# PARKER BEAR LATE SUCCESSIONAL RESERVE ENHANCEMENT ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

Density Management and Road Decommissioning

Environmental Assessment Number OR-080-04-18

June 17, 2005

United States Department of the Interior
Bureau of Land Management
Oregon State Office
Salem District
Mary's Peak Resource Area
Benton County, Oregon


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| Responsible Agency: | USDI - Bureau of Land Management |
| Responsible Official: | Brad Keller, Field Manager<br>Marys Peak Resource Area<br>1717 Fabry Road SE<br>Salem, OR 97306<br>503-315-5969 |
| For further information, contact: | Gary Humbard, Project Leader<br>Marys Peak Resource Area<br>1717 Fabry Road SE<br>Salem, OR 97306<br>503-315-5981 |



Abstract: This environmental assessment discloses the predicted environmental effects of two projects on federal land located in Township 12 South, Range 7 West, Sections 29, 31, 32 and 33 and Township 13 South, Range 7 West, Section 5 Willamette Meridian; and within the Upper Alsea River Watershed. Project 1 (Parker Bear Late Successional Reserve Enhancement) is a proposal to perform density management on approximately 306 acres of 40-70 year old stands and decommission approximately 1.5 miles of existing road within Late Successional Reserve and Riparian Reserve land use allocations. Project 2 (Road Decommissioning) is a proposal to decommission approximately one mile of the following roads: road # 12-7-31, Spur A, Spur B, Spur C, portion of 12-7-32.1 and 12-7-32.2.

# FINDING OF NO SIGNIFICANT IMPACT

## Introduction

The Bureau of Land Management (BLM) has conducted an environmental analysis (Environmental Assessment Number OR080-04-18) for proposals to *Project 1***:** conduct density management on 40 to 70 year-old stands in Late Successional Reserve (LSR) and Riparian Reserves (RR) land use allocations (LUA's) to increase structural diversity and decommission approximately 1.5 mile of existing road; *Project 2:* decommission approximately one mile of roads (road # 12-7-31, Spur A, Spur B, Spur C, portion of 12-7-32.1 and 12-7-32.2) within the LSR and RR LUA's. The projects are in Township 12 South, Range 7 West, Sections 29, 31, 32 and 33 and Township 13 South, Range 7 West, Section 5 Willamette Meridian.

Implementation of the proposed action will conform to management actions and direction contained in the attached *Parker Bear Late Successional Reserve Enhancement Environmental Assessment* (Parker Bear EA). The Parker Bear EA is attached to and incorporated by reference in this Finding of No Significant Impact determination (FONSI). The analysis in this EA is site-specific and supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS) (EA p. 9). The Parker Bear projects have been designed to conform to the *Salem District Record of Decision and Resource Management Plan***,** May 1995 (RMP) and related documents which direct and provide the legal framework for management of BLM lands within Marys Peak Resource Area (EA pp. 9).

The EA and FONSI will be made available for public review June 16, 2005 to July 15, 2005. The notice for public comment will be published in a legal notice by the *Gazette Times* newspaper; and posted on the Internet at http://www.or.blm.gov/salem/html/planning/index.htm under Environmental Assessments. Comments received by the Marys Peak Resource Area of the Salem District Office, 1717 Fabry Road SE, Salem, Oregon 97306, on or before July 15, 2005 will be considered in making the final decisions for this project.

## Finding of No Significant Impact

Based upon review of the Parker Bear EA and supporting documents, I have determined that the Proposed Action is not a major federal action and would not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. No site specific environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27. Therefore, supplemental or additional information to the analysis done in the RMP/FEIS through a new environmental impact statement is not needed. This finding is based on the following discussion:

***Context****:* Potential effects resulting from the implementation of the proposed action have been analyzed within the context of the Upper Alsea River 5$^{th}$-field Watershed and the project area boundaries. The proposed action would occur on approximately 306 acres of BLM Late Successional Reserve and Riparian Reserve Land Use Allocations, encompassing less than 0.4% of the Upper Alsea Watershed [40 CFR 1508.27(a)].

***Intensity:***

1. *Projects 1 and 2* are unlikely to a have any significant impacts on the affected elements of the environment (EA sections 2.3 and 3.3 - vegetation, soils, water, fisheries/aquatic habitat, wildlife, fuels, recreation and visual resources). The following are a summary of the design features that would reduce the risk of affecting the above resources (EA sections 2.2.2.2 and 3.2.2.1).

   a. **Project 1 (*Parker Bear LSR Enhancement*)**
      - Retaining all coarse woody debris and snags, where possible, for wildlife habitat.
      - Implementing a daily operational time restriction to avoid noise disturbances to wildlife.
      - Seasonally restricting ground-based yarding, road construction and timber hauling operations to avoid runoff and sedimentation.
      - Operating some equipment on top of slash and logging debris to minimize compaction.
      - Installing erosion control measures as needed (water bars, sediment traps in ditch lines, silt fences, straw bales, and grass seeding exposed mineral soil areas).
      - Establishing stream protection zones adjacent to all project area streams to maintain canopy cover, water quality, and channel morphology.
      - Decommissioning new construction and approximately 1.5 mile of existing road after the completion of the project.

   b. **Project 2 *(Road Decommissioning)***
      - Decommissioning approximately 1 mile of existing road.
      - All decommissioning activities would utilize the Best Management Practices (BMPs) required by Federal Clean Water Act (as amended by the Water Quality Act of 1987).
      - All proposed work was designed in conformance with the *Salem District Implementation Strategy for the Western Oregon Transportation Management Plan (December 1999).*
      - To protect water quality, operation would take place during the dry season, generally July 1 to August 31.
      - Advanced/established vegetative growth should be left intact to the extent possible.
      - Contour the constructed stream banks at approximately 1½:1 where practical.
      - Other design features include:
        - Armoring the lower portions of the backslopes with suitable rip rap where bank scour would be otherwise anticipated.
        - Seeding areas of exposed soil with Oregon certified (blue tagged) red fescue at a rate equal to 40 pounds per acre.

   With the implementation of the project design features described in EA sections 2.2.2.2 and 3.2.2.1, potential effects to the affected elements of the environment are anticipated to be site-specific and/or not measurable (i.e. undetectable over the watershed, downstream, and/or outside of the project area) [40 CFR 1508.27(b) (1), EA sections 2.4 and 3.4].

2. *Projects 1 and 2* would not affect:
   - Public health or safety [40 CFR 1508.27(b)(2)];
   - Unique characteristics of the geographic area [40 CFR 1508.27(b)(3)] because there are no historic or cultural resources, parklands, prime farmlands, wild and scenic rivers, wilderness, or ecologically critical areas located within the project area (EA sections 2.3 and 3.3);
   - Districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places, nor would the proposed action cause loss or destruction of significant scientific, cultural, or historical resources [40 CFR 1508.27(b)(8)] (EA sections 2.3 and 3.3).

3. *Projects 1 and 2* are not unique or unusual. The BLM has experience implementing similar actions in similar areas without highly controversial [40 CFR 1508.27(b)(4)], highly uncertain, or unique or unknown risks [40 CFR 1508.27(b)(5)].

4. *Projects 1 and 2* do not set a precedent for future actions that may have significant effects, nor does it represent a decision in principle about a future consideration [40 CFR 1508.27(b)(6)].

5. The interdisciplinary team evaluated *Projects 1 and 2* in context of past, present and reasonably foreseeable actions [40 CFR 1508.27(b)(7)]. Potential cumulative effects are described in the attached EA. These effects are not likely to be significant because of the project's scope (effects are likely to be too small to be measurable), scale (project area of 306 acres, less than 0.4% of the total 5$^{th}$-field watershed), and duration (direct effects would occur over a maximum period of 2-3 years) EA sections 2.4 and 3.4.

6. *Projects 1 and 2* are not expected to adversely affect endangered or threatened species or habitat under the Endangered Species Act (ESA) of 1973 [40 CFR 1508.27(b)(9)]**.**

   ***Wildlife****:* To address concerns for affects to 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 Endangered Species Act. Consultation for this proposed action was facilitated by inclusion within a programmatic Biological Assessment (USDA-FS and USDI-BLM 2004b) 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 2005 and 2006. The proposed projects have been determined to be a "may affect, but not likely adverse affect" to the marbled murrelet. However, *project 1* "may affect" marbled murrelet critical habitat. *Project 1* has been determined to be a "may affect, not likely adverse affect" to the northern spotted owl. However, *project 1* "may affect" northern spotted owl critical habitat. *Project 1* has been determined to be a "no affect" to the bald eagle. To address concerns for modification to marbled murrelet and northern spotted owl critical habitat, the proposed action has been consulted on with the U.S. Fish and Wildlife Service. The resulting Biological Opinion (BO# 1-7-2005-F-0005) concluded that these projects, along with other similar projects that were consulted upon, would not result in jeopardy to listed species and would not adversely modify critical habitat for any species. The proposed projects described in this EA have incorporated the applicable design standards that are required for compliance with the Terms and Conditions set forth in the Biological Opinion.

   ***Fish:*** The proposed action area includes eight streams which flow into Parker Creek and five streams flow into Yew Creek. Parker Creek flows into North Fork Alsea River and Yew Creek flows into Crooked Creek. The North Fork Alsea River and Crooked Creek provides habitat for Coastal Coho (approximately one mile and two mile down stream respectively from the project area), which are proposed for listing as threatened under the Endangered Species Act. Consultation with National Oceanic Atmospheric Administration (NOAA) Fisheries will be conducted under current BLM policy. A "may affect, not likely to adversely affect" determination was made due to the moderate size, scope, and duration of this project. Consultation with NOAA fisheries is not required for "may affect, not likely to adversely affect" determination for proposed species. However, if the species is relisted then informal consultation would be necessary and the proposed project would need to be halted until consultation is completed. The road decommissioning project would be covered under the Endangered Species Act Section 7 Formal consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish

Habitat Consultation for U.S. Forest Service and Bureau of Land Management Programmatic Activities in Northwestern Oregon, February 25, 2003.

7. *Projects 1 and 2* do not violate any known Federal, State, or local law or requirement imposed for the protection of the environment [40 CFR 1508.27(b)(10)] (EA p.7).

Prepared by: Gary Humbard, Team Lead — Date: 6/16/05

Reviewed by: Carolyn Sands, NEPA — Date: 6/13/05

Approved by: FOR Brad Keller, Field Manager, Marys Peak Resource Area — Date: 6/16/05

# ENVIRONMENTAL ASSESSMENT

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# 1.0 INTRODUCTION

## 1.1 Projects Covered in this EA

Two projects will be analyzed in this EA. Project 1, Parker Bear Late Successional Reserve Enhancement, is a proposal to perform density management on approximately 306 to 367 acres of 40 to 70 year old stands and decommission approximately 1.5 mile of existing road within Late Successional Reserve (LSR) and Riparian Reserve (RR) Land Use Allocations (LUA). Project 2, road decommissioning, is a proposal to conduct road decommissioning on approximately one mile of roads within LSR and RR LUA's.

### 1.1.1 Relationship between Projects

Projects 1 and 2 are in close proximity (within ½ mile) to each other and are in the Upper Alsea Watershed.

## 1.2 Project Area Location

The project areas are located approximately 9 air miles southwest of Philomath, Oregon, between Grass Mountain and Marys Peak in Benton County on forested land managed by the Marys Peak Resource Area, Salem District of the Bureau of Land Management (BLM). The project area lies within the Upper Alsea River Watershed and is within Township 12 South, Range 7 West, Sections 29, 31, 32 and 33 and Township 13 South, Range 7 West, Section 5, Willamette Meridian (Map 1).

## 1.3 Conformance with Land Use Plans, Policies, and Programs

The Parker Bear projects have been designed to conform to the following documents, which direct and provide the legal framework for management of BLM lands within the Salem District: **1/** *Salem District Record of Decision and Resource Management Plan***,** May 1995 (RMP): The RMP has been reviewed and it has been determined that the Parker Bear projects conform to the land use plan terms and conditions (e.g. complies with management goals, objectives, direction, standards and guidelines) as required by 43 CFR 1610.5 (BLM Handbook H1790-1). Implementing the RMP is the reason for doing these projects (RMP p.1-3); **2/** *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl,* April 1994 (the Northwest Forest Plan, or NWFP); **3/** *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 (SSSP); **4/** *Record of Decision Amending Resource Management Plans for Seven Bureau of Land Management Districts and Land and Resource Management Plans for Nineteen National Forests within the Range of the Northern Spotted Owl, Decision to Clarify Provisions Relating to the Aquatic Conservation Strategy,* March 2004 (ACSROD)**.**

The analysis in the Parker Bear EA is site-specific and supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS). 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 Supplemental Environmental Impact Statement to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines*, January 2004 (SSSP/FSEIS); and the *Final Supplemental Environmental Impact Statement, Clarification of Language in the 1994 Record of Decision for the Northwest Forest Plan National Forests and Bureau of Land Management Districts Within the Range of the Northern Spotted Owl,* October 2003 (ACS/FSEIS).

The following documents provided additional direction in the development of the Parker Bear projects: **1/***Late Successional Reserve Assessment, Oregon Coast Province - Southern Portion* (June 1997); **2/***North Fork Alsea River Watershed Analysis,* July 1996 and **3/***North Fork Alsea and South Fork Alsea Watershed Analysis: Riparian Reserve Treatment Recommendations Update,* May 2000.

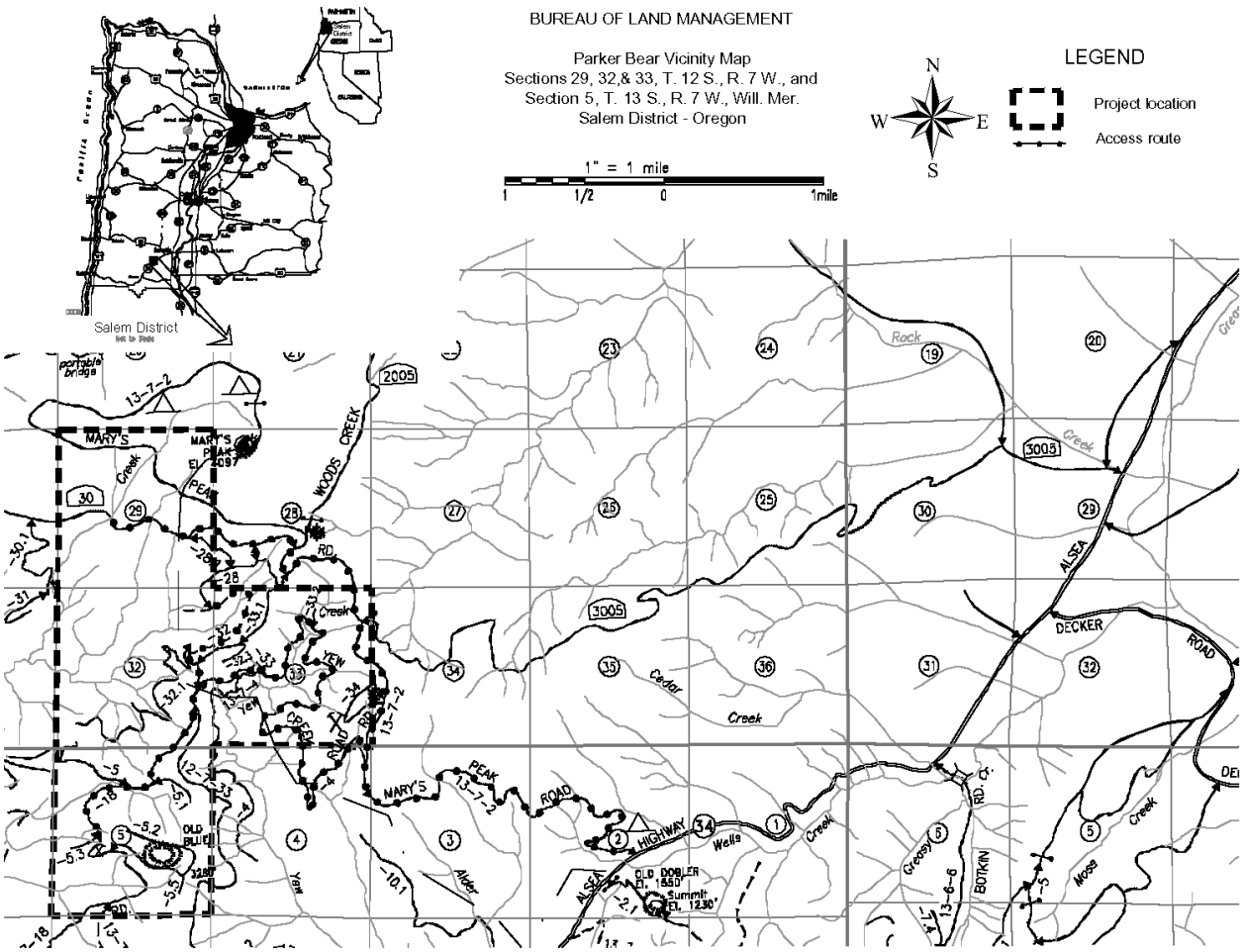
The above documents are available for review in the Salem District Office. Additional information about the proposed projects is available in the Parker Bear LSR Enhancement Project EA Analysis File (NEPA file), also available at the Salem District Office.

## 1.4 Decision to be made

The decision to be made by the Marys Peak Field Manager is

- Whether to approve the Parker Bear Late Successional Reserve Enhancement and the road decommissioning projects, as proposed, not at all, or to some other extent.
- Whether site specific impacts would require supplemental/additional information to the analysis done in the RMP/FEIS through a new EIS.

### 1.4.1 Map 1: Vicinity Map




## 2.0

# PROJECT 1 - Parker Bear Late Successional Reserve Enhancement

## 2.1 Purpose of and Need for Action

Marys Peak Resource Area staff performed a comprehensive, landscape level analysis to determine relative priority of watershed areas within the Resource Area for ecosystem management. Assessments of watershed, wildlife, silviculture, transportation, and ownership conditions were made in comparison with provincial strategies to identify opportunities and needs and their relative urgency.

