacted yarding trails perpendicular to the slope.

Most of the project areas are situated along ridgeline and adjacent slopes. Hillsides in the project area alternate between flats (20 to 30 percent grade, deep silt-loam soils) on top of large, stable slump benches to steeper side-slopes (40 to 80 percent grade, gravel-loam soil textures) mostly with a south west or east aspect. On the relatively flat surfaces with deep, fine-textured soils, areas subject to high water tables and/or perched water are encountered. These areas are sensitive to rutting and displacement. Surface compaction is a higher risk in these soil types. The steeper areas have more shallow soils with greater rock content. In these locations, channels have incised into the hill-slopes and runoff is quicker. These slopes are more sensitive to land sliding and surface erosion.

**Environmental Effects**

**Alternative 1 (No Action Alternative)**

Under this alternative the existing soil conditions at the project sites would continue in their current trends.

**Alternative 2 (Proposed Action)**

Direct and Indirect Effects

The felling, girdling, or topping of trees as scattered individuals or in gaps up to one acre in size will have no visible or detectable effect on soil physical properties such as bulk density. Over time, the material left on site will breakdown and add to the organic matter content of the soil and this could slightly alter some soil chemical properties (i.e., increased supplies of soil carbon and organic acids). Small disturbances to the soil surface (compaction/displacement) from foot traffic and removal or repositioning of some material will occur during project operations. These effects will be dispersed across the treatment area and will not result in a loss of soil productivity or function.

Site Access Trails

Some of the project areas have been impacted by past tractor yarding and old skid trails can be found in some of the units. Existing skid trails will be used to the extent possible for this project. Blocking access trails by water-barring and grass seeding will promote out-slope drainage and prevent water from accumulating in large quantities, running down the road surface, and causing erosion. The limited amount of material that would be removed for either fish structures would require less than 3 passes of mechanical equipment for removal. The larger (heaver) whole tree material for fish structures would be removed with helicopter or skyline and would not result in excess compaction of soils. After several seasons, the accumulated litter fall on the trail surfaces will further reduce surface erosion potential. Where trails are being actively used for recreational purposes, especially OHV riders, additional measures to block the trails (placing rock, large wood and organic material) will promote recovery of the soil's physical and chemical properties and reduce surface erosion at these sites.

Pile Burning

On the sites where piles are burned, surface organic material will be removed, increasing localized potential for soil detachment. However, sediment delivery to streams is highly unlikely, since burn-pile areas are outside riparian reserves, widely dispersed, and typically smaller than 20 feet in diameter. Pile burning and rain impact on burned spots can decrease infiltration capacity until natural re-vegetation occurs. Displaced soil will be filtered and retained by the intact vegetation immediately surrounding the burn pile spot. Since burning will occur during wet soil conditions, heat damage to the upper soil layer will be moderated and only occur in scattered localized sites.

CWD Creation
Coarse woody debris generated by logging slash, windthrow, and/or bark beetle infestation left on site following operations will help cover the soil surface and limit surface erosion. Girdling or overtopping trees for snag creation will not likely measurably impact soil resources. Felling trees for CWD will cause minor soil displacement and compaction where the tree falls on the ground and the impacts will be of no greater extent than a natural tree fall.

Restoration Log Hauling
Hauling of the limited amount of trees that will be treated in this proposal will not occur during periods when water is flowing on roads and into ditches. Hauling during such times could potentially increase stream turbidity and suspended sediment transport with indirect detrimental effects on the streams physical and biological attributes (Cederholm et al. 1980). The main haul routes will be rocked forest roads to the main paved surface road. Project design features call for no hauling during wet periods when the potential for fine sediment delivery to streams is highest.

**Cumulative Effects**

Because the effects of the proposed action on soils are expected to be short-term (maximum one decade) and localized, cumulative effects are not anticipated. The combined effect of each of the proposed actions (density management, fuels treatments, limited access trail construction, and CWD creation), will increase the overall amount of compaction and erosion in the project area. The greatest cumulative effect on the site will likely be a slight reduction (less than one percent over the entire project area) in overall site productivity from top soil displacement, as several of the proposed activities have the potential to remove and/or displace soil nutrients.

***Water Resources:***

**Affected Environment**

Precipitation and Basin Hydrology
The project areas are located at elevations ranging from 400 to 2,200 feet. The majority of project areas lie below the transient snow zone (TSZ), an elevation zone subject to rain-on-snow events (ROS) that have the potential to increase peak flows during winter or spring storms. This zone varies with temperature during winter storms but, in the Oregon Coast Range it is assumed to lie between 2,000 to 3,000 feet in elevation. The general project areas receive approximately 64 to 70 inches of rain annually.

Project Area Stream Flow
Project streams are similar to other Western Oregon streams where highest discharge takes place during winter storm events. Summer base-flow normally begins in perennial channels sometime in July and continues from August to October. Many small headwater channels (intermittent or ephemeral) dry up completely during this period.

Peak Flow
Peak flow refers to the instantaneous maximum discharge associated with individual storm or snowmelt events (U.S.E.P.A., 1991). The two largest peak flow events in the last century took place in 1964 and in February of 1996. Both were estimated at or above a 100 year flood return interval and both were in response to substantial snow pack melt-off. Smaller peak flows are associated with snow pack melting during the spring.

Existing Peak Flow/Water Quality Effects from Roads

Road surfaces have been implicated as important contributors to increased peak flows. As the slope increases, the extent of surface and subsurface disturbance required to construct a stable road increases. Under the worse case scenario, more than 50 percent of cut banks near stream channels may intercept groundwater and route it through road ditches (Toman, 2004). In addition, when road ditches drain intercepted water directly to streams, they act as an "extension" of the stream network and can have a measurable effect on stream flow which may include an augmentation of peak flows on a watershed scale (Wemple et al, 2003).