As a follow up to the findings of the *North Fork Alsea River Watershed Analysis*, and the *Late Successional Reserve Assessment, Oregon Coast Province - Southern Portion*, the Upper Alsea watershed emerged as one of the highest priority areas to perform density management of forest stands, improve late successional habitat for marbled murrelet and northern spotted owl, and to improve the watershed and road system. Stand exams were completed that focused on managed stands within the *North Fork Alsea River Watershed Analysis* corridor. The proposed project is intended to implement a subset of specific management opportunities that were identified within the W*atershed Analysis.* The following describe the purpose of and need for action:

- **To manage developing forest stands and wildlife habitat in the Late Successional Reserve (LSR) Land Use Allocation (LUA) so that:**

  - ✓ Plan and implement silvicultural treatments inside Late-Successional Reserves that are beneficial to the creation of late successional habitat (RMP p. 16)
  - ✓ Late-successional habitat, ecosystems and biological diversity associated with native species are created and maintained (*Late Successional Reserve Assessment, Oregon Coast Province - Southern Portion*, p. 1).
  - ✓ Structural diversity in relatively uniform dense conifer stands in both the Riparian Reserves and Late Successional Reserves.

- **To manage early to mid-seral stands in Riparian Reserve LUAs (RMP pp. 9-15) so that:**
  - ✓ Growth of trees can be accelerated to restore large conifers to Riparian Reserves (RMP p.7);
  - ✓ Habitat (e.g. coarse woody debris, snag habitat, in-stream large wood) for populations of native riparian-dependent plants, invertebrates, and vertebrate species can be enhanced or restored (RMP p.7);
  - ✓ Structural and spatial stand diversity can be improved on a site-specific and landscape level in the long term (RMP p. 11, 26, D-6).

- **To maintain and develop a safe, efficient and environmentally sound road system (RMP p.62) that :**
  - ✓ Provides appropriate access for timber harvest and silvicultural practices used to meet the objectives above;
  - ✓ Reduces environmental effects associated with identified existing roads within the project area.
  - ✓ Reduces potential human sources of wildfire ignition and provides for fire vehicle and other management access;

## 2.2 Alternatives

### 2.2.1 Alternative Development

Pursuant to Section 102 (2) (E) of NEPA (National Environmental Policy Act of 1969, as amended), Federal agencies shall "Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." An unresolved conflict concerning alternative uses of available resources was identified between road construction activities and effects to water and soil resources. An alternative (Alternative 2) proposing a reduction of road construction and increased acres of density management (utilizing helicopter yarding) would meet the purpose and need of the project and address these conflicts.

This EA will analyze the effects of Alternative 1 (proposed action), Alternative 2 and Alternative 3 (No Action).

**Table 1: Comparison of Action Alternatives for Project 1**

| Parameter | Alternative 1 | Alternative 2 |
|---|---|---|
| Total Acres | 306 | 367 |
| Stand Age (years) | 45-70 | 45-70 |
| Trees per Acre After Harvest | 44-99 | 44-99 |
| Ground Based Yarding (Acres) | 29 | 27 |
| Skyline Yarding(Acres) | 277 | 217 |
| Helicopter Yarding (Acres) | 0 | 123 |
| Density Management Method | Variable Thinning | Variable Thinning |
| New Road Construction (feet) | 4,550 | 1,560 |
| Renovation of Existing Roads (feet) | 6,000 | 6,000 |

### 2.2.2 Alternative 1 (Proposed Action)

This project consists of conducting density management on approximately 306 acres of 45-70 year old stands within LSR and RR LUA's. This project would occur through a timber sale (Parker Bear LSR Enhancement). Approximately 306 acres would be thinned from below to achieve a range of approximately 44 to 99 residual trees per acre on the LSR and RR LUA. The intent of the proposed action is to create stand structural diversity and to accelerate the development of Late Successional forest characteristics (RMP p.15). This would be accomplished by the use of a timber sale to be offered in fiscal year 2006. Trees would be skyline yarded on approximately 277 acres and ground based yarded on approximately 29 acres. New road construction, road renovation and road decommissioning on roads over which timber hauling would occur are also a part of the proposed action.

#### *2.2.2.1 Connected Actions (Road Work)*

- Road construction of approximately 4,550 feet of new road would occur predominantly on or near ridge top locations. Following harvest, all of the new construction would be decommissioned and blocked to vehicular traffic. Drain dips would be installed where cross drainage is necessary.
- Road renovation (may include brushing, blading, drainage structure improvements and/or replacements and surface rock spot application) of approximately 6,000 feet would occur. Drainage structure improvement and/or replacement would occur on approximately 31 cross drains and/or stream crossings. New culverts installed would meet 100 year flood design criteria. Cut and fill slopes would be grass seeded and riprap would be placed as needed.

- In addition, approximately 9,000 feet of existing road would be renovated, decommissioned and blocked to vehicular traffic after harvest operations. Drainage structure removal would occur on approximately 19 cross drains and/or stream crossings.

1. **Fuels Treatments:** Debris cleared during road construction would be scattered along the length of rights-of-way. Debris accumulation on landings and roads which are a result of yarding units 29A-29C, 32A-32D, 33A-33F, 5A and 5B would be machine piled, covered with plastic and burned under favorable smoke dispersal conditions in the fall, in compliance with the State smoke management plan. In order to mitigate fire risk the area would be monitored for the need of closing or restricting access during periods of high fire danger. During the closed fire season the first year following harvest activities, while fuels are in the "red needle" stage, the entire area would be posted and closed to all off road motor vehicle use.

2. **Skid Trail Construction:** Constructing new skid trails would be avoided, where possible. New skid trail construction would follow the project design features described in section 2.2.2.2.

3. **Blocking Skid Trails**: After logging operations, skid trails would be waterbarred and grass seeded to mitigate soil erosion, reduce noxious weed infestation and help accelerate the return of native vegetation.

4. **Coarse Woody Debris (CWD) Creation:** Coarse woody debris enhancement would be achieved by the implementation of *LSRA* alternative #2 (pp. 67-68). This strategy serves as a guideline used in consideration with site specific factors (e.g. stand age, adjacent landscape conditions, subsequent treatment possibilities) for development of CWD prescriptive treatments outlined in Table 5. New inputs of CWD would be achieved by: indirect harvest activities (e.g. breakage, limbs and tops, trees felled but not harvested) and post-harvest CWD creation.

**Table 2: Coarse Woody Debris prescription within the Parker Bear LSR Enhancement Project Area[1]**

| **Proposed Coarse Woody Debris Prescriptions** | | | |
|---|---|---|---|
| **Proposed Units** | **Prescription Objective[5]** | **Desired Input[6]** | |
| | | **Snags** | **Down Logs** |
| 29B,C | Current high levels of CWD allow for creation of only a few fresh hard snags/logs, favoring larger sizes; clump distribution desirable. | 1 | 1 |
| 29A<br>32A,D<br>5A,B | minimal input of hard snags/logs needed, since existing CWD volume is very high, and/or unit size is very small | 2 | 1 |
| 33A,B,C,E,F | modest input of hard CWD, favoring snags over logs | 3 | 1 |
| 32B,C<br>33G | balance the need to boost existing low volume CWD with limitations on availability of larger stem sizes within stands. | 3 | 2 |
| 33C | Unit provides unique opportunity to retain fresh hard snags and down logs created by 2004 winter storm event | 4 | 2 |

[5]All prescription objectives generally follow Prescription # 2 from LSR Assessment (page 67). The general goal is to balance both long-term and short-term needs for CWD by adding some new material now and to let residual trees grow larger for future CWD recruitment.

[6]Desired Input is expressed as trees per acre created in the units. Harvest activities (stand damage, limbs and tops, felled but retained logs) and post-harvest processes (wind throw, bug kill, etc.) would be evaluated within 5 years of harvest action and these inputs would be considered prior to creating CWD for desired input target.

5. **Special Forest Products**: Special forest product permits would be available by permit before and after harvest operations as appropriate for LSR and RR designated lands in this portion of the Marys Peak Resource Area and in compliance with SFP Cat-Ex. If firewood is present on the landings after completion of the logging contract, permits may be made available to the public. Prescribed burning would be delayed one or more seasons in order to accommodate firewood cutting.

#### *2.2.2.2 Project Design Features*

The following is a summary of the design features that reduce the risk of effects to the affected elements of the environment described in EA section 2.3. Design features are organized by objectives.

**General**

All logging activities would utilize the Best Management Practices (BMPs) required by the Federal Clean Water Act (as amended by the Water Quality Act of 1987) (RMP Appendix C pp. C-1 through C-10).

**Table 3: Season of Allowable Operation/Operating Conditions**

| Season of Operation or Operating Conditions | Applies to Operation | Objective |
|---|---|---|
| July 15-April 15 | Yarding outside of road right of ways | Protecting the bark and cambium of residual trees |
| During periods of low precipitation, generally May 1-October 31 | Road Construction | Minimize soil erosion |
| During periods of low soil moisture, generally July 15-October 15 | Ground based yarding (Tractor) | Minimize soil erosion/compaction |
| During periods of low soil moisture, generally June 15-October 31 | Ground based yarding (Harvester/Forwarder) | Minimize soil erosion/compaction |
| During periods of low precipitation, generally May 1-October 31 | Timber hauling on the following roads: Road 12-7-28, 12-7-32, 12-7-33.2, 12-7-32.3, 12-7-32.1, 12-7-33, 12-7-33.1, 13-7-18, 13-7-4, T2, T3, T5 and T6. | Minimize soil erosion/stream sedimentation |
| Year round | Timber hauling on the following roads: Road T1, T4, USFS #30, 12-7-30 | Minimize soil erosion/stream sedimentation while allowing |
| Time period beginning two hours after sunrise and ending two hours before sunset (April 1 through September 15) | Operation of power equipment | Minimize noise disturbance (marbled murrelet) |
| October 1 to December 31 | Blasting | Minimize noise disturbance (marbled murrelet) |
| July 1 to August 31 | In-stream work (culvert installation and/or removal) | Minimize soil erosion/stream sedimentation |

**Project Design Features by RMP Objectives**

**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:**

- Ground based yarding with either crawler tractors or harvester/forwarders would take place generally on slopes less than 35 percent in Units 29A, 32A and 5B.
- Harvester/forwarder equipment should operate on top of slash as much as practical even during dry conditions and utilize existing skid roads wherever practical. Logging debris would be placed in yarding corridors in front of equipment to minimize the need for machines to go on bare soil.
- Harvester/forwarder use would require that logs would be transported free of the ground. The equipment would be either rubber tired or track mounted, and have rear tires or tracks greater than 18 inches in width. Yarding corridors would be spaced approximately 60 feet apart and be less than 15 feet in width.
- Crawler tractor use would require utilization of pre-designated skid trails spaced an average of 150 feet apart where they intersect boundaries and utilize existing skid trails as much as practical.
- In the skyline yarding area, one end suspension of logs would be required over as much of the area as possible to minimize soil compaction, damage to reserve trees, and disturbance. Yarding corridors would average approximately 150 feet apart where they intersect boundaries and be 15 feet or less in width. Lateral yarding up to 75 feet from the skyline using an energized locking carriage would be required.
- To provide a minimum of one-end suspension, approximately six skyline corridors would be necessary outside the unit boundaries and within the stream protection zone. Trees in the corridors within the stream protection zone which pose a safety hazard would be felled where practicable toward a stream and left on site.
- At a minimum, all large areas of exposed mineral soil areas (roads to be constructed, renovated, decommissioned, skid roads and landings) would be seeded with Oregon Certified (blue tagged) red fescue at a rate equal to 40 pounds per acre or sown/planted with other native species as approved by the resource area botanist.
- In periods of high rain-fall, the contract administrator may restrict log hauling to minimize water quality impacts, and/or require the Purchaser to install silt fences, bark bags or apply additional road surface rock.

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

- Stream Protection Zones would be established along all streams and identified wet areas within the harvest area. These zones would be a minimum of approximately 50 feet from the high water mark.
- To protect water quality, trees would be felled away from all stream protection zones within the harvest area. Where a cut tree does fall within a stream protection zone, the portion of the tree within the stream protection zone would remain in place. No yarding would be permitted in or through all stream protection zones within the harvest area except in Unit 33D.
- Approximately six skyline corridors would be located within the stream protection zone of the stream to be protected in Unit 33D. Full suspension is required within that stream protection zone. Trees in the skyline corridors and within the stream protection zone which pose a safety hazard would be felled where practicable toward a stream and left on site.
- In-stream work related to culvert work would be allowed between July 1 and August 31, the period recommended by the Oregon Department of Fish and Wildlife.

- The potential sedimentation effects of timber hauling on natural and the majority of gravel surfaced roads (see Table 3) are expected to be prevented by restricting hauling to the dry season, generally May 1 to October 31. Additionally, hauling operations would be suspended if weather or environmental conditions pose an imminent risk of road sediment flowing in road ditches.

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

- Priorities for tree marking would be based on Marking Guidelines contained within the Silviculture and Riparian Reserve Prescription (PBNEPA file, pp. 27-29 and pp. 42-43).
- Species diversity would be maintained by reserving all trees other than Douglas-fir and western hemlock.
- All open grown "wolf trees", existing snags and coarse woody debris would be reserved, except where they pose a safety risk or affect access and operability. Any snags or logs felled or moved for these purposes would remain on site within the project area.
- Within the density management areas any green trees intended to be part of the residual stand that are incidentally felled to facilitate access and operability (yarding corridors, hang-ups, tailholds) would be treated as follows:
    - Trees that are 20 inches Diameter Breast Height Outside Bark (DBHOB) or greater would be retained on site.
    - Trees less than 20 inches DBHOB would be available for removal.
- At least 2 green trees/acre intended to be part of the residual stand would be felled/topped for CWD creation following harvest operations. Trees to be utilized for snag/down log creation would be stand average or larger DBHOB. Incidentally felled trees or topped trees (ie. tailtrees, intermediate supports, guyline anchors) that are left by harvest operations would first be counted toward this target.
- Further enhancement and monitoring of coarse woody debris (CWD) would occur within the proposed project as described in Table 5 (EA Sec. 2.2.2.1).
- Specific design features for Unit 29B would include the creation of up 3 to 6 gaps that are 1/4 to 1/2 acre in size (totaling no more than 2 acres), where each gap would retain up to 20 green trees and some or all of these trees might be utilized for the creation of snags or down logs.

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

- The Resource Area Biologist and/or Botanist would be notified if any Threatened and Endangered and Bureau Special Status Plants and Animal species are found occupying stands proposed for treatment during project activities. All of the known sites would be withdrawn from any timber harvesting activity.

**To reduce fire hazard risk and protect air quality:**

- Debris cleared during road construction would be scattered along the length of rights-of-way. Large accumulations and piles of debris that may later pose higher than necessary fire hazards would be avoided.
- Debris accumulations on landings and along roads would be machine piled, covered with plastic and burned under favorable smoke dispersal conditions in the fall, in compliance with the State smoke management plan.
- In order to mitigate fire risk the area would be monitored for the need of closing or restricting access during periods of high fire danger. During the closed fire season the first year following harvest activities, while fuels are in the "red needle stage, the entire area would be posted closed to all off road motor vehicle use.

**To protect Cultural Resources:**

- No known cultural or paleontological resources occur in the project area. A post-harvest survey would be done upon completion of the project according to *Protocol for Managing Cultural Resources on Lands Administered by the BLM in Oregon;* Appendix D dated August 5, 1998. If any sites are identified during timber harvesting, the operations would be immediately halted and the Field Manager would be notified. Operations would be resumed only with the Field Manager's approval, and only after appropriate mitigation measures are designed and implemented to provide any needed protection of those resources.

**To protect Visual Resources:**

- Impacts to Visual Resource Management (VRM) class 2 lands along U. S. Forest Service Road #30 would be protected within 50 feet of the road by retaining a greater density of leave trees than the recommended silviculture prescription for Units 29A and 29B. Additional management activities would include disposing of logging debris by piling and burning logging debris, applying grass and forbs seed to disturbed areas and replanting with large nursery stock adjacent to Road #30.

### 2.2.3 Alternative 2 – This Alternative Would Increase the Density Management Treatment Area (Unit 29C and additional portions of 33D and 5A), Inclusion of Helicopter Yarding and Reduction of New Road Construction (Elimination of Roads T5 and T6)

With the following exceptions, Alternative 2 is the same as the proposed action. The project consists of conducting density management on approximately 367 acres (See Alternative 2 maps). Trees would be helicopter yarded on approximately 123 acres, skyline yarded on 217 acres and ground based yarded on approximately 27 acres.

#### *2.2.3.1 Connected Actions*

**Road Work:** Approximately 3,000 feet of new road construction (T5 and T6) would not occur in Units 5A and 33D. Approximately 700 additional feet of existing road (12-7-33.1) would be renovated to provide access for harvest and timber hauling operations.

#### *2.2.3.2 Project Design Features*

The following project design features are described for Alternative 2, only where they differ from Alternative 1.

- Approximately 123 acres within units 32C, 33D and 5A would be helicopter yarded along with an additional area (Unit 29C) that is inaccessible by new road construction due to steep slopes.
- Approximately 3 "helicopter" landings would be constructed to provide adequate space to land, process and load logs during the helicopter yarding process.
- Helicopter yarding would be allowed between August 5 and April 1 in any given year.
- Specific design features for Units 29C would include the creation of up 3 to 6 gaps that are 1/4 to 1/2 acre in size (totaling no more than 3 acres in 29C), where each gap would retain up to 20 green trees and some or all of these trees might be targeted for creation of snags or down logs.

### 2.2.4 No Action Alternative

The BLM would not implement any of the action alternatives at this time. This alternative serves to set the environmental baseline for comparing effects to the proposed action.

## 2.2.5 Maps of the Action Alternatives

## Map 2: Alternative 1 (Proposed Action)

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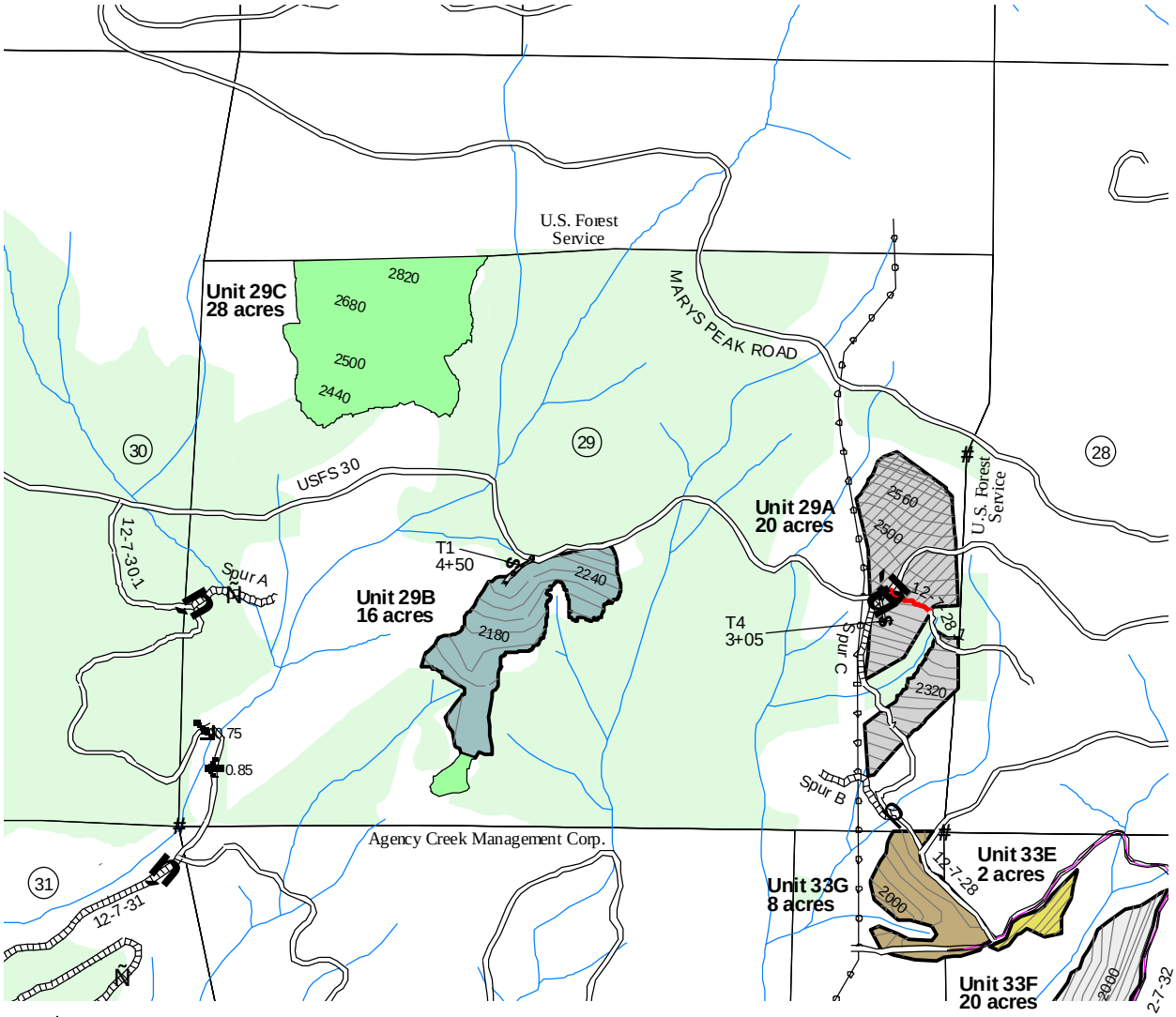
**PARKER BEAR EA MAP - Alternative 1**

T. 12 S., R. 7 W., Sections 29, 30, & 31, W. M. - SALEM DISTRICT - OREGON




LEGEND

500 0 500 1000 1500 Feet

N

- Road to be decommissioned (Project 2)
- Existing road
- Road to be constructed and decommissioned
- Road to be renovated
- Road to be renovated and decommissioined (Project 1)
- Powerline
- Streams
- Stream to be protected
- Washout
- Road Blockage
- # Corner found
- #——# Gate
- Culvert to be removed
- Culvert to be replaced
- Density Management Area - Ground Based Yarding
- Density Management Area - Skyline Yarding
- Density Management Area - Special Yarding Area
- Deferred Area - Logging Feasibility
- 80+ year old forest

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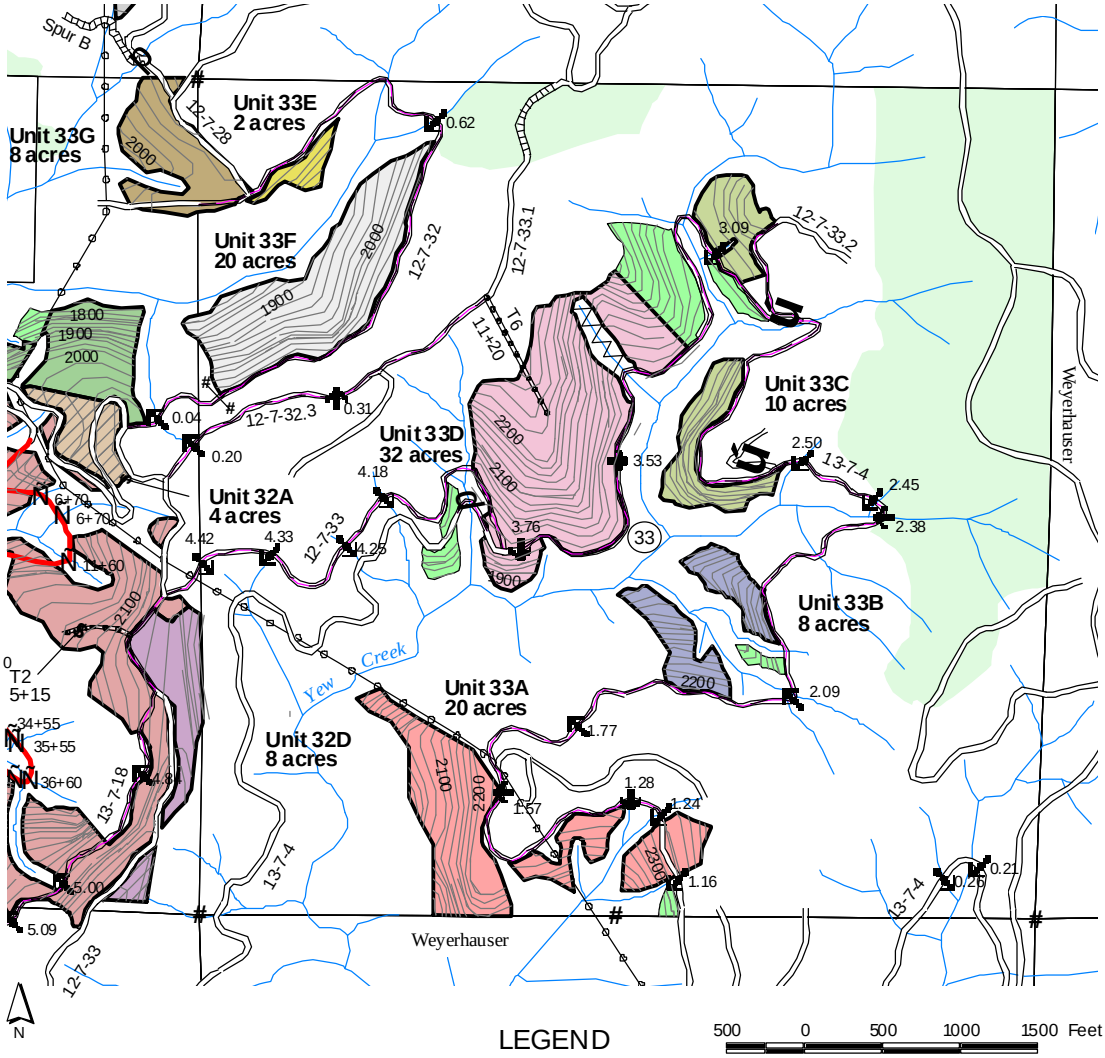
# PARKER BEAR EA MAP - Alternative 1

T. 12 S., R. 7 W., Section 33, W. M. - SALEM DISTRICT - OREGON




LEGEND

- Road to be decommissioned (Project 2)
- Existing road
- Road to be constructed and decommissioned
- Road to be renovated
- Road to be renovated and decommissioined (Project 1)
- Powerline
- Streams
- Stream to be protected
- Washout
- Road Blockage
- # Corner found
- #——# Gate
- Ñ Culvert to be removed
- Culvert to be replaced
- Density Management Area - Ground Based Yarding
- Density Management Area - Skyline Yarding
- Density Management Area - Special Yarding Area
- Deferred Area - Logging Feasibility
- 80+ year old forest

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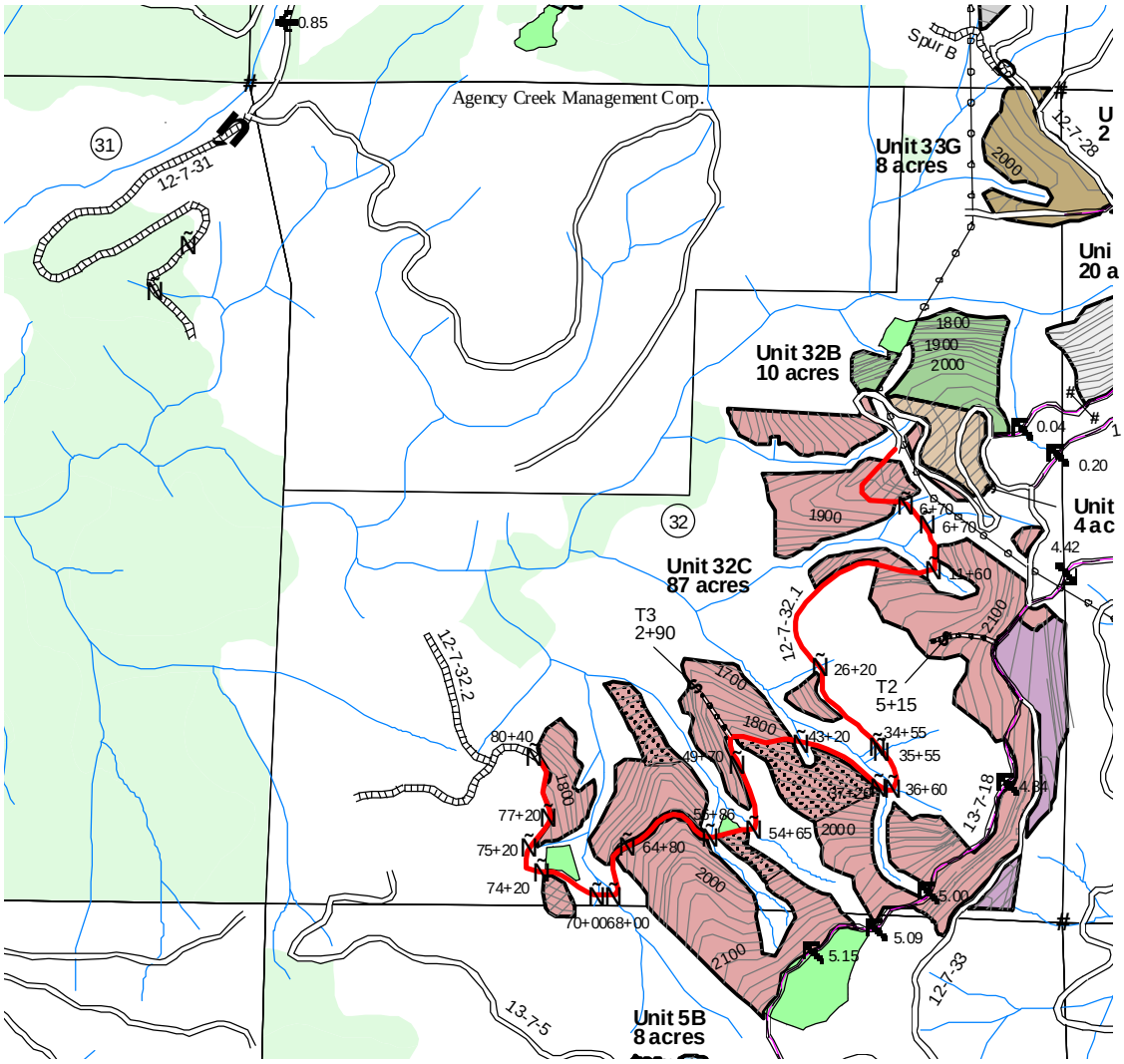
# PARKER BEAR EA MAP - Alternative 1

T. 12 S., R. 7 W., Section 32, W. M. - SALEM DISTRICT - OREGON




## LEGEND

- Road to be decommissioned (Project 2)
- Existing road
- Road to be constructed and decommissioned
- Road to be renovated
- Road to be renovated and decommissioined (Project 1)
- Powerline
- Streams
- Stream to be protected
- Washout
- Road Blockage
- # Corner found
- #——# Gate
- Ñ Culvert to be removed
- Culvert to be replaced
- Density Management Area - Ground Based Yarding
- Density Management Area - Skyline Yarding
- Density Management Area - Special Yarding Area
- Deferred Area - Logging Feasibility
- 80+ year old forest

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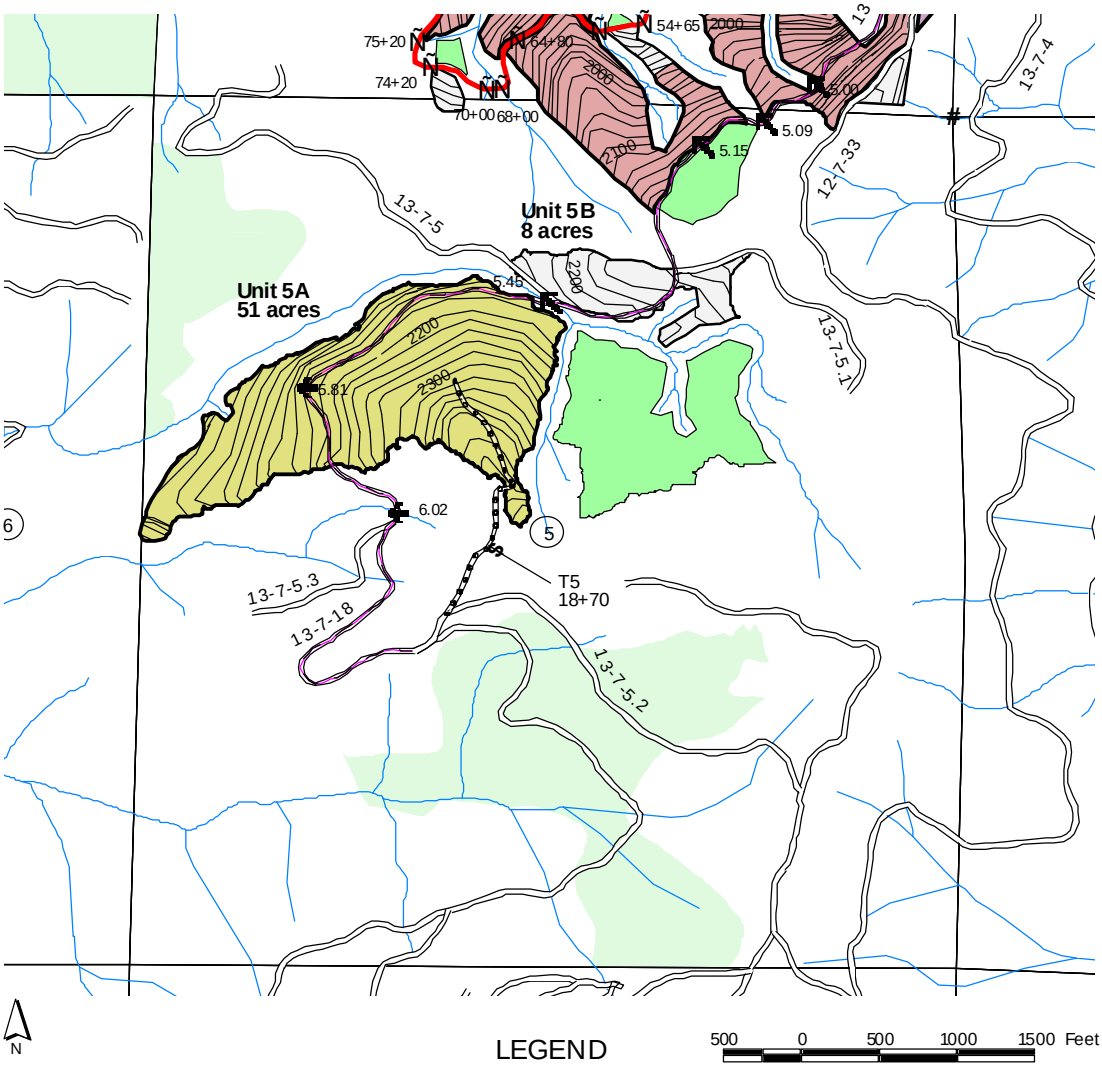
# PARKER BEAR EA MAP - Alternative 1