Streams near roads are at higher risk for water quality contamination from material washed off the road surface and for increased stream temperature as a result of reductions in streamside shading. During storms, runoff from unpaved forest roads may deliver sediment to streams resulting in increased sediment transport, deposition of fines in gravels and turbidity levels that exceed natural background levels (Beschta, 1978; Binkley and Brown, 1993). Roads analyses completed for another larger project in the Upper Alsea River Watershed in the recent past (Yamaha LSR Enhancement EA) has shown that watersheds display a road extension value of less than ½ the value where road related stream problems begin to appear. This project does not propose any change in the road network and any equipment use will occur during the low precipitation times of the year.

Stream Channels

Stream channels in the main project areas are primarily small first and second order headwater streams; these are "source" reaches, following the classification of Montgomery and Buffington (1993). On the steeper slopes (20 to 70 percent), these have developed into constrained, step-pool channels. All of these channels have ample supplies of large wood from nearby riparian forest and are well shaded. These streams have ample supplies of gravel sized materials that are actively transported in these channel types (Rosgen, 1996).

The remaining channels in the project area are small with intermittent or ephemeral flow. These small tributary channels flow intermittently on the surface before disappearing underground, only to pop out again down-slope. Many are associated with high water tables in earth-flow terrain which forms in some of the softer slump deposits or on the surfaces of benches and flats. It's likely that ground water and intricate patterns of subsurface flow, as opposed to surface run-off, is the primary system of water delivery to these small channels. Most are lower gradient (less than 10 percent) with sands and silts reflecting the adjacent soils.

Oregon Department of Environmental Quality)

The Oregon Department of Environmental Quality's (DEQ) 1998 303d List of Water Quality Limited Streams is a compilation of streams which do not meet the state's water quality standards. The South Fork Alsea River is 303d-listed for exceeding summer temperature standards from river mile 0 to 17.2, (approximately 3 stream miles downstream of the proposed project).

The DEQ also published an assessment, the 319 Report, which identifies streams with potential non-point source water pollution problems (1988 Oregon Statewide Assessment of Nonpoint Sources of Water Pollution). The lower South Fork Alsea River is listed for having moderate water quality conditions affecting fish and aquatic habitat.

Beneficial Uses

There are no known municipal or domestic water users in the project area. There is an in-stream water right along the South Fork Alsea River for anadromous and resident fish rearing approximately 3

stream miles downstream of the project area. Irrigation and livestock watering occur in the Alsea Valley, several miles downstream from the project areas. Additional recognized beneficial uses of the stream-flow in the project areas include anadromous fish, resident fish, recreation, and esthetic value.

**Environmental Effects**

**Alternative 1 (No Action Alternative)**

Under this alternative the existing water quality conditions, stream flows, and channel conditions at the project sites would continue their current trends.

**Alternative 2 (Proposed Action)**

Stream Channels and Wetlands
There will be no direct alteration of the physical features of the project area stream channels or wetlands under this proposal. There is no new road construction or maintenance proposed. Stream banks, wetlands and channel beds are protected from direct physical alteration or disturbance by equipment. In addition, the proposed action is unlikely to affect stream flow in a measurable manner and therefore, any indirect effects to stream channels as a result of increases in peak flows is unlikely. Thus, the proposed action will be unlikely to result in any measurable effects, such as increases in bank erosion, channel incision, loss of floodplain connectivity or alteration of local wetland hydrology that could result from augmented peak flows or altered watershed hydrology.

Watershed Hydrology: Direct and Indirect Effects

*Mean Annual Water Yield*
Since the project areas are below the elevation zone normally subject to transient snow accumulations in the winter, the small reduction in stand density is unlikely to result in any increase in snow accumulation and melting during ROS events. In the Oregon Coast Range below TSZ elevations, reductions in stand density are unlikely to result in an augmentation of peak flow (Moore *et al.*, 2005). The project acres reflect that 0.1 percent of the Lower Alsea River and Upper Alsea River Watersheds will be impacted. In reality only a small portion of each unit will have activities. This will lead to a smaller impact than the 0.1 percent level in the Alsea River watersheds. Therefore, this proposal is unlikely to result in any detectable changes in peak flows.

*Peak Flow Effects from Roads*
This proposal will not alter existing roads in a way that will likely reduce or increase effects to peak flows attributable to the current road network and thus it will maintain the current condition and trends relative to hydrology and stream flow, that existing roads contribute to.

**Cumulative Effects (Peak Flow)**

The current condition of the watersheds in the project area indicates low risk for an existing augmentation of peak flows from canopy reductions due to the proposal. The proposed CWD creation will not result in any increase in forest openings in ROS and therefore will be unlikely to result in a detectable augmentation of peak flows. Proposed road use is unlikely to alter surface or subsurface hydrology in a manner that will result in a detectable change in stream flow from current conditions in the watershed. Since the proposal is not likely to result in a detectable direct or indirect effect to peak

flow the proposal will be unlikely to contribute cumulatively to any existing augmentation of peak flow in these watersheds. Additional projects of this scope are in the planning stages for 2009 and 2010 in the Upper and Lower Alsea River Watersheds. A potential thinning of 171 acres and 52 acres in the Lower Alsea River Watershed, and 191 and 88 acres in the Upper Alsea River Watershed (respectively).

**Cumulative Effects (Stream Channels and Wetlands)**
Since the proposal is not likely to result in measurable direct or indirect effects to channel or wetland function, and all effects are within the range of those disclosed in the RMP, the proposal will be unlikely to contribute to any potential cumulative effects in these watersheds. Over the long-term, the incremental improvement of forest stand characteristics (increased species diversity and wood recruitment) in the riparian areas will support the cumulative improvement in these conditions that is anticipated throughout these watersheds in response to the Northwest Forest Plan. This will add cumulatively to the improvement in the condition of stream channels and wetlands in the watershed.

**Water Quality: Direct, Indirect and Cumulative Effects**

The water quality parameters such as stream temperature, dissolved oxygen concentrations, hydrogen ion concentration, and turbidity are not expected to be impacted by this proposal. For that reason there are no expected direct, indirect or cumulative effects to water quality from the completion of this proposal.