T. 13 S., R. 7 W., Section 5, W. M. - SALEM DISTRICT - OREGON



## Map 2: Alternative 2

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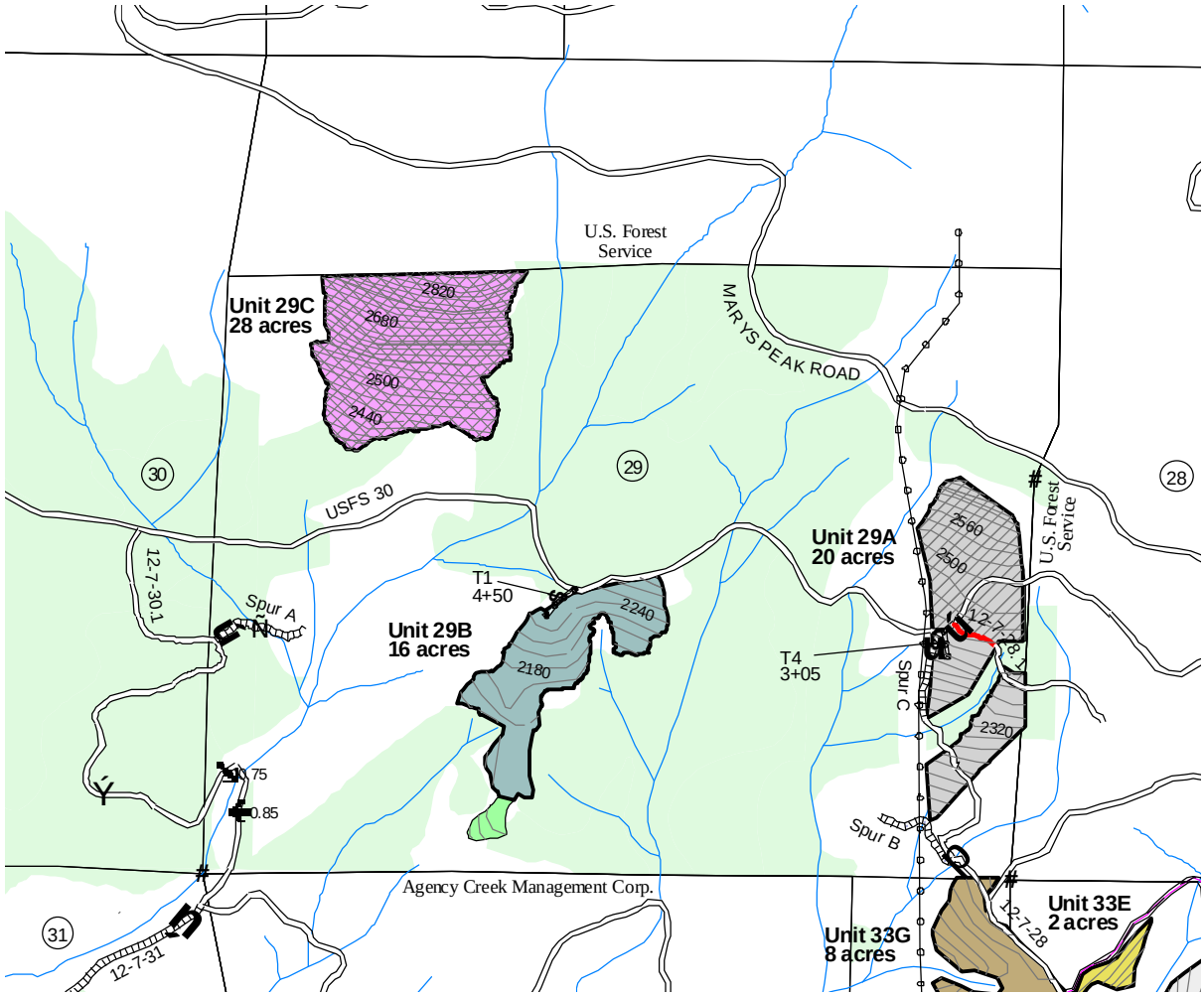
Page 1 of 4

**PARKER BEAR EA MAP - Alternative 2**

T. 12 S., R. 7 W., Sections 29, 30, & 31, W. M. - SALEM DISTRICT - OREGON




N

LEGEND

500 0 500 1000 1500 Feet

- Road to be decommissioned (Project 2)
- Existing road
- Road to be constructed and decommissioned
- Road to be renovated
- Road to be renovated and decommissioined (Project 1)
- Powerline
- Streams
- Stream to be protected
- Washout
- Road Blockage
- Gate to be installed
- Culvert to be removed
- Culvert to be replaced
- Corner found
- Helicopter Landing (yarding)
- Helicopter Landing (service)
- Density Management Area - Aerial Yarding
- Density Management Area - Ground Based Yarding
- Density Management Area - Skyline Yarding
- Density Management Area - Special Yarding Area
- Deferred Area - Logging Feasibility
- 80+ year old forest

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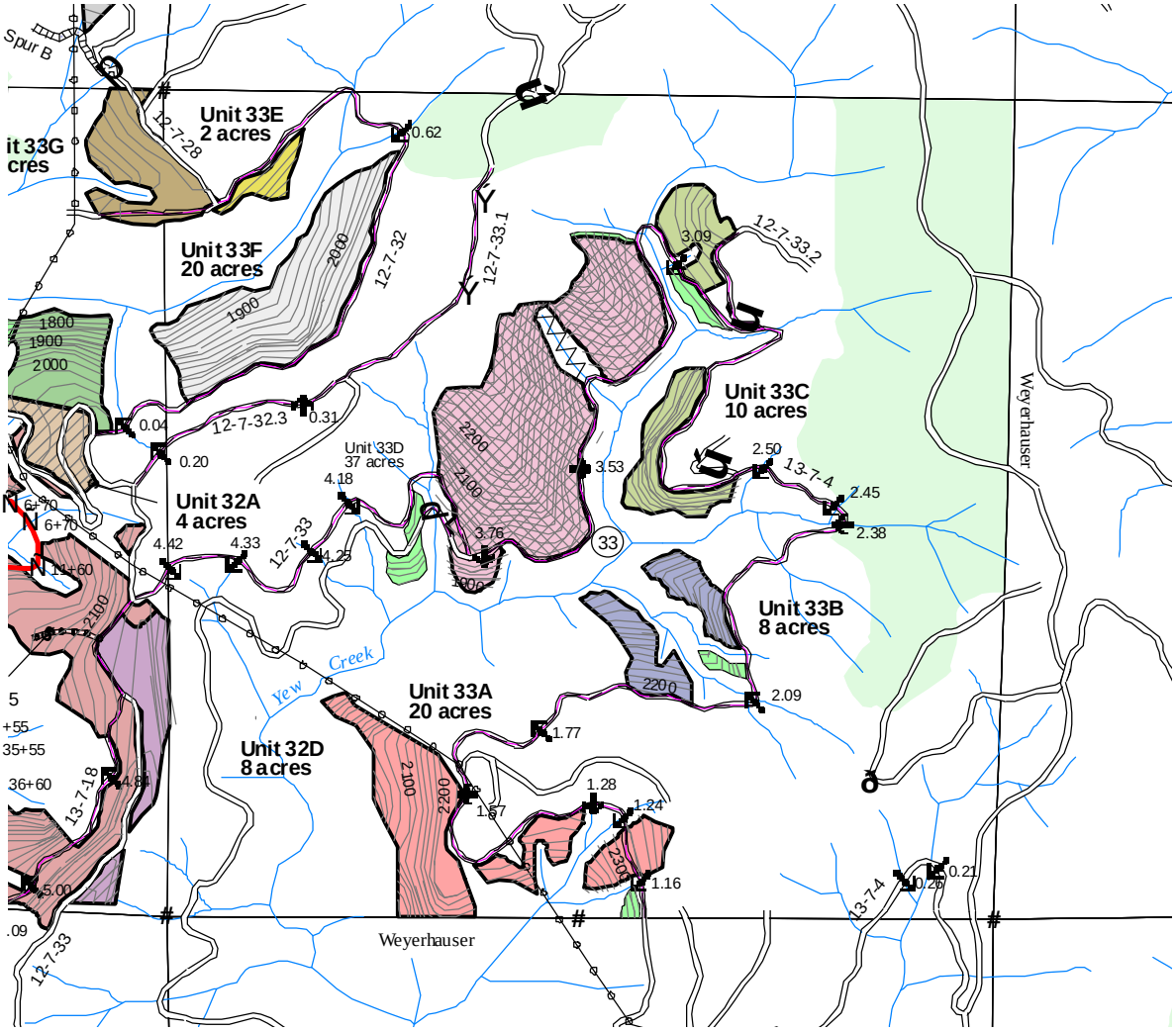
# PARKER BEAR EA MAP - Alternative 2

T. 12 S., R. 7 W., Section 33, W.M. - SALEM DISTRICT - OREGON




## LEGEND

- Scale: 1" = 1,000'
- Road to be decommissioned (Project 2)
- Existing road
- Road to be constructed and decommissioned
- Road to be renovated
- Road to be renovated and decommissioined (Project 1)
- Powerline
- Streams
- Stream to be protected
- Washout
- Road Blockage
- Gate to be installed
- Culvert to be removed
- Culvert to be replaced
- Corner found
- Helicopter Landing (yarding)
- Helicopter Landing (service)
- Density Management Area - Aerial Yarding
- Density Management Area - Ground Based Yarding
- Density Management Area - Skyline Yarding
- Density Management Area - Special Yarding Area
- Deferred Area - Logging Feasibility
- 80+ year old forest

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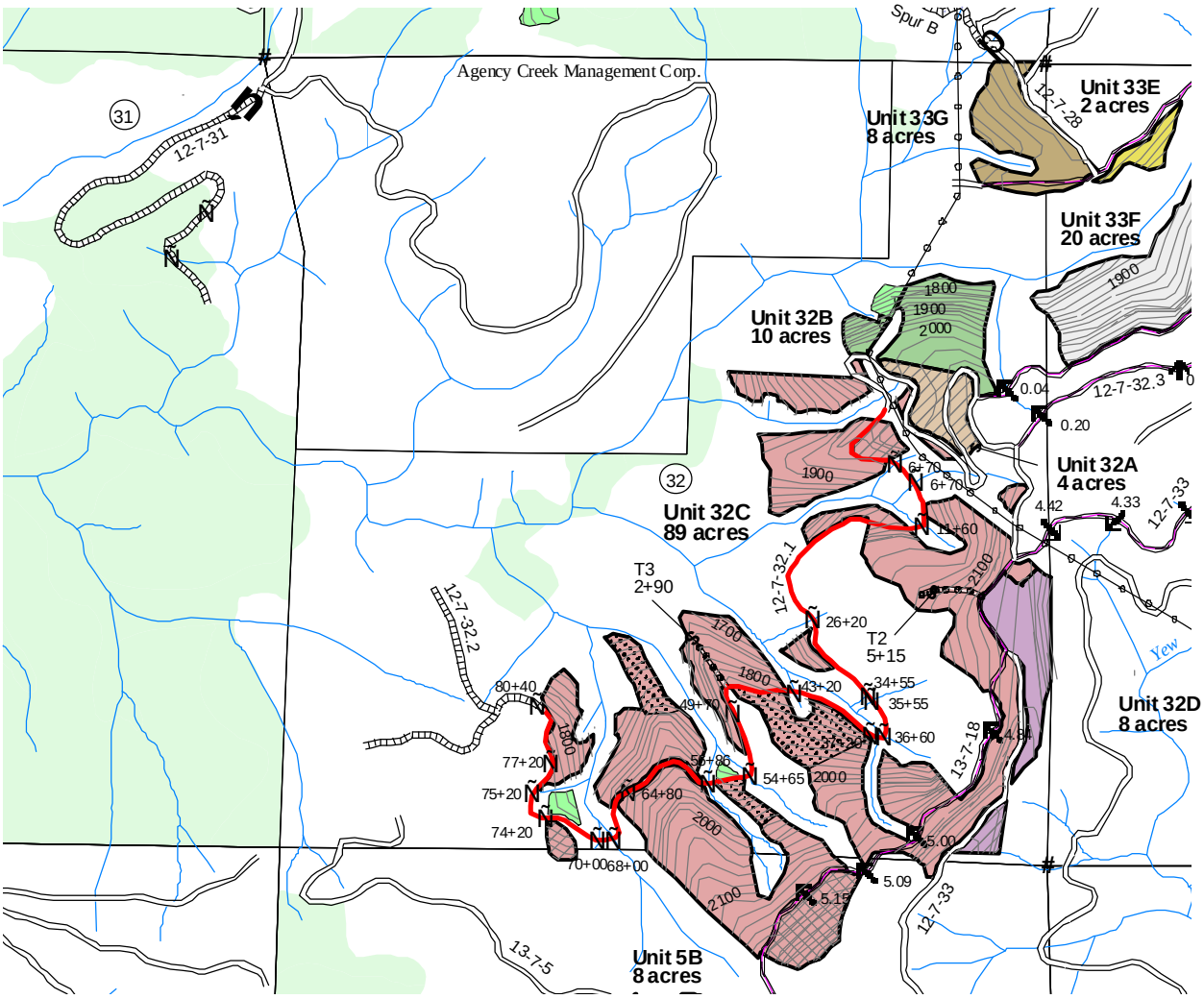
## PARKER BEAR EA MAP - Alternative 2

T. 12 S., R. 7 W., Sections 32, W. M. - SALEM DISTRICT - OREGON




### LEGEND

N

- Road to be decommissioned (Project 2)
- Existing road
- Road to be constructed and decommissioned
- Road to be renovated
- Road to be renovated and decommissioined (Project 1)
- Powerline
- Streams
- Stream to be protected
- Washout
- Road Blockage
- Gate to be installed

500 0 500 1000 1500 Feet

- Culvert to be removed
- Culvert to be replaced
- Corner found
- Helicopter Landing (yarding)
- Helicopter Landing (service)
- Density Management Area - Aerial Yarding
- Density Management Area - Ground Based Yarding
- Density Management Area - Skyline Yarding
- Density Management Area - Special Yarding Area
- Deferred Area - Logging Feasibility
- 80+ year old forest

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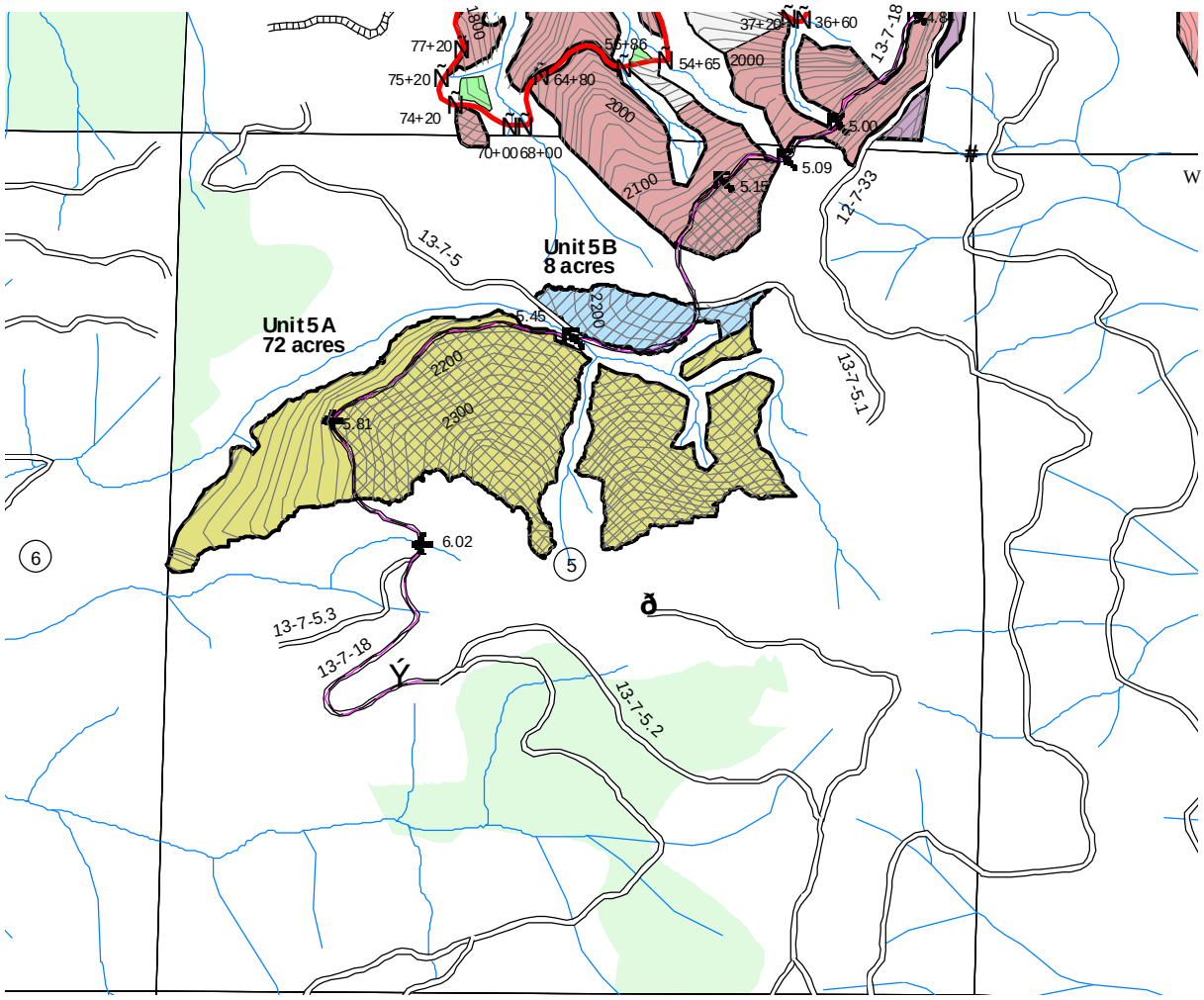
# PARKER BEAR EA MAP - Alternative 2

T. 13 S., R. 7 W., Section 5, W. M. - SALEM DISTRICT - OREGON



## 2.3 Identification of Affected Elements of the Environment

The interdisciplinary team reviewed the elements of the human environment, required by law, regulation, Executive Order and policy, to determine if they would be affected by the proposed action. Table 3 (Critical Elements of the Human Environment) and Table 4 (Other Elements of the Environment) summarize the results of that review. Affected elements are **bold**. All entries apply to the action alternatives, unless otherwise noted.

**Table 4: Review of Critical Elements of the Environment (BLM H-1790-1, Appendix 5) for Project 1**

| *PROJECT 1-PARKER BEAR LATE SUCCESSIONAL RESERVE ENHANCEMENT* | | | |
|---|---|---|---|
| *Critical Elements Of The Environment* | *Status: (i.e., Not Present , Not Affected or Affected)* | *Does this project contribute to cumulative effects? Yes/No* | *Remarks If not affected, why?* |
| Air Quality (Clean Air Act) | Not Affected | No | Burning of slash piles would take place during favorable weather conditions in compliance with OR DEQ regulations and ODF guidance. This would ensure that impacts to the air shed would not exceed the established standards. |
| Areas of Critical Environmental Concern | Not Present | No | |
| Cultural Resources | Not Affected | No | Cultural Resource sites in the Coast Range, both historic and prehistoric, occur rarely. Of Salem District's Resource Area's, the fewest sites have been found on/in Marys Peak Resource Area. The probability of sites are low due to the majority of BLM land being located on steep upland mountainous terrain within areas that lack concentrated resources humans would use. Post-disturbance inventory would be completed on slopes less than 10%. |
| Energy (Executive Order 13212) | Not Affected | No | There is no known energy resources located in the project area. The proposed action would have no effect on the 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 proposed action does not involve occupancy or modification of floodplains, and would not increase the risk of flood loss. |
| Hazardous or Solid Wastes | Not Present | No | |
| **Invasive, Nonnative Species (plants) (Executive Order 13112)** | **Affected** | **No** | **Addressed in text (EA section 2.4.1) & (Botanical Report pp. 1-16)** |
| Native American Religious Concerns | Not Affected | No | No Native American religious concerns were identified during the public scoping period. |
| Threatened or Endangered (T/E) **Fish** | **Affected** | **No** | **Addressed in text (EA section 2.4.4) & (Fisheries Report pp. 1-3)** |

| *PROJECT 1-PARKER BEAR LATE SUCCESSIONAL RESERVE ENHANCEMENT* | | | | |
|---|---|---|---|---|
| *Critical Elements Of The Environment* | | *Status: (i.e., Not Present , Not Affected or Affected)* | *Does this project contribute to cumulative effects? Yes/No* | *Remarks If not affected, why?* |
| Species or Habitat | Plant | Not Present | No | There are no "known sites" of any T&E vascular plant, lichen, bryophyte or fungi species within the project area nor were any found during subsequent surveys. |
| | **Wildlife** (including designated Critical Habitat) | **Affected** | **No** | **Addressed in text (EA section 2.4.5) & (Biological Evaluation pp. 1-21)** |
| **Water Quality (Surface and Ground)** | | **Affected** | **No** | **Addressed in text (EA section 2.4.3), (Hydrology Report pp. 1-13) & (Cumulative Effects Analysis pp. 1-12)** |
| Wetlands/Riparian Zones (Executive Order 11990) | | Not Affected | No | Wetlands and Riparian zones would be designated as stream protection zones and buffered out of the project area. (See Silviculture and Riparian Reserve Prescription Report in NEPA file for more information.) |
| Wild and Scenic Rivers | | Not Present | No | |
| Wilderness | | Not Present | No | |

**Table 5: Review of Other Elements of the Environment for Project 1**

| *PROJECT 1-PARKER BEAR LATE SUCCESSIONAL RESERVE ENHANCEMENT* | | | |
|---|---|---|---|
| *Other Elements of the Environment* | *Status: (i.e., Not Present , Not Affected, or Affected)* | *Does this project contribute to cumulative effects? Yes/No* | *Remarks If not affected, why?* |
| Coastal zone | Not Affected | No | |
| **Fire Hazard/Risk** | **Affected** | **No** | **Addressed in text (EA section 2.4.6) & (Proposal Fuels/Soils Report pp. 1-13)** |
| Other Fish Species with Bureau Status and Essential Fish Habitat | Not Affected | No | Addressed in text (EA section 2.4.4) & (Fisheries Report pp. 1-3) |
| Land Uses (right-of-ways, permits, etc) | Not Affected | No | |
| Late Successional and Old Growth Habitat | Not Affected | No | No Late Successional or Old Growth stands are included in the proposed action. |
| Mineral Resources | Not Present | No | |
| **Recreation** | **Affected** | **No** | **Addressed in text (EA section 2.4.7) & (Recreation/Rural Interface/Visual Report p.1-6)** |
| Rural Interface Areas | Not Present | No | The proposed project is not in rural interface zones according to the Salem District RMP page 39. |
| **Soils** | **Affected** | **No** | **Addressed in text (EA section 2.4.2) & (Proposal Fuels/Soils Report pp. 1-13)** |
| Special Areas outside ACECs (Within or Adjacent) (RMP pp. 33-35) | Not Present | No | |

| *PROJECT 1-PARKER BEAR LATE SUCCESSIONAL RESERVE ENHANCEMENT* | | | | |
|---|---|---|---|---|
| *Other Elements of the Environment* | | *Status: (i.e., Not Present , Not Affected, or Affected)* | *Does this project contribute to cumulative effects? Yes/No* | *Remarks If not affected, why?* |
| Other Special Status Species / Habitat | Plants | Not Affected | No | There are no "known sites" of any Bureau special status vascular plant, lichen, bryophyte or fungi species within the project area nor were any found during subsequent surveys. |
| | **Wildlife** | **Affected** | **No** | **Addressed in text (EA section 2.4.5) & (Biological Evaluation pp. 1-21)** |
| **Visual Resources** | | **Affected** | **No** | **Addressed in text (EA section 2.4.8) & (Recreation/Rural Interface/Visual Report p.1-6)** |
| **Water Resources – Other (303d listed streams, DEQ 319 assessment, Downstream Beneficial Uses; water quantity, Key watershed, Municipal and Domestic)** | | **Affected** | **No** | **Addressed in text (EA section 2.4.3), (Hydrology Report pp. 1-13) & (Cumulative Effects Analysis pp. 1-12)** |
| **Wildlife Structural or Habitat Components - Other (Snags/CWD/ Special Habitats, road densities)** | | **Affected** | **No** | **Addressed in text (EA section 2.4.5) & (Biological Evaluation pp. 1-21)** |

## 2.4 Affected Environment and Environmental Effects

Those elements of the human environment that were determined to be affected are *vegetation, soils, water, fisheries/aquatic habitat, wildlife, fuels, recreation and visual resources (EA Section 2.3).* This section describes the current condition and trend of those affected elements, and the environmental effects of the alternatives on those elements.

### 2.4.1 Vegetation

*(Parker Bear Silviculture-Riparian Abstract pp. 1-7)(Parker Bear LSR Enhancement Silviculture and Riparian Reserve Prescription Report pp. 1-50)(Parker Bear LSR Enhancement Botanical Abstract pp.1-7)(Parker Bear LSR Enhancement Botanical Report pp.1-16)*

**Affected Environment**

The proposed treatment area consists of approximately 306 acres of forest stands within 4 sections. Approximately 146 acres (40%) is within RR LUA's. The proposed treatment area lies within a landscape of young, dense, homogenous forest stands. For a complete description of vegetation histories refer to the *North Fork Alsea River Watershed Analysis* (pp.32-39).

The understory varies from thickets of vine maple (common on southern aspects and open canopy areas), to light or no understory in areas with high canopy closures. The understory

in some areas is dominated by shade tolerant conifer reproduction. The understory, as well as the shrub layer, has died in many areas due to low light levels from the closed canopy cover.

The forest stands range from 40-70 years with a past history of fires up to 1930s and logging activities since the 1940s to present. The burning and felling of snags eliminated nearly all snags and down wood leaving these stands in "deficit" situation with respect to coarse woody debris. The old aerial photos show some remnant overstory trees from the previous stand, few widely scattered large snags and well-distributed accumulations of large CWD.

Growth was reduced due to competition, increasing inter-tree competition as evidenced by decreasing crown ratios and decreasing diameter growth.

The current stand densities are approaching or are above the upper limit (Relative Density 55-60) where individual tree vigor and stand growth are reduced due to competition. Occasional larger-sized (greater than 30 inches DBH) and larger crowned Douglas-fir trees do exist throughout the proposed treatment area. Trace amounts of western red cedar can be found along the streams with a major hardwood component of red alder.

Noxious Weeds (Invasive, Non-native Species): The following noxious weeds are known from within or adjacent to the project area, Tansy ragwort (*Senecio jacobaea*), bull and Canadian thistles (*Cirsium vulgare* and *C. arvense*), St. John's wort (*Hypericum perforatum*) and Scotch broom (*Cytisus scoparius*).

**Environmental Effects**

#### *2.4.1.1 Alternative 1 (Proposed Action)*

The action would reduce the existing dense coniferous canopy cover through variable spaced thinning providing both openings for understory tree and shrub development, and clumps of remaining trees. This would allow for an increased amount of sunlight to reach the understory and forest floor species (shrubs, forbs, ferns and grasses). Sunlight would also be increased to the lower parts of the canopy, which is expected to increase the growth rate of the reserved conifers and forest floor species over the long term. This increase in the growth rate of the remaining trees and tree crowns would increase canopy cover. Since thinning increases the vigor of remaining trees, susceptibility of trees to disease and insects would be decreased.

Windstorms which blow down patches of trees can create habitat for Douglas-fir bark beetle propagation. The consequence of falling and leaving trees for CWD can lead to Douglas-fir (DF) beetle-caused mortality of residual standing trees. Long term management of Douglas-fir forests by periodically thinning young stands to maintain vigorous growth and other preventive practices offer the best method of minimizing damage by the DF bark beetle. Beetle killed trees would likely contribute to additional down wood.

The proposed action would enhance structural and species diversity, accelerate development of desired tree characteristics, increase the long term quality of LWD recruitment and

increase stand health and stability. Streamside shading would be maintained. There may be a short-term increase risk of blow down, but the risk would be minimized by leaving trees with the best crowns, and leaving them in groups.

Development of stand and individual tree characteristics desirable for attainment of composition and structural diversity objectives in the Aquatic Conservation Strategy would be accelerated by restoring structural complexity of the stands and accelerating development of desired tree characteristics.

Noxious Weeds (Invasive, Non-native Species): Any ground disturbing activity may lead to an increase in the noxious weeds found in the project area. Grass seeding exposed soil areas tends to abate the establishment of noxious weeds. With the implementation of project design features, adverse effects from noxious weeds are not anticipated. The risk rating for the long-term establishment of noxious weed species and consequences of adverse effects on this project area is low.

Cumulative Effects
There would be no cumulative effects to the vegetation, as the effects from the project would be local, and there would be no other uses affecting this resource.

#### *2.4.1.2 Alternative 2*

The action would have the same overall effects on vegetation as Alternative 1, but would occur over an additional 61 acres.

Helicopter yarding would minimize vegetation disturbances and limit the felling of reserve conifers to areas adjacent to landings. Approximately 3 landings would be constructed to aid in helicopter yarding. These landings are larger than cable yarding landings and would disrupt more vegetation than cable landings. Both cable and ground based yarding would have the same general effects on vegetation as Alternative 1, but over fewer acres.

This alternative would also reduce the amount of acres disturbed through new road construction and existing road renovation by approximately 1.6 acres.

Noxious Weeds (Invasive, Non-native Species): Alternative 2 would have the same overall effects on noxious weeds, but would occur over additional acres, yet would disrupt less mineral soil than Alternative 1. Thus, the effects from any noxious weed infestations under alternative 2 would be less than the effects of Alternative 1.

#### *2.4.1.3 No Action Alternative*

There would not be any vegetation or soil disturbances associated with logging operations. Nutrients would not be removed from the site. Succession would continue without human intervention. The canopy in this stand would remain closed and the number and diversity of understory and shrubs/forbs species in many areas may remain low for several decades. Stand mortality due to competition would increase, resulting in increased amounts of small CWD, snags and instream woody debris. Trees would continue at their present rate of growth, slowing as the canopy closes and competition for light increases. Crown ratios

would decrease at a faster rate compared to both Alternative 1 and 2, resulting in decreased wind firmness and individual tree stability. No substantial understory would develop within the next 30 years. Natural disturbance would be the agent for creation of stand structural diversity. The most likely agent for this disturbance would be wind, which would create openings in patches. It is unknown how long it would take for natural disturbance to create the structural and species diversity needed in this watershed, but it is expected, based on a considerable body of research, that this diversity would take considerably longer to develop than if the proposed treatment were implemented.

Eventually, dominant trees would shade out and kill suppressed and co-dominant trees. The decrease in the canopy cover would allow for an increased amount of sunlight to reach the understory species and forest floor species (shrubs, forbs, ferns and grasses). The increase in sunlight may allow these species to increase in size and density. Many open slash covered areas could become dominated by shrub and/or forbs species. Sunlight would also be increased to the lower parts of the canopy, which may increase the growth rate to the reserved conifers.

There would be no disturbance and consequently no microclimate changes in the Riparian Reserves. There would be no short term elevated risk of bark beetle infestation. However, as stand health is compromised due to high densities, risk of long term bark beetle infestation would increase.

Noxious Weeds (Invasive, Non-native Species): Without any mineral soil disturbances in the proposed project area, the established noxious weed populations would remain low.

### 2.4.2 Soils

*(Parker Bear LSR Enhancement Proposal Fuels/Soils Report pp. 1-12)(Parker Bear LSR Enhancement Fuels/Soils Summary, pp. 1-5)*

**Affected Environment**

The majority of the project area has slopes ranging from 5-60% with a few small areas with slopes up to 80%. Soils are moderately deep to deep with medium to fine textures. Klickitat gravely loam, the predominant soils on these units, have a high content of rock fragments throughout the profile and often have gravel and rock fragments on the soil surface. Remnants of tractor yarding roads dating back to logging in the 1940-60's are evident in many areas on the site. Old aerial photos show considerably more tractor yarding roads than are presently evident on the site suggesting that a certain amount of recovery of this earlier disturbance is occurring. Generally the existing road surfaces are stable with areas of surface erosion. A number of stream crossing and cross drain culverts are in need of replacement or maintenance.

**Environmental Effects**

### *2.4.2.1 Alternative 1 (Proposed Action)*

Compaction and disturbance/displacement of soil:(*Roads)*

Constructing 4,550 feet of new spur roads would result in loss of top soil and compaction of sub-soil on approximately 2.1 acres (about 0.7% of the total project area). Renovating 6,000 feet of existing road would result in approximately 6 acres of current non-forest land to remain in a non-forested condition. Several cross drains and stream crossing culverts would be added, improved or replaced to be in a better condition to withstand future high water events. These improvements would provide better drainage and better road surface conditions resulting in less road surface erosion into streams and a lowered risk of culvert or fill failures. The improvement work is expected to result in some minor short term roadside ditch erosion where established vegetation in the ditch and culvert catchment areas is removed during the cleaning and reshaping or culvert installation operations. The addition of extra cross drain culverts along with upgrading and replacement of other culverts and cross drains would reduce the volume of water flowing in the ditches and should reduce the potential for future erosion or road failure.

Decommissioning all of the new construction and 9,000 feet of renovated roads in the area would accelerate recovery back to a forested condition on approximately 6 acres of current non-forest land. The improved surface soil conditions from decommissioning are expected to result in improved hydrologic function of the areas and a reduced potential for erosion or road failure.

Compaction and disturbance/displacement of soil: (Logging)

Following completion of this proposed action, the majority of the vegetation and root systems would remain, along with surface soil litter and slash from thinned trees. Expected amounts of surface soil displacement, surface erosion and dry ravel resulting from commercial thinning operations should be minimal. Some additional soil compaction can be expected to result from this project, but the aerial extent and degree would remain within accepted district guidelines (10% or less).

**Landings:** Most landing sites (estimate 85 needed) would be used for cable yarding. About half of the surface area used for landings is existing road surface. Some additional ground adjacent to the road surface is used to turn equipment around on and to sort and deck logs until transport. Areas where equipment turns or backs around on multiple times would experience heavy compaction and disturbance to the top soil layer. The degree of soil disturbance and compaction in areas where logs are sorted or decked is expected to be low because only the weight of the logs would compact this area. The additional area adjacent to the road that would be needed for landing area is estimated to be approx. 1200 sq ft per landing. For the entire proposed project area this amounts to 2.3 acres (as a percentage of the total project area approximately 0.8%).

**Skyline yarding roads**: The area affected by skyline yarding roads would be about 2.7% of the total project area. Impacts usually result in light compaction of a narrow strip less than 4

feet in width. Measurable long term effects on site productivity from this type of disturbance are minimal to none.

**Ground based yarding:** Impacts would vary depending on whether a harvester/forwarder system or crawler tractors are used, how dry the soils are when heavy equipment operates on them and how deeply covered with slash the soils in the yarding roads are. Impacts also include the additional area used for landings. Approximately 4 to 5 landings would be used for ground based landings during the project.

If ground based yarding is done using crawler tractors the percentage of total area impacted by surface disturbance and soil compaction as a result of tractor yarding roads would be approximately less than 1%. Expect a moderate to heavy degree of soil compaction and a moderate amount of top soil displacement to occur in yarding roads and at landings.

If ground based yarding is done using a harvester/forwarder system, the percentage of total area impacted by surface disturbance and soil compaction as a result of: harvester/forwarder roads would be approximately 0.5%. Very little or no top soil loss or displacement should occur.

Some of the potentially impacted acreage listed above, includes already existing, skid roads from previous logging in the 1940-60's. Where practical, portions of these existing roads would be used for harvest/skid roads for this project. As a result, the amount (acreage) of new or additional harvest impacts would be less than the totals listed above. The total (new and existing) area of impacted ground is not expected to exceed the 10% district guideline for aerial extent of soil impacts listed in the Salem District RMP Appendix C-2.

Site Productivity:
For skyline yarder systems soil impacts in harvest roads are expected to result in light compaction and displacement in narrow strips less than 4 feet in width. The effect on overall site productivity from light compaction on approximately 3% of the total area is expected to be negligible.

For harvester/forwarder systems, soil impacts in harvest roads are expected to result in light to moderate compaction in two discontinuous, narrow strips less than 3 feet in width. The effect on overall site productivity from light to moderate compaction on less than 0.5% of the total area is expected to be negligible.

For tractor yarding plus all landings, soil impacts are expected to result in moderate to heavy, fairly continuous compaction within the landing areas and the heavily used portions of the less than 10 foot wide yarding roads. The effect on overall project site productivity resulting from the tractor and skyline yarding option including the impacted 5 acres is expected to be less than 0.3% reduction in overall yield for the 306 acre project area over a normal rotation. The effect on overall project site productivity resulting from the skyline and harvester/forwarder yarding option including the impacted 2.3 acres, is expected to be less than 0.1% reduction in overall yield for the 306 acre project area over a normal rotation.

No measurable amounts of surface erosion are expected from the forested lands treated under this proposed alternative. With timber hauling restricted to periods when no water is flowing on road surfaces, the amount of sediment produced from roads and entering streams would be negligible to none. Harvest activity would only involve removal of selected trees leaving the majority of the vegetation and litter layer intact. Logging debris would be placed in yarding corridors in front of equipment would serve to further reduce the chances for dry ravel or surface soil erosion. No increase in dry ravel or surface erosion rates is expected to occur from the harvest areas.