***Fuels/Air Quality:***

**Affected Environment**

General Characteristics and Description of the Fuels
The stands are primarily 40 to 120 year old Douglas fir timber with lesser amounts of western hemlock, western red cedar, red alder and big leaf maple.

Undergrowth in the timber is a light to moderate. There are variable amounts of small and medium diameter dead woody material and leaf litter on the ground. Larger (greater than 20 inch) diameter downed logs are scarce as are large snags. Small snags (less than 10 inch DBHOB) are common.

The estimated total dead fuel loading for these stands ranges from 10 up to 22 tons per acre. Much of the existing down material is rotten or only partially sound.

General Characteristics and Description of the Air Quality
Air quality in the vicinity of the proposed project areas is generally very high due to the mid to high elevation Oregon Coast Range location of the project areas. Transport winds affecting the area generally come in off the ocean and keep the air shed scoured out preventing a build up of particulate matter. Occasional stagnant air conditions do develop and may result in accumulation of particulate mater but generally these are short lived lasting less than one week.

**Environmental Effects**

**Alternative 1 (No Action Alternative)**

This alternative would result in no change to the affected environment. Short-term impacts to fuels and air quality would be avoided.

**Alternative 2 (Proposed Action)**

Fuels

Fuel loading, risk of a fire start and the resistance to control a fire, will all increase at the sites as a result of the proposed action. Slash created from falling isolated single trees for CWD will add only a small amount of fine fuel per acre due to the dispersed nature of the treatment. Effects from this type of treatment will be negligible. There will be a substantial increase in fire risk and control resistance where multiple trees are cut to form a patch cut area around a legacy tree. The fuel loading will increase 10 to 25 tons per acre of dead fuel in the 0 to 9 inch size class not counting the felled boles that are left for CWD recruitment.

Risk of a fire start in the untreated slash will be greatest during the first season following cutting, the period when needles dry out but remain attached. The highly flammable needles generally fall off within one year and risk of a fire start greatly diminishes. Fire risk will continue to diminish as the area greens up with under story vegetation, and as the fine twigs and branches in the slash begin to break off and collect on the soil surface. Past experience, in the geographic area of this proposed action, has shown that, in approximately 15 years, untreated slash will generally decompose to the point where it no longer contributes substantially to increased fire risk. The resistance to control will decrease over time but more slowly depending on the amount and size of large, down wood left on site, since the larger material will remain on site, available to burn, much longer.

Air Quality

The total amount of slash debris expected to be piled for burning is estimated to be approximately 40 to 100 tons from the patch cut areas along the roads. Burning approximately 40 to 100 tons of dry, cured, piled fuels under favorable atmospheric conditions in the Oregon Coast Range is not expected to result in any long-term negative effects to air quality in the air shed. Locally within ¼ to ½ mile of the piles there may be some very short-term smoke impacts after ignition resulting from drift smoke.

Generally, once covered, dry piles have been ignited, the fire intensity builds rapidly to a point where the fuels burn cleanly and very little smoke is produced. After a few hours, as the piles burn down and the intensity subsides, additional smoke may be produced due to lower temperatures and less efficient combustion. Depending on size, arrangement, type and moisture content of the remaining fuel, the smoke will diminish over several hours or days as the piles cool and burn out (sooner if rain develops). Generally this smoke only affects the immediate area (¼ to ½ mile or less) around the pile. If a temperature inversion develops over the area during the night time hours, smoke may be trapped under the inversion and accumulate, resulting in a short-term impact to the local air quality. The accumulated smoke generally clears out by mid-morning as the inversion lifts. Due to the low tonnages involved and the dispersed locations of this project, it is unlikely that inversions will present a problem. Burning of slash will always be coordinated with the Oregon Department of Forestry and conducted in accordance with the Oregon State Smoke Management Plan. This serves to coordinate all forest burning activities on a regional scale to prevent negative impacts to local and regional air sheds.

**Cumulative Effects**
There will be few cumulative effects to these resources, as the effects from the project will be local and/or short lived, and there will be no other uses affecting this resource. Based on past experience with pile burning in this and other similar areas, there are no expected cumulative effects on air quality from the planned fuels treatment under this proposal.

Although there will be an increase in fuel loading and resultant fire hazard in the short-term, there will be positive benefits to wildlife in the long-term due to the proposed treatment. When looked at from a watershed scale, the treatment to release dispersed legacy trees and create CWD on approximately 233 acres of LSR and RR forest habitat will result in only a minor increase in overall fire risk and resistance to control. Where fuels are treated on site, fire risk will be reduced by a substantial margin.

***Fisheries:***

**Affected Environment**

Natural and artificial barriers to fish migration appear to be the primary limiting factor on migratory fish distribution in proximity to the proposed actions. A natural falls barrier at the mouth of Easter Creek likely blocks migratory fish [BLM 1996, ODFW [(Oregon Department of Fish and Wildlife) 2004]. Culvert barriers appear to be limiting the proximity of migratory fish to treatment units off of South Mountain Benton County Road, affecting several unnamed tributaries as well as Dubuque Creek and Trout Creek (ODFW 2004). Based on field review, three large fish bearing culverts on Road 14-8-13.1 (Mill Creek Road) are perched and likely impair access to the upper reaches of Mill Creek, North Fork Mill Creek, and West Fork Mill Creek.

No ODFW habitat surveys were located in proximity to the proposed treatment units. Limited habitat surveys have been conducted in Mill Creek and North Fork Mill Creek by the BLM (1996). Mill Creek stream shade was 88 to 100 percent, LWD (large woody debris) volume was low, and silt/sand component of the bedload was between 4 and 12 percent (BLM 1996). North Fork Mill Creek stream shade was 66 to 93 percent, LWD was moderate, and silt/sand component of the bedload was 10 percent (BLM 1996).