Water-barring and blocking skid roads would promote out-slope drainage and prevent water from accumulating in large quantities, running down the road surface and causing erosion. Any accumulated surface water would be diverted off of skid roads at regular intervals where it would spread out and soak into the vegetated areas. None of the skid roads would be directly connected to streams. After several seasons, the accumulated liter fall on the closed skid road surfaces would further reduce the surface erosion potential.

Cumulative Effects

There would be no cumulative effects to this resource, as the effects from the project would be local, and there would be no other uses affecting this resource.

#### *2.4.2.2 Alternative 2*

New construction of spur roads would result in approximately 0.7 acres of forest land being converted to non-forest (about 0.2% of the total project area). Following harvest, all of new road would be decommissioned. Renovating 6,000 feet of existing road would result in 6 acres of current non-forest land to remain in a non-forested condition. Decommissioning all of the new construction and 9,000 feet of renovated road in the area would accelerate recovery back to a forested condition on approximately 7.6 acres of current non-forest land.

Helicopter, skyline and harvester/forwarder yarding is expected to result in minimal or no measurable reduction in long term site productivity. Landing construction and tractor yarding is expected to reduce long term site productivity by a maximum of 0.25 % for the total project area (20% reduction for the actual 4.6 acres impacted).

#### *2.4.2.3 No Action Alternative*

With a no action alternative there would be no change from the current conditions for the soils resource. Conditions would remain as they are at present and there would be no changes in aerial extent of disturbed soil. Existing road conditions would continue to degrade with a slow increase in the risk of culverts plugging and failing over time.

### 2.4.3 Water

*(Cumulative Effects Analysis for the Parker Bear Thinning pp. 1-12)(Hydrology Report Parker Bear pp. 1-13)(EA Input-Hydrology Parker Bear Timber Sale pp. 1-6)*

**Affected Environment (Applies to projects 1 and 2)**

Two stream systems drain the project area: Parker Creek to the west, Yew Creek to the east. Both streams are tributaries to the North Fork Alsea River in the Upper Alsea River 5th-field watershed 501). The project is not located in a key watershed.

There are numerous first order headwater tributary channels to Yew and Parker Creeks draining the project area. Channels are typically steep ephemeral or intermittent, "stair step" in form and subject to debris torrents which strip them to bedrock. Many of the tributary channels in the project area are buried in heavy loads of gravel and cobble due to raveling hillsides. Several small seasonal wetareas exist in and around the project area.

Most of the secondary roads in the project area likely have very little influence over hillslope hydrology and erosional processes at this time. However, a survey of Road 13-7-4, the Yew Creek mainline, showed that approximately 1.5 mile of the 4.4 mile long road (34%) drains directly to stream crossing culverts. Road surface fines may enter the stream channels during storm events due to this expanded drainage network, especially in combination with heavy vehicular use during winter months.

No site specific water quality data is available for streams within the project area. Neither Parker Creek, Yew Creek, nor the North Fork Alsea River is listed on ODEQ's 303d list for impaired water quality. However, the Alsea River mainstem is listed as not meeting water quality standards for fecal coliform (river mile 0-10), dissolved oxygen (mile 4.9-31.4) and exceeding summer temperature standards (mile 15.2 to 47.4). The Alsea River is also included in the 319 Report for nonpoint source pollution, from its mouth to headwaters, as having sedimentation problems and moderate water quality conditions affecting general water quality, fish, and fish habitat. The North Fork Alsea River is approximately 2.5 miles downstream from the project area.

Recognized beneficial uses of project area waters include both resident and anadromous fish, recreation, and esthetic values. There are no known municipal or domestic water users in the project area and the project is not located in a municipal watershed. The nearest water right to the project area is located on Crooked Creek, for lawn and garden, approximately 3 miles downstream. The nearest domestic water right is located on Crooked Creek over 5 miles downstream of the project area.

**Environmental Effects**

#### *2.4.3.1 Alternative 1 (Proposed Action)*

Measurable effects to stream flow and channel conditions due to the proposed action are unlikely. Minor short term negative affects to water quality (turbidity) may occur due to

proposed road renovation and timber hauling. Over the long term, recovery of LWD recruitment is anticipated with proposed treatments in riparian stands. Reduction in road related surface erosion is also expected due to proposed road renovation and decommissioning.

*Logging:* Tree harvest is also unlikely to have any measurable effect on stream temperatures in the project watershed. Although thinned, substantial portions of the riparian canopy (including all vegetation within SPZs) would be retained, maintaining riparian microclimate conditions and protecting streams from increases in water temperature. Since most of the stream channels in the project area do not flow in the summer, increases in stream temperature as a result of this action are unlikely in these streams.

The project would affect 0.7% of the forest cover in the Upper Alsea River watershed. Because of the small percentage of forest cover being affected by this project, increases to stream flow (mean annual yield, summer base flow) caused by this action alone are unlikely to be measurable.

Yarding corridors, if sufficiently compacted, may route surface water and sediment into streams. However, several factors could limit the potential for this to occur. Even if compacted, high levels of residual slash left on yarding corridors (both machine and cable), would reduce runoff by deflecting and redistributing overland flow laterally to areas where it would infiltrate into the soil. In addition, no-treatment zones (SPZs) in riparian areas have high surface roughness, which function to trap any overland flow and sediment before reaching streams. Ground-based yarding would occur during periods of low soil moisture with little or no rainfall. Implementation of the proposed yarding, with the potential exception of unit 33D, with the applicable Project Design Features is unlikely to increase sediment in the stream channels in the project area.

Skyline yarding would take place across a stream in Unit 33D. During yarding operations, full suspension of the logs over the stream would be required. However, there still would be the potential for some debris to enter the stream during yarding operations, potentially impacting stream turbidity and possibly (depending on the size of the debris) channel morphology. Elevated turbidity levels could persist for days following project implementation. If larger debris were to drop into the stream channel, the alterations in channel morphology could be permanent. However, the risk of this occuring would be very small. The Water Erosion Prediction Project (WEPP) soil erosion model was used to predict potential changes in erosion and sediment yield from the proposed density management actions. Modeling indicates the proposed action is unlikely to increase risk of erosion to stream channels when compared to no treatment.

Since the proposed action is unlikely to result in any measurable increase in stream temperature or sedimentation and would not place large amounts of fine organic material in the stream or alter stream reaeration, it is unlikely that it would have any measurable effect on dissolved oxygen or nutrient levels. Over the long term, this proposal should aid in meeting ACS objectives by speeding the development of older forest characteristics in Riparian Reserves, including increased large wood recruitment for stream channels.

*Road Work:* Alternative 1 includes a substantial amount of roadwork which could impact hydrologic resources, including new road construction, road renovation, cross drain/culvert improvements and replacements. Proposed road construction would employ techniques to keep runoff and sediment to a minimum. No stream crossing would be constructed associated with the proposed road construction. New road surfaces would be blocked and decommissioned upon completion of the project. Implementation of the proposed road construction with the appropriate project design features (PDFs) would provide little opportunity for sediment to enter the stream network.

Road renovation and decommissioning of stream crossings and cross drains, may negatively affect water quality, as equipment is operating in and/or adjacent to the stream channel. Likely impacts would include minor visible, short-term increases to sedimentation and stream turbidity, high enough to deter local aquatic fauna from the area. Depending on weather conditions and site-specific bank characteristics, turbidity levels may remain elevated during the winter following operations (or until grass/vegetation has had a chance to stabilize stream banks). As decommissioned roads stabilize over time, water quality and channel conditions are likely to improve as the risk of sediment inputs from the roadbed are greatly reduced and the stream channels are no longer restricted by culverts and are allowed to evolve naturally. Road decommissioning would lead to a net decrease in road mileage in the watershed, helping to reduce the miles of artificial drainage network.

Timber haul on the USFS #30 road is unlikely to increase runoff and sediment to stream channels. The driving surface is an improved rocked surface. However, timber haul on the Yew Creek road (Rd. # 13-7-4) has a high potential of increasing turbidity in Yew Creek during wet weather and/or road conditions. Timber hauling during periods when water is flowing on roads and into ditches could substantially increase stream turbidity if flows from ditches are large enough to enter streams. Additionally, this road has several stream crossings, where the potential for direct sediment delivery to streams is high. To assess the potential surface erosion contributions from this haul route, in its existing condition, annual surface erosion and delivery to streams from the 13-7-4 road surface were calculated using the surface erosion module of Washington State (Washington Forest Practice Board, 1992). The analysis compared a “baseline” condition (with relatively low traffic), to one with increased road use (timber haul). Given current road conditions, increasing traffic use significantly increased the average surface erosion rate.

The completion of proposed road renovations and seasonal restrictions would reduce the potential of road-related sediment reaching stream channels. Hauling on Yew Creek road would be less likely to negatively affect water quality and aquatic habitat with the proposed design features and seasonal restrictions, however road conditions would need to be closely monitored during operations.

*Fuels Treatment:* Pile burning along roads and on landings may produce small patches of soil with altered surface properties that could restrict infiltration. However, these surfaces are surrounded by large areas that would easily absorb any runoff or sediment that may reach them.

Cumulative Effects: Since the proposed action would effect a large proportion of the forest canopy in the Parker and Yew Creek 7th-field watersheds and because much of this area is at altitudes where rain on snow potential is high, a cumulative effects analysis (CE) was completed utilizing protocols suggested by the Salem District of the BLM (USDI-BLM, 1994), the Washington State DNR Watershed Assessment Methods (1992), and the Oregon Watershed Assessment Manual Watershed Analysis Methods for Forest Hydrology (1997). The full CE analysis as well as the assumptions and methods utilized for this analysis are documented in *Cumulative Effects Analysis for the Parker Bear Thinning*, 2004 report in the project NEPA file.

The peak flow analyses were computed based on the largest potential number of acres which would be treated under this proposal (Alternative 2). Cumulative effects from timber harvest on a reduced number of acres (Alternative 1) did not significantly change the analysis' results. As indicated in *Cumulative Effects Analysis for the Parker Bear Thinning*, 2004 report (Table 1), the 2014 scenario assumes implementation of this proposal together with the harvest of all 40-yr age class stands on private lands during the next ten years. The current CE scores in both Parker and Yew Creeks indicate a moderate level of effects as forest cover has recovered from harvest in the 50's and 60's. The trend is toward recovery to a fully mature canopy and a reduction of total CE levels under the proposal analyzed in this document. However, harvest on private lands in both watersheds is likely to significantly increase CE levels.

Using the "Water Available for Runoff" (WAR) analysis, the estimated values exceeding a 10% risk to increasing peak flows for unusually large storm events receive a "sensitive rating" of "indeterminate" (Washington Forest Practice Board, pg. C-40). This means that under the scenario tested, the possibility of increases in peak flows with consequences to the aquatic system cannot be ruled out. The indeterminate rating does not require that the actions considered under this proposal be delayed or postponed. Rather, it points to the possibility of impacts to the aquatic system in the Parker Creek and Yew Creek catchments at some point during the ten-year analysis period. The model predicted that the 10% threshold is already being exceeded under current conditions for an unusually wet two-year storm event (even if no further actions are taken on public or private lands). This is because such a large percentage of private lands in the two catchments has been recently harvested and is in an "immature" state. The remaining private lands are currently being harvested or have a high probability of being harvested during the next 10 years.

Furthermore, removing the potential 367 acre proposed BLM Parker Bear thinning from the analysis did not significantly change the results. Consequently, the proposed action, which would retain the area as nearly "full forest" condition, is not likely to contribute to significant increases to peak flows in the Parker Creek and Yew Creek watersheds. In addition, increases to peak flows predicted in this assessment remain below the 20% increase in a 2-year peak flow given as a threshold value for considering the effects of increased bed mobility and scour.

Other likely cumulative effects in these watersheds include a substantial increase in sediment supply (primarily due to construction and use of roads and ravel off steep hill-

slopes), a decrease in LWD (Large Woody Debris) recruitment potential (exclusively on private lands), increases in peak flows, and a short term reduction in water quality (primarily a result of increases in the supply of fine sediment). However, these effects are almost exclusively a result of harvest activities on private lands that are expected to occur during the next decade. To the extent that this proposal would influence overall watershed condition, it is likely to lead to short term increases in stream turbidity over haul routes and long term increases in LWD recruitment potential to streams.

#### *2.4.3.2 Alternative 2*

The larger number of acres treated under Alternative 2 would not substantially change impacts to hydrologic resources. The total percentage of forest cover affected over the Upper Alsea watershed would remain insignificant (less than 1%). Potential sediment delivery to streams from yarding operations would be substantially reduced under this Alternative. Reducing the acres of skyline and ground based yarding operations and using helicopter yarding would greatly reduce any potential effects from skid trails and ground based yarding corridors. Helicopter yarding would produce very little to no measurable impacts to water quality, as logs are transported free of the ground with little to no ground disturbance. Helicopter landing construction should not impact water quality, as landings would be constructed away from streams on flat, stable locations. Helicopter yarding also would eliminate the need to skyline yard across the stream channel in Unit 33D.

Alternative 2 would entail 3,000 feet less new road construction. This would minimize any potential impacts from new road construction, the use of these roads for hauling, and the need to later decommission these roads.

Cumulative Effects

The cumulative effects analysis described above for Alternative 1, considered the increased number of acres to be treated under Alternative 2. Therefore, there would be no additional risk to cumulative effects from Alternative 2 than for those described under Alternative 1.

#### *2.4.3.3 No Action Alternative*

No action would result in the continuation of current conditions and trends at this site as described under Affected Resources of this report and in the North Fork Alsea Watershed Analysis document (1996). The potential for LWD in project area streams would remain low as tree growth would be expected to continue at a slower rate than if treated. Streams would continue to be impacted by private timber harvest and hauling.

### 2.4.4 Fisheries/Aquatic Habitat

*(Parker Bear LSR Enhancement Fisheries Report - pp. 1-3)*

**Affected Environment**

The Parker Bear LSR Enhancement Project is located near the headwaters of Parker and Yew Creeks. Habitat inventories were conducted on Yew Creek in 1993 by the Oregon Forest Industries Council using Oregon Department of Fish and Wildlife (ODFW) methodology and on Parker Creek in 1997 by the ODFW. The upper reaches of Yew Creek flow in a slightly confined channel with an average gradient of 8%. The dominant habitat

types are dammed pools, step falls and step pools. Dominant stream substrates consist of sand and gravels. In the upper reaches of Parker Creek the channel is highly confined with an average gradient of less than 12%. Dominant habitat types are step falls, step pools, cascades and rapids. The dominant substrate types are cobble, boulder and bedrock.

Surveys for fish presence were conducted in the spring of 1999, and confirmed the presence of resident cutthroat trout (*Oncorhynchus clarki*) in the mainstems and in most of the larger tributaries of Yew and Parker Creeks throughout the project area. Coho salmon (*O. kisutch*) and steelhead trout (*O. mykiss*) are suspected to exist in Parker Creek approximately 1.5 miles downstream from the nearest proposed unit (Unit 5A) (Streamnet 2005). In Yew Creek, coho and steelhead distribution is suspected to end approximately two miles downstream from the nearest proposed units (Units 32D and 33A) Other native species also likely exist in the project area including sculpin (*Cottus sp*.), speckled dace (*Rhynichthys osculus*), and lamprey (*Lampetra sp*.) (USDI BLM 1996). Upper limits and anticipated impacts to these species are likely to be similar to the coho and steelhead.

Wood in tributary channels in the proposed project area was not measured. However, observations of wood quantities were made during field survey work. There are large amounts of wood throughout the proposed project area.

Threatened and Endangered Species: Coastal coho salmon are proposed for listing as threatened under the Endangered Species Act.

**Environmental Effects**

***2.4.4.1 Alternative 1 (Proposed Action)***

Logging activities associated with the proposed project are not expected to adversely effect aquatic habitat, resident or anadromous fish. Skyline yarding on slopes greater than 35% with a minimum of one end suspension, in conjunction with seasonal restrictions ( see EA Sec. 2.2.2.2 Table 2)and 50 foot minimum stream protection zones are expected to prevent any increase in sediment delivery to stream channels. The stream protection zones, post-project leave tree densities and the topographic relief of stream channels in the project area are expected to maintain current levels of stream shading, thereby preventing any increase in stream temperature. Thinning within the riparian areas also allows for establishment of a secondary canopy and may increase species diversity and habitat complexity. Desirable habitat for aquatic and riparian dependant species would be enhanced by the maintenance of stand health and stability and a long term increase in quality LWD recruitment.

Impacts to fisheries resources are unlikely from proposed road construction due to the location of road actions (ridgetop). Road decommissioning and road renovation on segments away from stream draws are also unlikely to negatively affect fisheries resources. Short-term increases in sediment delivery to several tributaries to Parker and Yew Creeks are expected as a result of the removal/replacement of culverts associated with road renovation and decommissioning. Increases in turbidity resulting from the culvert work would occur during and shortly after the removal and replacement of culverts, and again after the first precipitation events in the fall. Implementation of project design features,

including dry season restrictions for upland treatments and instream work timing for stream crossing treatments, would minimize negatively impacts from road actions on fishery sources.

The potential for timber hauling to generate road sediment is minimized by relatively short distances required to haul on unpaved road surfaces. Haul routes from most of the units reach a paved road within 1-2 miles. The hydrology report (see EA file) raised specific concerns of inadequate drainage on the Yew Creek road system. The potential sedimentation effects of timber hauling on natural and the majority of gravel surfaced roads are expected to be prevented by restricting hauling to the dry season, generally May 1 to October 31. Proposed year round hauling on the USFS #30 road and T3 and T4 are not expected to negatively affect fisheries resources as fish are not in the affected stream channels, the road system are improved rock roads with adequate cross-drains, and hauling operations would be suspended if weather or environmental conditions pose an imminent risk of road sediment flowing in road ditches. Additionally, all hauling operations would be suspended if weather or environmental conditions pose an imminent risk of road sediment flowing in road ditches.

Cumulative Effects

The project would not contribute to cumulative impacts on fish or fish habitat due to the small size of the project.

#### *2.4.4.2 Alternative 2*

The effects of logging and hauling activities would be similar under both action alternatives. Under Alternative 2 skyline yarding would occur on 63 fewer acres, decreasing the number of yarding corridors and associated ground disturbance. Although the net acres treated would be 61 more than in Alternative 1, 123 acres would be yarded by helicopter method with virtually no ground disturbance. Approximately 3,000 fewer feet of ridgetop road construction would occur minimizing any potential impacts from new road construction, the use of these roads for hauling, and the need to later decommission these roads.

Proposed year round hauling on Rd. 12-7-30.1 is not expected to negatively affect fisheries resources as fish are not in the affected stream channels, the road system are improved rock roads with adequate cross-drains, and hauling operations would be suspended if weather or environmental conditions pose an imminent risk of road sediment flowing in road ditches

#### *2.4.4.3 No Action Alternative*

Current stream habitat conditions would continue, therefore no direct or indirect effects would occur to fish or fish habitat. Riparian Reserves would not be thinned and trees would continue to compete for sunlight. The potential for LWD in project area streams would remain low as tree growth would be expected to continue at a slower rate than if treated. Over time, trees would thin themselves, but remaining trees would be of smaller diameter and have smaller crowns. Trees that die and fall would be smaller diameter. Smaller diameter trees would not function on the ground and in stream as long or as well as larger diameter trees. The existing road network would remain unchanged, with no new construction or culvert replacements. The expected sediment delivery to streams as a result

of replacing and removing culverts would not occur, but potentially failing culverts proposed for upgrade through implementation of this project would continue to deteriorate.

### 2.4.5 Wildlife

*(Biological Evaluation Parker Bear LSR Enhancement pp. 1-21)(Parker Bear LSR Enhancement Wildlife Abstract pp. 1-13)*

**Affected Environment**

Wildlife Structural or Habitat Components: A summary of forest habitat conditions for this area was analyzed within the *North Fork Alsea River Watershed Analysis*, which shows that 10,618 acres (25.3%) of the North Fork Alsea Watershed is composed of mid-seral habitats. About 4,487 acres of this habitat lies on Federal Lands (21.4% of 21,003 acres in watershed).

The forest stands on federal lands (BLM and Forest Service) within 1 mile of the proposed treatment units (6,290 acres) are composed primarily of early- to mid-seral conifer and mixed conifer/hardwoods (60.9%), with only 1.4% as open habitats. Mature forests and old-growth patches collectively cover about 33.1% of this landscape and are located mostly in the north half of the project area. Some of the mid-seral stands on federal lands in this watershed (including some of the proposed treatment units) have a legacy component of old-growth trees widely scattered or sometimes clumped within them. Many of these isolated old-growth trees are declining, as the advancing mid-seral canopy layer encroaches upon the often reduced live crown of these remnants.

Special Habitats/ Special Habitat components (snags, down logs, remnant old-growth trees): Within the proposed treatment units there are no known special habitat features (caves, cliffs, exposed rock, talus, wetland types, and meadows). However, some special habitats (e.g. exposed rock and seeps) do exist adjacent to a few units.

Structural components (large hard snags, coarse woody debris (CWD), development of sub-canopy layers, and tree species diversity) are generally not well represented in the mid-seral stands that are intended for treatment in this project. The legacy of fire history and salvage harvests in this area has resulted in moderate to high accumulations of large down logs in advanced stages of decay within most units (see Table 5). Only a few units are lacking this legacy of large down logs. Stem exclusion processes, scattered rot-root pockets and a few blowdown areas have recently contributed moderate levels of small diameter snags and down logs in most of the proposed units. Portions of Units 33D and 32D have a substantial incidence of blow down which resulted from a winter storm in early 2004. Proposed units in Section 29 lie adjacent to larger-sized mature forest patches where substantial structural components (large snags, down logs, sub-canopy layers) are relatively abundant.

A more broad-scale analysis of federal lands within this part of the North Coast was presented within the *Late Successional Reserve Assessment* (LSRA, see USDA-FS and USDI-BLM 1997). The *LSRA* describes the BLM lands in the project area which form a distinct checker-board linkage between two larger blocks of federal ownership. The *LSRA* considers this landscape to function as an important corridor of mostly younger-aged stands

which form a connecting linkage between the larger blocks of mostly late-seral conifer stands.

Threatened or Endangered Wildlife Species or Habitat: The marbled murrelet and northern spotted owl are two federally listed wildlife species that are likely to occur in the vicinity of the proposed treatment units. This project area lies 25 miles inland from the ocean, within a zone where marbled murrelets are known to nest. Due to the proximity of adjacent older forest patches (suitable murrelet nesting habitat) and the occurrence of scattered old-growth trees (potential nesting structure) in some of the units, marbled murrelet surveys were conducted in or near Units 29A-29C, 32C, and 33D. None of these units were found to be occupied by murrelets. Murrelets were detected on one out of 34 survey visits in Section 29. The nearest occupied murrelet site lies about 2.5 miles southwest of Section 29. Murrelets are also known to occupy older forest patches on the east side of Marys Peak (northeast of project area, greater than 1.2 miles). The survey effort results, in consideration with site specific factors, indicate that murrelets may be present, but are not likely to be occupying the proposed units and adjacent suitable habitat in Section 29. All the federal forest lands in the project area are part of a designated critical habitat unit (CHU) (OR-04-k) for marbled murrelets. The proposed treatment units do not include any patches of suitable marbled murrelet habitat.

The implementation of the RMP does not require spotted owl surveys to be conducted for this project. However, extensive spotted owl surveys have been completed within the vicinity of the project area by BLM staff, federal research programs, and private timber companies. No spotted owl sites exist within or adjacent to any of the proposed units. A single spotted owl was detected in the late summer of 2003 within 0.25 mile of some units in Sections 32 and 33. Subsequent surveys in 2004 failed to locate any spotted owls in this vicinity. There is one active spotted owl site within 1.5 miles to the southeast of a few of the proposed units. All or portions of Units 33A, 33B, 32D, 32C, 5A, 5B (totaling 84 acres) fall within 1.5 miles of the 2004 nest site. The closest detection of these owls to the proposed units is about 0.9 miles south of unit 33A.

All of the proposed units are generally lacking in the structural components more often found in mature and old-growth forests (large old trees with suitable nesting structure, large snags and down logs, multiple canopy layers) which make up suitable habitat for spotted owls. The proposed treatment units are likely to function as dispersal habitat for owls because they do provide sub-canopy flying space and at least marginal quality foraging habitat. Within the North Fork Alsea watershed about 57% of BLM lands provide dispersal habitat for owls. The entire project area also falls within critical habitat unit OR-47, designated for the spotted owl.

Special Status Species: The red tree vole is a Bureau Sensitive species that was formerly managed within the Survey and Manage program (see USDA-FS and USDI-BLM 2004a). Its current status requires surveys in suitable habitat on BLM forest lands within the Oregon Coast Range north of Highway 20. This project area, which lies within the Oregon Coast Range south of Highway 20, has no requirement for surveys and no requirement for protection of known sites.

Two special status invertebrate species that are listed as Bureau Sensitive were identified as potentially affected by this proposed action. The Johnsons' hairstreak butterfly is known to inhabit the Coast Range where it occurs in close association with its host plant, dwarf mistletoe. Dwarf mistletoe infests hemlock trees in several of the proposed units, and such infestations are well distributed throughout the watershed. The Roth's blind ground beetle is known to occur in the soil under the oldest forest patches on top of Marys Peak. This species which conducts its entire life cycle below the soil surface is believed to prefer cool, moist, and deep soils under a mature conifer forest canopy. The proposed units in Section 29 occur within 1.0 mile of a known location for this species. It is unknown whether this very rare species occurs in the proposed units in Section 29.

**Table 6: Coarse Woody Debris conditions and prescription within the Parker Bear LSR Enhancement Project Area[1]**

| Proposed units | Down Wood (Cubic ft/ac) [1] | | Snags (greater than 10' ht and greater than 10" DBH)[3] | |
|---|---|---|---|---|
| | All Species | Conifers Only[2] | # snags per acre | Size (avg. DBH) |
| 29A | 4,697 | 4,697 | 14.8 | 26.1" |
| 29B,C | 7,728 | 7,728 | 33.6 | 27.6" |
| 34A[4] | | | | |
| 32B | 2,092 | 2,092 | 0 | 0 |
| 32C | 776 | 776 | 22.7 | 11.2" |
| 32D | 4,340 | 4,340 | 0 | 0 |
| 33A,B,C,D | 2,989 | 2,989 | 0 | 0 |
| 33E | 3,187 | 3,187 | 12.6 | 16.3" |
| 33F | 3,757 | 3,757 | 0 | 0 |
| 33G | 977 | 977 | 0 | 0 |
| 5A,B | 4,957 | 4,957 | 5.0 | 17.4" |
| Total | **35,500** | **35,500** | Snags/ac total: **88.7** | |

[1]Down wood in cubic feet per acre and the number of standing snags were derived from the forest stand surveys collected in 1997, 1998, and 2001.
[2]Conifers contribute 100% of the total down wood recorded on surveys in this project area.
[3]Snags are reported for each stand exam unit (M#) within proposed treatment unit.
[4]No data was collected within this small unit.

**Environmental Effects**

### *2.4.5.1 Alternative 1 (Proposed Action)*

Wildlife Structural or Habitat Components: The proposed density management of about 306 acres would change the existing forest structure and alter the development of future forest stand conditions. The direct and indirect changes anticipated to occur to forest habitat characteristics from this project are:

Short-term (less than10 years)

- light to moderate reduction of canopy closure (resulting canopy greater than 40%) over entire treatment area which represents less than 8% of the mid-seral forests within the watershed;
- increased horizontal spatial variability within treated stands (gaps and clumps);

- minor reduction and disturbance to existing CWD material (snags and down logs) resulting from felling, yarding, and road construction;
- reduced recruitment rate of small sized CWD would mostly be offset by immediate creation of larger CWD of desirable size, and augmentation of decadence processes;
- retention and enhancement of hardwood tree and shrub diversity;
- reduced crown competition of live old-growth remnants from mid-seral understory.

Long-term (greater than 10 years)

- a substantial recovery of overstory canopy closure within treated stands;
- the gradual transition in structural characteristics of the treated stands to more closely resemble late-seral forest (larger diameter trees, sub-canopy development, greater tree species diversity, greater volume and size of hard CWD, canopy gaps);
- extended persistence of hardwood tree and shrub cover diversity;

This alternative is anticipated to enhance local forest habitat conditions and thereby benefit numerous wildlife species, especially those species that are associated with late-seral forest structure and coarse woody debris. All proposed units would benefit from augmentation of CWD which would provide larger pieces of hard material sooner, and would initiate desired decadence processes (topping, girdling) in the larger-sized residual trees. In stands that have residual old-growth remnants, reduced competition and crown recovery is expected to enhance the current condition of these important legacy features.

Threatened or Endangered Wildlife Species or Habitat: Alternative 1 is considered to be a "may affect, but not likely adversely affect" for marbled murrelets since adjacent unsurveyed suitable habitat lies within ¼ mile of half of the units. Proposed harvest actions in these units could potentially disturb marbled murrelets if they are present in the adjacent older forest patches and if logging activity were to occur during the breeding season (April 1 and September 15). None of the proposed units provides suitable habitat for this species. No known murrelet occupied sites exist within ½ mile of the proposed units for this action. This action "may affect" marbled murrelet critical habitat (CHU OR-04-k), since it may alter the canopy closure in a few proposed units that are tall enough to provide half-site potential tree height, which might buffer suitable habitat structures within ½ mile of the stands. The proposed thinning is designed to maintain at least 40% canopy closure averaged over the project area and no trees with suitable nesting structure would be cut, such that treated stands are anticipated to retain their function as a constituent element of critical habitat for murrelets.

This action is considered to be a **"**may affect, but not likely adverse affect" to spotted owls since this action would alter the canopy closure and structure of mid-seral stands that may provide dispersal habitat for owls within 1.5 miles of an active spotted owl site. No suitable spotted owl habitat would be modified by this alternative. This action **"**may affect**"** spotted owl critical habitat, because it would modify a small amount (1%) of the available dispersal habitat within this CHU (OR-47). The short-term reduction in canopy closure may slightly diminish the quality of dispersal habitat for owls, but since the entire project area would average more than 40% canopy closure, the treated stands are anticipated to retain their

function as dispersal habitat for spotted owls in the short-term and would likely achieve suitable habitat quality for spotted owls in the long-term at a faster rate than if left untreated.

Special Status Species: Red tree voles may still be occupying some portions of the proposed treatment units. Thinning harvest is likely to degrade the suitability of these stands in the short-term (less than 10 years) by temporarily removing adjoining tree crowns, but suitability is expected to be enhanced in the long-term (10 years or more). This alternative is unlikely to contribute to the need to list this Bureau Tracking species (USDA-FS and USDI-BLM 2004a).

The Johnson's hairstreak butterfly and the Roth's blind ground beetle may be present in the project area. This action is not likely to have a substantial impact on available habitat for the butterfly since trees with dwarf mistletoe (its host plant) would be retained throughout all units where it is present. The deep, well drained soils on the slopes of Marys Peak, especially in Section 29, may provide suitable habitat for the beetle. Thinning harvests that reduce canopy closure and result in soil disturbance would likely reduce the suitability of habitat for this species. This alternative is not likely to have a substantial impact on this species since impacts to soil habitat conditions would affect only a small percentage of the ground surface in this vicinity.

Potential negative effects such as disturbance and disruption of wildlife use patterns, temporary increase in road density, and habitat alteration are anticipated to be short-term and local in nature, and would not contribute to the need to list any Special Status Species.

Cumulative Effects

Density management thinning harvest in mid-seral conifer forests has the potential to incur cumulative effects to wildlife habitat availability and in particular to dispersal habitat for northern spotted owls. Within the North Fork Alsea Watershed, BLM has commercially thinned about 800 acres of mid-seral forest stands within the past 10 years (3.8% of BLM ownership in watershed). In the next 5 years, BLM would evaluate commercially thinning of about 500 acres (in addition to this proposed action) of mid-seral forests within this watershed. Due to ecological succession and forest management, the amount of habitat in each seral stage within this watershed is not stagnant, but constantly in transition from early open habitats toward mature forest stands. Thinning harvests such as the proposed action would alter existing forest structure, yet these treatments do not result in a loss of habitat for most of the wildlife species that are known or suspected to use these forests. The cumulative impact on habitat availability for wildlife species of concern resulting from past BLM thinning harvests and foreseeable thinning treatments is considered negligible

Thinning harvests that affect canopy conditions in stands that are over 105 feet tall and that lie adjacent to suitable habitat patches would not appreciably diminish any marbled murrelet critical habitat component, since LSR thinning prescriptions are designed to enhance late-seral forest conditions, protect potential nest structure from incidental damage, and maintain at least 40% canopy closure. This proposed action would maintain the ability of the treated stands to continue to function as a critical habitat component and would likely provide long-term beneficial effects to the quality of critical habitat in this CHU.

Within the northern Oregon Coast Range, the condition of dispersal habitat for spotted owls is a matter of elevated concern **(**USDI-FWS 1992; Courtney et al. 2004). The proposed action (306 acres) and foreseeable BLM thinnings (500 acres) would alter about 2.5% of the available dispersal habitat in OR-47. Dispersal habitat currently comprises about 73% of the federal forest lands within OR-47. Since the majority of the proposed thinning harvests are designed to maintain an average of at least 40% canopy closure, they are likely to continue to function as dispersal habitat, whereby this project and all foreseeable federal thinning harvests would not contribute to a cumulative loss of dispersal habitat within critical habitat unit OR-47, but rather they would likely provide long-term beneficial effects to the quality of critical habitat.

#### *2.4.5.2 Alternative 2*

Potential effects to wildlife habitat, wildlife species, and cumulative effects are nearly identical as those described for Alternative 1. An additional 60 acres of proposed thinning harvest would be treated in this alternative, involving helicopter yarding of 120 acres that facilitates a reduction of about 3,000 feet of new road construction. At the watershed scale the difference between the acreage to be treated in Alternative 1 and Alternative 2 is negligible.

At the scale of the project area, Alternative 2 offers a noticeably larger benefit for enhancement to wildlife habitat conditions while minimizing new road construction. This is especially true with the inclusion of Unit 29C, where several residual old-growth trees are threatened by canopy encroachment from the advancing mid-seral canopy layer, and lack of treatment would likely perpetuate the continual decline in this important living legacy. This action would also incur a slightly higher risk of noise disturbance impacts to marbled murrelets by the inclusion of Unit 29C (proposed for helicopter yarding) where murrelets were detected on one of 34 surveys. This action would be considered a **"**may affect, likely adverse affect**"** to marbled murrelets due to the potential noise disturbance from helicopter operations occurring after August-5, where un-surveyed suitable habitat exists beyond ¼ and within ½ miles of the proposed unit. The project would be consulted upon with the U.S. Fish and Wildlife Service, as required under Section 7 of the Endangered Species Act. The USFWS would provide a Biological Opinion stipulating mitigation measures that would conclude that this action would not result in jeopardy to listed species and would not adversely modify critical habitat for any species. There would be no change in the affect determination to spotted owls, although an additional 30 acres of the proposed thinning would fall within 1.5 miles of the Yew Creek owl site.

#### *2.4.5.3 No Action Alternative*

This alternative would result in no change to the affected environment. Short-term impacts to wildlife species and habitats as described in Alternative 1 and 2 would be avoided. However, the anticipated benefits to future conditions of late-seral forest habitat conditions in this project area would not be achieved.

### 2.4.6 Fuels\Air Quality

*(Parker Bear LSR Enhancement Project Fuels/Soils Report pp. 1-13)(Parker Bear LSR Enhancement Project Fuels/Soils Abstract pp. 1-5)*

**Affected Environment**

Existing fuels are typical for 40-70 year old mixed Douglas fir/western hemlock stands in the northern coast range. Total dead fuel loading ranges from 20 to 35 tons per acre. A substantial portion of this material is only partially sound. Fuels are all shaded by forest canopy. The project area orientation is represented by all aspects, with the majority in the Southwest and Northwest aspects.