In general, the abundance of LWD in the project area is likely to be below desirable conditions. The North Fork Alsea River Watershed Analysis (1996, pg. 80) noted that there was a lack of LWD throughout the drainage. The South Fork Alsea Watershed Analysis (1995, pg. 65) noted that channel structure is lacking. Magnitude of large wood in streams noted in the Lower Alsea River Watershed Analysis (1999, pg. 66) was considered low abundance.

Fish species documented to occur in or near the affected watersheds includes Chinook and coho salmon, steelhead and cutthroat trout, dace, sculpins, and lamprey. However, fish distribution in streams adjacent to the project area units has not been field verified. Based on treatment unit location, (predominately on ridgetop) no fish species will be anticipated to occupy stream channels adjacent to any proposed units. Fish distribution was estimated based on previously documented distribution (Streamnet 2008) and expected distribution based on channel gradient and watershed area (BLM 2008). Threatened species within this watershed include Oregon Coast Coho salmon.
Chinook salmon are present between 800 feet and 3 miles from treatment units in Mill Creek. Treatment unit 27A is approximately 500 feet upstream of cutthroat trout on North Fork Mill Creek, and more than ½ mile from anadromous habitat. Unit 27B is approximately 2000 feet upstream from resident and anadromous habitat in Mill Creek. Unit 27C is 800 feet upstream from Mill Creek and

approximately 600 feet upstream from West Fork Mill Creek were resident and anadromous fish likely reside. Unit 27D is located outside the riparian reserves approximately 200 feet upslope from resident trout habitat in West Fork Mill Creek and 2000 feet upslope from resident and anadromous fish in Mill Creek. Unit 26A is approximately 250 feet upslope from resident fish in Lake Ridge Creek, and 3000 feet upstream from anadromous habitat in Mill Creek. Unit 35A is 1000 feet upstream of resident and anadromous habitat in Mill Creek. Unit 35B drains to Mill Creek approximately 400 feet upslope, near the confluence with Beaty Creek.

Chinook and coho salmon are present in North Fork Alsea River between 1.25 and 1.5 miles downstream from treatment units in Easter Creek. Unit 23A is approximately ½ mile upstream of resident fish and over 1.5 miles of anadromous fish. Unit 23C is within 200 feet of resident fish, and 600 feet from steelhead trout habitat. Unit 23D is 300 feet upstream of resident fish and 1500 feet from habitat.

Chinook and coho salmon and steelhead and cutthroat trout are present in the South Fork Alsea River more than one mile downstream from treatment unit. The large tributary of Trout Creek in Township 14 South, Range 7 West, Section 9 likely contains resident trout approximately 500 from proposed unit 9A. Mainstem Trout Creek is identified as containing steelhead trout and coho salmon approximately ½ mile downstream of unit 9A. Dubuque Creek contains steelhead and cutthroat trout approximately 2000 feet downstream of treatment unit 17B; coho are more than ½ mile downstream. The unnamed tributary draining treatment unit 17A is unlikely to harbor fish species due to steep slopes at the confluence with the South Fork Alsea River and the small drainage area.

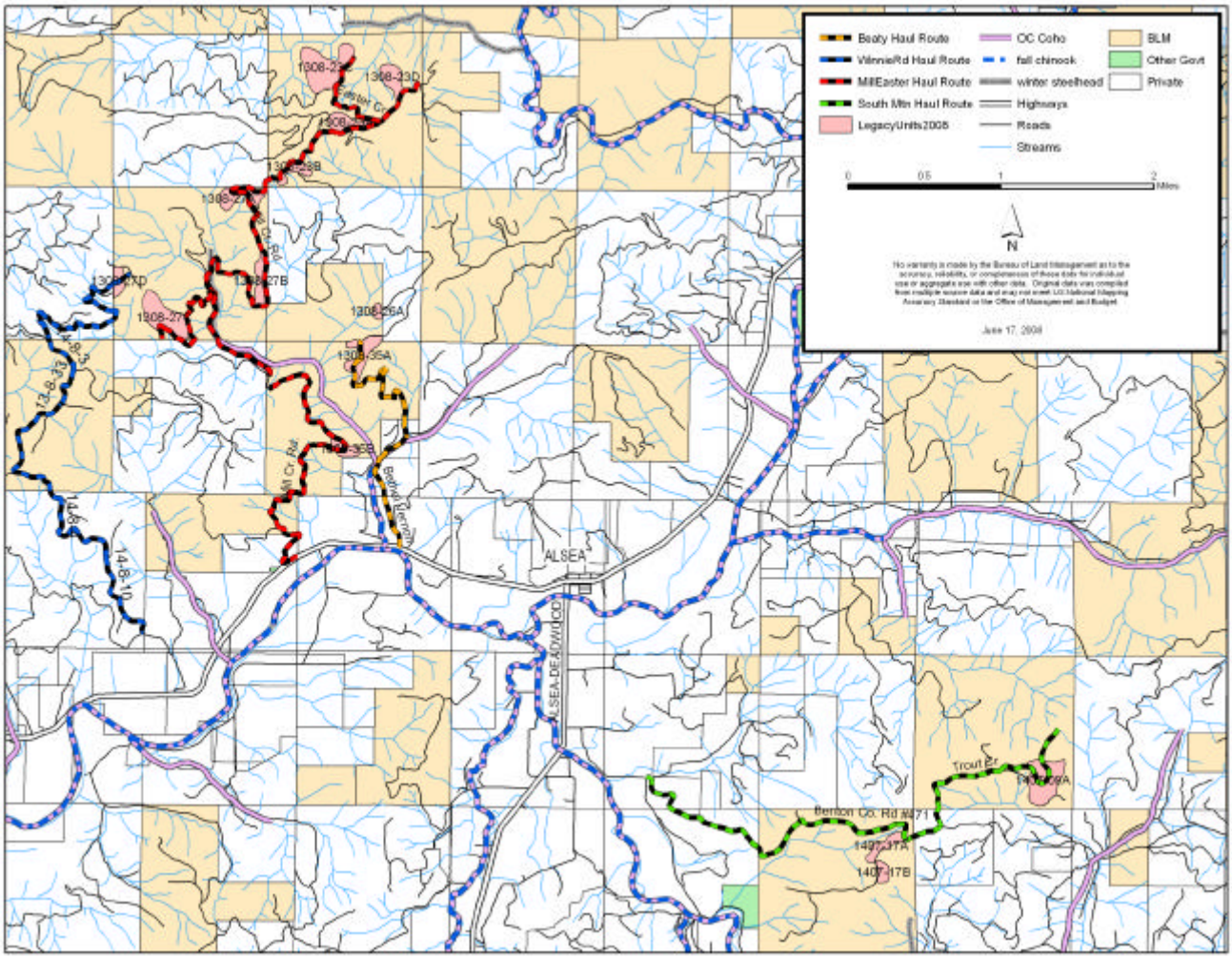
The unpaved haul routes associated with the proposed project sites are all contained within the same watersheds and sub-watersheds as the treatments sites. The lower 0.6 of a mile of Road 14-8-4 is paved. The remaining segments of Road 14-8-4 are predominantly located on or near ridge top. The first 2.5 miles of Road 14-8-3.1 is midslope more than 200 feet from fish habitat. The mid portion of Road 14-8-3.1 is parallel and less than 200 feet from Mill Creek for approximately 1.1 miles, and includes three major fish bearing stream crossings. The remaining 3.7 miles of Road 14-8-3.1 is located on or near ridge tops. Road 14-8-2 crosses Beaty Creek and is in relatively close in proximity to Mill Creek for the lower mile of the haul route. The upper two miles of Road 14-8-2 is mid-slope to ridge-top in location, and appears to have limited connectivity to the stream network. The South Mountain Benton County Road is a ridge-top gravel road that connects to the paved South Fork Alsea Access Road near Tobe Creek and appears to have limited connectivity to the stream network.

ESA-EFH

The NOAA NMFS determined that the OC (Oregon Coast) Coho salmon ESU (Evolutionarily Significant Unit) warranted listing as threatened under the ESA. Oregon Coast Coho salmon and designated critical habitat are within 1000 feet of units 35A and 35B. Units 27B, 27C and 26A are between 1000 feet and a ½ mile of habitat occupied by OC Coho salmon. Units 27A, 27D, 23D, 9A, 17A and 17B are all located between ½ and 1 mile from OC Coho salmon. Units 23A, 23B and 23C are located more than 1 mile from OC coho salmon habitat.

Protection of EFH, as described by the Magnuson/Stevens Fisheries Conservation and Management Act, and consultation with NOAA NMFS is required for all projects which may adversely affect EFH of Chinook or coho salmon in the action area. Figure 3 indicates the distribution of Chinook and coho salmon within the project area. With incorporation of project design features no adverse affects to EFH is anticipated from the proposed actions.

Fish Distribution/Timber Hauling Map (Figure 3)




## Environmental Effects

### Alternative 1 (No Action Alternative)

The proposed felling and removal of trees surrounding legacy trees would not occur. No changes in forest canopy would be anticipated, thus no changes to peak/base flows would be anticipated under the no action alternative. No site disturbances from yarding, falling, and hauling would occur, thus no changes in sediment transport or erosion would be anticipated under the no action alternative. Leaving the treatment units untreated would not be expected to affect woody debris recruitment potential to stream channels.

### Alternative 2 (Proposed Action)

Reductions in canopy closure, and vegetative cover, can result in changes in peak or base flows which in turn impair the availability or quality of aquatic habitat. The proposed treatments are spread out over four seventh-field drainages within two fifth-field watersheds. Due to the nature of the project removing selected trees around larger mature trees will be expected to result in only minor alterations to the canopy. Based on other hydrology analysis, this action will be highly unlikely to measurably alter stream flows (Wegner 2008).

Units 27D, 17A, 17B, and 9A are located at least ½ mile from OC Coho salmon habitat. With a minimum 50 no-entry buffer near stream channels, no effects to fish will be anticipated from the proposed treatments in these units. Utilization of South Mountain Benton County Road and Roads 14-8-10, 14-8-4, 13-8-33, 13-8-28.2 and 13-8-28.4 for hauling will have no effects to fish. There are no known unpaved stream crossings on South Mountain Benton County Road. Unpaved stream crossings on Roads 14-8-4, 13-8-33, 13-8-28.2 and 13-8-28.4 are approximately 300 feet from resident fish and approximately 1 mile or more from OC Coho salmon. The small magnitude of utilization proposed on these haul routes, limiting use to periods when road surfaces and ditchlines are not flowing water will not be expected to contribute sediment to stream crossings and due to the distances of all stream crossing to fish habitat no effects will be anticipated to occur downstream where fish reside.

Units 27B, 27C, and 35A include treatments within the riparian reserves approximately 400 feet upstream from resident fish and less than ½ mile from anadromous fish habitat. A portion of unit 35B is within the two site potential, 420 feet riparian reserve of Mill Creek near the confluence with Beaty Creek. Minimum 50 feet SPZs near stream channels will be expected to prevent water quality impacts. Removal of standing timber within the riparian reserves associated with small openings created in the stands could result in localized reduction in recruitment potential of LWD. Slopes in the project area do not exceed 60 percent. Watershed Analysis did not identify any of the treatment areas as high risk for landslide potential (BLM 1995, BLM 1996, BLM et al 1999). A total of 62 acres of riparian reserves may be affected by the proposed action (39 acres in Upper Alsea River Watershed and 23 acres in Lower Alsea River Watershed), 88 percent of the treated acres are within 210 feet of stream channels. Within the Upper Alsea River Watershed, proposed treatments will affect less than 0.1 percent of the riparian reserves (39 acres out of 27,739), and within the Lower Alsea River Watershed, treatments a similar fraction of the Riparian Reserves may be affected. Based on the very small fraction of the treatment within each watershed, riparian reserves, and the moderate to low risk of landslide potential, the removal of the material will be unlikely to affect LWD recruitment.

Roads 14-8-3.1 and 14-8-2 are adjacent to and cross resident and listed fish habitat. Within the Upper Alsea River Watershed no fish-bearing streams will be crossed. In the Lower Alsea River Watershed only 4 fish bearing streams will be crossed (1 over resident cutthroat trout and 3 over listed fish). The majority of stream crossing associated with the haul route are over small intermittent and ephemeral non-fish bearing streams between 100 feet and ¼ mile upstream from fish bearing habitat. Potential sediment delivery to these stream crossings is considered unlikely due to the small magnitude of utilization proposed on these haul routes, and limiting use to the dry season (generally May 1 thru October 31). In addition, the small intermittent and ephemeral channels will be expected to provide sediment storage and will be expected to contribute towards protecting the water quality and fish habitat downstream (Duncan, et al, 1987).

Units 27A, 23A to 23D, and 26A are located at least 200 feet upstream from resident fish and 1/2 mile from listed fish habitat. With minimum 50 feet SPZs near stream channels, no effects to fish will be anticipated from the proposed treatments in these units. Hauling impacts will be similar as those previously described for utilizing Roads 14-8-3.1 and 14-8-2.

**ESA-EFH**
Consultation with NOAA NMFS is required for all actions which may affect listed fish species and critical habitat under the ESA. A portion of the proposed actions specifically treatment of riparian reserves in Units 27B, 27C, 35A, all of unit 35B, and hauling on Roads 14-8-3.1, 14-8-2 and 13-8-35 may affect but is not likely to adversely affect listed OC Coho salmon. The proposed actions will comply with existing programmatic consultation and relevant design criteria covered under NOAA NMFS *Endangered Species Act Section 7 Programmatic Consultation Biological and Conference Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Fish Habitat Restoration Activities in Oregon and Washington, CY2007-CY2012*.

Protection of EFH is required for all projects which may adversely affect EFH of Chinook or coho salmon in the affected watersheds. The proposed action, with the incorporation of project design features, is not expected to adversely affect EFH. Thus, no consultation with NOAA NMFS on EFH is required for this project. Actions and effects beyond the scope of the analysis provided will require additional review and potentially result in the need to consult with NOAA NMFS.

**Cumulative Effects**
Private timber management, harvesting and hauling, is expected to occur during the proposed action. The extremely minor effects anticipated on sediment and wood recruitment due to proposed harvest and hauling activities suggests the additive impacts of the federal action is not likely to cumulatively effect aquatic values. Impacts are further muted as the proposed actions are spread across 2, fifth-field affected watersheds and 4 seventh-field watersheds.

The extent and magnitude of impacts from both private and federal hauling activities is difficult to quantify. Impacts from hauling will likely be variable from year to year, in part dependent on the amount of activities occurring within the watershed. The cumulative magnitude of sediment transport from road surfaces to stream crossings will also vary based on the water year type, wetter years more likely to transport sediment than dry years. However, the low probability of sediment transport anticipated by proposed actions will be unlikely to contribute to cumulative effects. Limiting haul to dry seasons will limit the transport of surface sediment to active stream channels as actions will not occur when surface transport is most likely. In addition, limiting proposed hauling to dry road conditions will reduce the probability that additional road maintenance will be needed to maintain the road bed. Maintaining road surfaces, including ditchlines, has been shown to be one of the significant sediment generating mechanisms (Luce and Black 1999, Furniss etal 1991). Minimize maintenance needs, thru proper design features such as seasonal restrictions, should limit the cumulative impact of the proposed action on sediment contributions to Mill Creek and Beaty Creek.

## Compliance with the Aquatic Conservation Strategy

***Review of Aquatic Conservation Strategy Compliance:***

The project meets the ACS in the context of PCFFA IV and PCFFA II [complies with the ACS on the project (site) scale]. The following is an update of how this project complies with the four components of the Aquatic Conservation Strategy. The project will comply with:

***Component 1 – Riparian Reserves:*** The proposed action will not affect existing Riparian Reserves.

***Component 2 – Key Watershed:*** The Upper Alsea River Watershed and Lower Alsea River Watershed

are not key watersheds.

***Component 3 – Watershed Analysis:*** North Fork Alsea River Watershed Analysis (1996), South Fork Alsea Watershed Analysis (1995) and Lower Alsea River Watershed Analysis (1999).

***Component 4– Watershed Restoration:*** The proposed project will enhance terrestrial CWD by creation of snags and down logs within forest stands where this structural component is lacking, release older forest legacy trees that are threatened by canopy encroachment, and potentially provide large wood for in-stream log structures in fish bearing streams where large woody structures are lacking.

**Documentation of the Projects' Consistency with the Nine ACS Objectives**

**Table 3: Projects' Consistency with the Nine ACS Objectives**

| Aquatic Conservation Strategy Objectives (ACSOs) | Marys Peak Resource Area (Alsea Area) CWD/Snag Creation and Older Forest Legacy Tree Release Project |
|---|---|
| 1. Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features. | Meets the attainment of ACSO 1. The addition of CWD will help to restore the diversity and complexity of watershed features to which native aquatic and riparian species are uniquely adapted. Current levels of CWD are severely depleted compared to historic ("natural") conditions. |
| 2. Maintain and restore spatial and temporal connectivity within and between watersheds. | Meets the attainment of ACSO 2. No stream crossing culverts will be used that will potentially hinder movement of aquatic species; therefore no aquatic barriers will be created. Both terrestrial and aquatic connectivity will be maintained, and over the long-term, as Riparian Reserves develop late successional characteristics, lateral, longitudinal and drainage connectivity will be restored. |
| 3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations. | Meets the attainment of ACSO 3. No physical changes to shorelines, banks or stream bottoms are proposed with this project. See also ACSO #5. |
| 4. Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. | Meets the attainment of ACSO 4. No change in water quality is expected from this project. |
| 5. Maintain and restore the sediment regime under which aquatic ecosystems evolved. | Meets the attainment of ACSO 5. No activities on BLM-managed land will take place directly in or adjacent to stream channels. |
| 6. Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. | Meets the attainment of ACSO 6. The proposed action will not alter instream flows. The proposed action will affect only 0.13 percent of the forest cover in the Upper Alsea River and Lower Alsea River Watersheds. – |
| 7. Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands. | Meets the attainment of ACSO 7. The proposed project will have not effect on the timing, variability and duration of flood plain inundation and water table elevation in meadows and wetlands. |
| 8. Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands. | Meets the attainment of ACSO 8. No impacts to riparian areas are proposed with this project. |
| 9. Maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species. | Meets the attainment of ACSO 9. The purpose of the project is to improve and restore legacy –aged tree components which will help to support riparian-dependant species. |

## Interdisciplinary Team:

| Table 4: Interdisciplinary Team Review | | | |
|---|---|---|---|
| **Affected Resource** | **Specialist** | **Initial** | **Date** |
| Botany/Vegetation | Ron Exeter/Hugh Snook | HWS | 6/25/08 |
| Cultural Resources | Dave Calver | DAC | 6/26/08 |
| Fuels/Air Quality | Tom Tomczyk | | |
| Fisheries | Scott Snedaker | SMS | 6/25/08 |
| Hydrology/Water Quality/Soils | Steve Wegner | SJW | 6/25/08 |
| Recreation, Visual and Rural Interface Resources | Traci Meredith | TMM | 6/26/08 |
| Wildlife | Scott Hopkins | SH | 6/25/08 |

EA Prepared By: Scott Hopkins 6/26/08
Date:

EA Reviewed By: Daryl Dudley 6/26/08
NEPA / Plans Date:

## Appendix A - Response to Scoping Comments:

A scoping letter, dated February 5, 2005, was sent to 48 potentially affected and/or interested individuals, groups, and agencies. One response was received during the scoping period.

**Summary of comments and BLM responses**

The following addresses questions raised in one letter from the public received as a result of scoping (40 CFR Part 1501.7). Additional supporting information can be found in Specialists Reports in the NEPA file.

Oregon Wild (March 14, 2007)

1. **Question:** What are the current conditions of the stands to be treated? Are they young stands with a few remnant old-growth trees and are they natural stands or plantations?

**Response:** The majority of the stands range in age from 40 to 120 years.

2. **Question:** How were the treatment areas selected (criteria)?

**Response:** The areas were selected based on landscape cells and treatment priorities within the Late Successional Reserve Assessment Oregon Coast Province-Southern Portion. The majority of the treatment areas are classified as Early Seral /Link to Mature and the remaining portion are classified as Early Seral/Buffer. The Early Seral /Link to Mature are areas identified as treatment priority #2 and the Early Seral/Buffer received treatment priority #4. Both areas are located outside the Core LSR Zone and will provide critical linkages between large patches of late-successional habitat.

3. **Question:** How large will the patches and/or gaps units become? We would normally recommend that gaps be no larger than ¼ to ½ acre in size with legacy trees in the middle.

**Response:** As stated in the design features, trees selected for CWD treatment will occur scattered with treatment units or clumped within patches (¼ acre to one acre in size) that surround older forest legacy trees.

**4. Question:** How large are the trees to be removed? The largest trees will make the best CWD and in-stream additions and should not be sold.

**Response:** The majority of trees to be cut and left on site will be from 7 inches to 19 inches DBHOB. Where treatments result in excess amounts of CWD and the trees are close (approximately 300 feet) to roads, generally the largest trees will be removed, transported and stockpiled for future use as fish logs.

**5. Question:** How many trees will be killed or topped for CWD? Will they be created in groups or scattered across stands?

**Response:** Up to five large trees per acre (trees having greater than average stand diameter, pretreatment), and up to 20 small trees per acre (trees having less than average stand diameter, suppressed trees) will be selected for CWD treatment within the patches. No more than 1 acre of patches will occur per three acres of treatment area (less than 33 percent in patches), and maintain a canopy closure greater than 60 percent over the entire treatment unit.

**6. Question:** What are the potential impacts and benefits to wildlife species?

**Response:** Localized and short-term disruption of current wildlife use patterns may occur. However, numerous wildlife species, especially those that are associated with older forest structure are anticipated to benefit from the proposed treatment which will restore vigor to declining legacy trees, create high quality CWD (snags, down logs and cavity trees), increase forest canopy complexity, and restore shrub layer diversity.

**7. Question:** Will ground-based equipment be used to access the treatment areas? What are the impacts to soil, vegetation, water quality, etc be to the areas?

**Response:** Yes, a minimal amount of area will be impacted by ground-based equipment. Excess amounts of CWD within 300 feet of existing roads will be yarded by ground-based equipment as stated on pg. 7 of the EA.

## FINDING OF NO SIGNIFICANT IMPACT and DECISION RECORD

Based upon my review of this EA (EA OR080-08-13), I have determined that the proposed action is not a major federal action and will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27.

There are no significant impacts which have not been adequately analyzed, or any significant impacts beyond those already analyzed, in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS) to which this environmental assessment is tiered. Therefore, supplemental or additional information to the analysis in the RMP/FEIS in the form of a new environmental impact statement is not needed.

**Right to Appeal:** This decision may be appealed to the Interior Board of Land Appeals in accordance with the regulations contained in 43 Code of Federal Regulations (CFR), Part 4 and the attached Form 1842-1.

*If you appeal:* A public notice for this decision is scheduled to appear in the *Gazette Times* newspaper on June 30, 2008. Within 15 days of this notification, a *Notice of Appeal* must be filed in writing to the office which issued this decision – Trish Wilson, Marys Peak Field Manager, Bureau of Land Management, 1717 Fabry Road SE, Salem, OR, 97306 (43 CFR 4.411 and 4.413). A copy of the *Notice of Appeal* must also be sent to the BLM Regional Solicitor, Pacific Northwest Region, 500 NE Multnomah St. Suite 607, Portland, OR 97232.

The decision becomes effective upon the expiration of the time allowed for filing an appeal unless a petition for a stay is timely filed together with a *Notice of Appeal* (43 CFR 4.21). If you wish to file a petition for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Interior Board of Land Appeals, the petition for a stay must accompany your *Notice Of Appeal* (43 CFR 4.21 or 43 CFR 2804.1). A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the *Notice of Appeal* and Petition for a Stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

*Standards for Obtaining a Stay:* Except as other provided by law or other pertinent regulations, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:
(1) The relative harm to the parties if the stay is granted or denied,
(2) The likelihood of the appellant's success on the merits,
(3) The likelihood of immediate and irreparable harm if the stay is not granted, and
(4) Whether the public interest favors granting the stay.

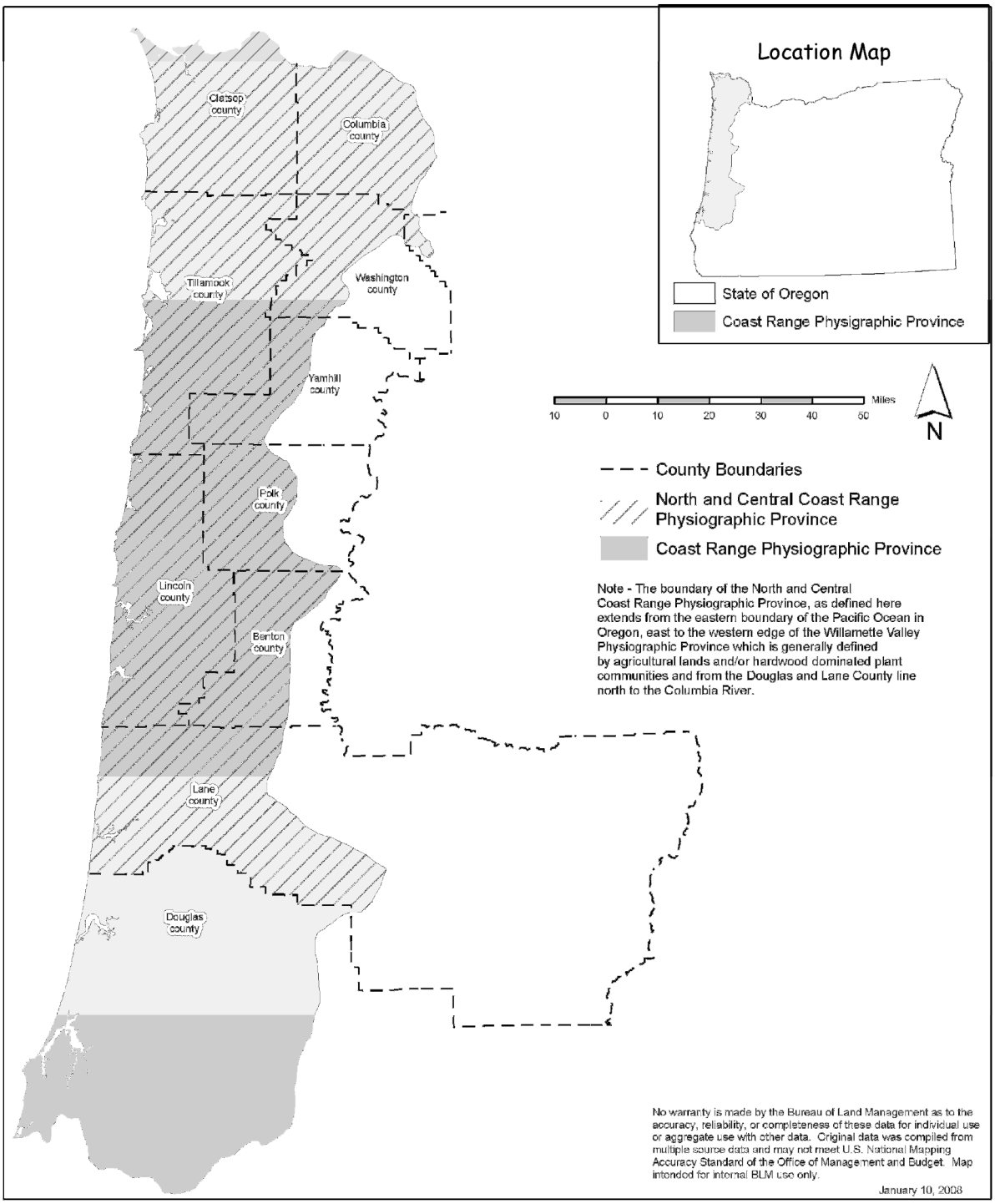
*Statement of Reasons:* Within 30 days after filing the *Notice of Appeal*, file a complete statement of the reasons why you are appealing. This must be filed with the United States Department of the Interior, Office of Hearings and Appeals, Interior Board of Land Appeals, 801 N. Quincy Street, MS 300-QC, Arlington, Virginia 22203. If you fully stated your reasons for appealing when filing the Notice of Appeal, no additional statement is necessary (43 CFR 4.412 and 4.413).

**Implementation Date**: If no appeals are filed, this decision will become effective and be implemented 15 days after the public notice of this Decision Record appears in the *Gazette Times* newspaper.

**Contact Person**: For additional information concerning this decision or the appeal process, contact Gary Humbard at (503) 315-5981, Marys Peak Resource Area, Salem District, 1717 Fabry Road, Salem, Oregon 97306.

**Authorized Official**: Trish Wilson Date: 6/30/08

Trish Wilson, Field Manager
Marys Peak Resource Area

Appendix B

## North and Central Coast Range Physiographic Province Map