**Environmental Effects**

#### *2.4.6.1 Alternative 1 (Proposed Action)*

A moderate increase in fire risk is expected as a result of this proposed action. Risk would be greatest during the first year "red needle stage". Fire risk along the roads would be reduced when slash piles are burned off. Risk would decline substantially within three years following harvest as needles and twigs detach and break down. Green up and increasing growth of under story vegetation would combine with break down of the slash and continue the decline in fire risk back to normal back ground levels within 15-20 years following harvest. Only short term impacts are expected to air quality in the nearby vicinity of piles being burned. No negative long term or long range impacts to air quality in any DEQ designated areas are expected as a result of prescribed burning of slash piles during favorable weather conditions.

Cumulative Effects

There would be few cumulative effects to this resource, as the effects from the project would be local, and there would be no other uses affecting this resource. Although there would be an increase in fuel loading and resultant fire hazard in the short term, there would be positive net benefits in the long term due to the proposed thinning treatment. When looked at from a watershed scale, however, the thinning of approximately 306 acres of forest habitat would reduce the long term (5 or more years) potential of the stand to carry a crown fire. This is because of the spacing out of the trees and their crowns, in addition to removal of current ladder fuels that are conducive to the spread of wildfire.

#### *2.4.6.2 Alternative 2*

Effects would be the same as for Alternative 1 with the following changes: The total area of untreated thinning slash would be greater by 61 acres. Cumulatively, approximately 367 acres would benefit in the long term by reducing the future potential of the stands to carry wildfire.

#### *2.4.6.3 No Action Alternative*

With a no action alternative there would be no change from the current conditions for the fuels resource. Conditions would remain as they are at present. No changes in aerial extent of disturbed fuel loadings.

### 2.4.7 Recreation

(Parker Bear LSR Enhancement Project Recreation, Rural Interface and Visual Resources Report pp. 1-8)

**Affected Environment**

The project area is characterized by a forest setting with many modifications to the natural setting both public and private. This thinning is accessed by gravel forest roads and has dispersed recreation. Target shooting and hunting are the major activities done in the area and vicinity. Another activity involves unauthorized Off Highway Vehicle (OHV) use. The unauthorized use results in surface water and sediment being routed into streams. A small portion of the project is along the U. S. Forest Service #30 road connecting the community of Harlan to Highway 34 and is frequently traveled by hunters, sightseers, recreation users and residents as a through road.

The project is in close proximity to the Marys Peak Forest Service's Scenic Botanical Special Interest Area and BLM's Area of Critical Environment Concern. The Forest Service offers camping, hiking trails, picnicking and sightseeing/wildlife viewing in the developed Marys Peak Recreation Area immediately to the north of this project. The public has developed a trail close to unit 29C along Parker Creek and historically used the pullout as a dispersed campsite. New trail development opportunities are identified at Parker Ridge, Circumpeak, Parker Creek, Racks Creek, Marys Peak and North Fork Alsea River in the *North Fork Alsea River Watershed Analysis.* Parker Creek and Dick's Ridge recreation sites, and Marys Peak, Corvallis-to-the-Sea and North Fork Alsea River trails are identified in the RMP as proposed recreational opportunities.

**Environmental Effects**

#### *2.4.7.1 Alternative 1 (Proposed Action)*

Any recreational use in the proposed units would be restricted during thinning operations, generally during summer months; this would coincide with archery season in late August if operations are not shutdown from fire restrictions. The thinning of these units would open up the stands, making it easier to walk through and provide forage for big game animals. On the other hand, logging debris slash may hinder these same activities.

Decommissioned roads in the project area would reduce the amount of road available for OHV use. This reduction in OHV use is necessary to protect other resources and is in part a result of the overuse and abuse by recreation users. Unauthorized OHV use should be reduced by the installation of barriers to Spurs A-C and subsequently reduce resource damage. Off-highway vehicle use areas are diminishing as a result of the overuse of areas not able to handle such use and OHV users may be displaced to other areas and create the same resource damage as seen in the project area.

This project would not hinder any future recreation development and might increase visual resources by providing longer viewing distances.

#### *2.4.7.2 Alternative 2*

Same as Alternative 1, except the reduction in road construction would provide less access opportunities and subsequently less potential for OHV use. Helicopter yarding would occur instead of skyline yarding in some areas, thus reducing potential OHV use on new skid roads.

#### *2.4.7.3 No Action Alternative*

With the exception of unexpected changes (i.e. wildfire or disease), the proposed project area would continue to provide a forest setting for dispersed recreational activities. A short-term increase in log truck traffic, noise and other inconveniences related to the harvest of the units would not occur. However, these inconveniences from other lands in the vicinity would most likely still occur.

### 2.4.8 Visual Resources

(Parker Bear LSR Enhancement Project Recreation, Rural Interface and Visual Resources Report pp. 1-8)

**Affected Environment**

The project area includes three units adjacent to the U.S. Forest Service #30 road. Units 29A through 29C are in Visual Resource Management (VRM) class 2, however only Units 29A and 29B are visible from the #30 road. Land within this visual designation must be managed to retain the existing character of the landscape with low levels of change. Management activities may be seen but should not attract the attention of the casual observer and scenic quality should be retained.

The remaining units are in VRM 4 designation which allows a wide variety of activities to the landscape. Activities in VRM 4 areas may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impacts of these activities.

**Environmental Effects**

#### *2.4.8.1 Alternative 1 (Proposed Action)*

Although changes to the visual character of the area's forested landscape would occur, these changes would not likely attract the attention of the casual observer. This thinning would look much like others under the same management prescription. The canopy cover would decrease initially but overtime would close in to create a closed canopy. A forest setting would still be maintained, and vegetation disturbed by logging activities would be expected to return within five years. The proposed units would most likely retain enough canopy cover to still appear relatively natural, with some potential changes to contrast, color, and texture. To visually mitigate the objective of VRM 2, within units 29A and 29B and adjacent to #30 road a higher density of trees would be retained.

Cumulative Effects

There have been thinning sales in the North Fork Alsea Watershed within the past 5 years to the south, (Crooked Alder, Klickitat Tie, and Old Blue). The end result of the project would look much like the three previous timber sales, not drawing the attention to the casual observer. Most recreation visitors want a variety of scenery. This landscape has and would continually be altered by the BLM, through a strategic plan, and by private companies.

#### *2.4.8.2 Alternative 2*

Same as Alternative 1 except there could be some additional changes to contrast, color and texture due to the additional treatment of 27 acres (Unit 29C). The unit would not be visible from USFS Road #30 due to approximately 500 feet of forest reserve between the unit and road.

#### *2.4.8.3 No Action Alternative*

With the exception of unexpected changes (i.e. wildfire or disease), the proposed project would not affect contrast, color and texture.

### 2.4.9 Comparison of Alternatives With Regard to the Purpose and Need

**Table 7: Comparison of Alternative by Purpose and Need for Project 1**

| **Purpose and Need (EA section 2.1)** | **Alternative 1** 306 ac-ground/skyline | **Alternative 2** 367 ac-helicopter/ground/skyline | **No Action** |
|---|---|---|---|
| 1. Development of late-successional forest habitat (patch openings, clumps, coarse woody debris, retain remnants and limbs, snag creation and protection etc.). | Reduces stand densities to allow target conifers to increase diameter and height growth. Accelerate changes in some stand components to develop certain elements of diversity sooner by releasing understory conifers, and increasing large down wood and snags through density management. | Same as Alternative 1. An increase in treatment acres through helicopter yarding is proposed. | Does not meet the purpose and need. The most likely agent for this disturbance would be wind, which would create openings in patches. No substantial understory would develop within the next 30 years. Species diversity would take considerably longer to develop than if the proposed treatment were implemented as natural disturbance would be the agent for creation of stand structural diversity. Stand mortality due to competition would increase, resulting in increased amounts of small CWD, snags and instream LWD. . |

| Purpose and Need (EA section 2.1) | Alternative 1 306 ac-ground/skyline | Alternative 2 367 ac-helicopter/ground/skyline | No Action |
|---|---|---|---|
| 2. Increase structural diversity in relatively uniform conifer stands. | Reduces tree densities within stands to increase diameter growth and more open stand conditions to preserve limbs and high crown ratios. Increase species diversity and understory regeneration, shrubs, forbs, etc. | Same as in Alternative 1. | Does not meet purpose and need. See #1 above. |
| 3. Increase growth of trees and improve the structural and spatial stand diversity in portions of Riparian Reserves. | Reduces stand densities to allow target conifers to increase diameter and height growth. Accelerate changes in some stand components to develop certain elements of diversity sooner by releasing understory conifers, and increasing large down wood and snags through density management. This in turn increases future potential of coarse woody debris and stream large wood sources. | Same as in Alternative 1 except would treat additional acres in portions of LSR and RR LUA's. | Does not meet purpose and need. Growth decreases over time, keeping diameters small thereby not meeting the need for large down wood and snags or large wood sources for streams. |
| 4. Provides appropriate access for commercial harvest and silvicultural practices used to meet the objectives above, while minimizing increases in road densities. | Builds 4,550 feet of new roads. Following harvest, all of the new road construction would be decommissioned and blocked to vehicular traffic. Approximately 9,000 feet of existing road would be renovated, decommissioned and blocked to vehicular traffic. | Builds 1,560 feet of new roads. Constructs 3 "helicopter" landings. Renovate 700 additional feet of existing road (12-7-33.1) Same as in Alternative 1 in other aspects. | No change. Maintain existing road densities. |
| | Would implement maintenance on feeder roads, allowing for continued access. Would also make needed improvements by minimizing road related runoff and sediment production. | Same as in Alternative 1. | Main routes would be maintained, however delay maintenance on feeder roads would be delayed resulting in increased road related runoff due to the risk of culverts plugging and failing over time. |

# 3.0 PROJECT 2 - Road Decommissioning

## 3.1 Purpose of and Need for Action

The RMP identifies the need of "closing and stabilizing, or obliterating and stabilizing roads based on the ongoing and potential effects to Aquatic Conservation Strategy objectives and considering short-term and long-term transportation needs" (RMP p. 62). The *North Fork Alsea River Watershed Analysis* (*NFAWA*, BLM 1996) recommends reducing road densities in the Parker Creek and Yew Creek "rugged zones" (p. 132). Roads # 12-7-31, 12-7-32.2, Spurs A to C and a portion of 12-7-32.1 are no longer needed for future access. In addition, road related runoff from Spurs A to C are producing sediment that is entering streams. The

purpose of and need for action is to control and minimize road related runoff and sediment production into streams associated with these roads and to decrease the road density within the Upper Alsea River Watershed.

## 3.2 Alternatives

### 3.2.1 Alternative Development

No unresolved conflicts concerning alternative uses of available resources (section 102(2) (E) of NEPA) were identified. No alternatives were identified that would meet the purpose and need of the project and have meaningful differences in environmental effects from the proposed action. Therefore, this EA will analyze the effects of the "proposed action" and the "no action" alternative.

### 3.2.2 Proposed Action

This project consists of decommissioning approximately 1 mile of road (#12-7-31, 12-7-32.2, Spurs A to C and a portion of 12-7-32.1) within the LSR and RR LUA's. The proposed action includes:

- Removing three culvert fills and reconstructing stream banks.
- Restoring natural drainage patterns.
- Sub-soiling the road surface to improve drainage in situations where tree roots would not be seriously impacted.
- Constructing waterbars approximately every 400 feet or as directed by the Authorized Officer.
- Constructing a barrier at the beginning of each road to prevent vehicle access.
- Seeding areas of exposed soil with Oregon certified (blue tagged) red fescue at a rate equal to 40 pounds per acre.

#### *3.2.2.1 Project Design Features*

The following is a summary of the design features that reduce the risk of effects to the affected elements of the environment described in EA section 3.3. Design features are organized by objectives.

***General***

All proposed work was designed to be in conformance with the *Salem District Implementation Strategy for the Western Oregon Transportation Management Plan (December 1999).* All decommissioning activities would utilize the Best Management Practices (BMPs) required by the Federal Clean Water Act (as amended by the Water Quality Act of 1987) (RMP Appendix C, pp C-1 through C-10).

**Table 8: Season of Operation/ Operating Conditions for Project 2**

| Season of Operation or Operating Conditions | Applies to Operation | Objective |
|---|---|---|
| July 1 to August 31 | Road Decommissioning | Minimize soil erosion |

**Project Design Features by RMP Objectives**

**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:**

- Contour the constructed stream banks at approximately 1½:1 where practical. Armor the lower portions of the backslopes with suitable rip rap where bank scour would be otherwise anticipated.
- Advanced/established vegetative growth should be left intact as much as possible.
- Exposed mineral soil areas (roads to be decommissioned) would be seeded with Oregon Certified (blue tagged) red fescue at a rate equal to 40 pounds per acre or sown/planted with other native species as approved by the resource area botanist.

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

- To protect water quality, road decommissioning would take place during the dry season, generally July 1 to August 31.

**To protect Cultural Resources:**

- No known cultural or paleontological resources occur in the project area. A post-harvest survey would take place upon completion of the project according to *Protocol for Managing Cultural Resources on Lands Administered by the BLM in Oregon;* Appendix D dated August 5, 1998. If any sites are identified during timber harvesting, the operations would be immediately halted and the Field Manager would be notified. Operations would be resumed only with the Field Manager's approval, and only after appropriate mitigation measures are designed and implemented to provide any needed protection of those resources.

### 3.2.3 No Action Alternative

The BLM would not implement any of the actions described in the action alternatives at this time. This alternative serves to set the environmental baseline for comparing effects to the proposed action.

## 3.3 Affected Environment and Environmental Effects

The interdisciplinary team reviewed the elements of the human environment, required by law, regulation, Executive Order and policy, to determine if they would be affected by the proposed action. Table 8 (Critical Elements of the Environment) and Table 9 (Other Elements of the Environment) summarize the results of that review. Affected elements are **bold**. Affects to the elements are described in Tables #8 and #9. Unless otherwise noted, the effects apply to the proposed action. The No Action Alternative is not expected to have

adverse effects to these elements. The affected environment was described in Project 1 (Parker Bear LSR Enhancement).

**Table 9: Review of Critical Elements of the Environment (BLM H-1790-1, Appendix 5) for Project 2**

| **PROJECT 2- ROAD DECOMMISSIONING** | | | | |
|---|---|---|---|---|
| *Critical Elements Of The Environment* | | *Status: (i.e., Not Present , Not Affected, or Affected)* | *Does this project contribute to cumulative effects? Yes/No* | *Environmental Effects* |
| Adverse Impacts on the National Energy Policy | | Not Affected | No | There is no known energy resources located in the project area. The proposed action would have no effect on energy development, production, supply and/or distribution. |
| Air Quality | | Not Affected | No | There would be no burning of slash planned under this proposed action. |
| Areas of Critical Environmental Concern | | Not Present | No | |
| Cultural Resources | | Not Affected | No | Cultural Resource sites in the Coast Range, both historic and prehistoric, occur rarely. Of Salem District's Resource Area's, the fewest sites have been found on/in Marys Peak Resource Area. The probability of sites are low due to the majority of BLM land being located on steep upland mountainous terrain within areas that lack concentrated resources humans would use. Post-disturbance inventory would be completed on slopes less than 10%. |
| 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** | | **Affected** | **No** | **Road decommissioning would include culvert removal on three live streams (headwaters of Parker Creek), thereby restoring natural stream banks and floodplain access.** |
| Hazardous or Solid Wastes | | Not Present | No | |
| **Invasive, Nonnative Species (plants) (Executive Order 13112)** | | **Affected** | **No** | **Any ground disturbing activity may lead to an increase in the noxious weeds known from the project area. Adverse effects from noxious weeds are not anticipated because grass seeding exposed soil areas tends to abate the establishment of noxious weeds. The risk rating for the long-term establishment of noxious weed species and consequences of adverse effects on this project area is low.** |
| Native American Religious Concerns | | Not Affected | No | No Native American religious concerns were identified during the public scoping period. |
| **Threatened or Endangered (T/E) Species or Habitat** | **Fish** | **Affected** | **No** | **Coastal Coho Salmon are approximately 2.0 miles below the project Area. Culvert removal and instream work may cause short-term increases in stream sedimentation and turbidity. In the long term, it is likely to help restore channel function and improve water quality.** |

| PROJECT 2- ROAD DECOMMISSIONING | | | | |
|---|---|---|---|---|
| *Critical Elements Of The Environment* | | *Status: (i.e., Not Present , Not Affected, or Affected)* | *Does this project contribute to cumulative effects? Yes/No* | *Environmental Effects* |
| | Plant | Not Present | No | There are no known sites of any T&E species within the project area, nor is any potential habitat present. |
| | Wildlife | Not Affected | No | No habitat modification and no disturbance. |
| **Water Quality (Surface and Ground)** | | **Affected** | **Yes** | **Culvert removal and instream work may cause short-term increases in stream sedimentation and turbidity. In the long term, it is likely to help restore channel function and improve water quality. Culvert removal and water bar installation would help restore natural flow paths, while reducing the "artificial" channel network.** |
| **Wetlands/Riparian Zones** | | **Affected** | **No** | **Proposed roads to be decommissioned cross three streams. Riparian vegetation would be minimally disturbed, and would recover quickly.** |
| Wild and Scenic Rivers | | Not Present | No | |
| Wilderness | | Not Present | No | |

**Table 10: Review of Other Elements of the Environment for Project 2**

| PROJECT 2- ROAD DECOMMISSIONING | | | |
|---|---|---|---|
| Other Elements Of The Environment | Status: (i.e., Not Present, Not Affected, or Affected) | Does this project contribute to cumulative effects? Yes/No | Environmental Effects |
| Coastal zone | Not Affected | No | 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. |
| **Fire Hazard/Risk** | **Affected** | **No** | **No accumulations of slash are expected to be created as a result of this project, therefore no effect on Fire Hazard. Entry by vehicles to the areas originally accessed by these roads would cease eliminating the major source of ignition while at the same time blocking access by fire control engines. It is expected that the overall effect would be a reduction in fire risk.** |
| **Other Fish Species with Bureau Status and Essential Fish Habitat** | **Affected** | **No** | **Culvert removal and instream work may cause short-term increases in stream sedimentation and turbidity. In the long term, it is likely to help restore channel function and improve water quality.** |
| **Land Uses (right-of-ways, permits, etc)** | **Affected** | **No** | **Consumer Power access to the power line would be improved by installation of drainage structures. Unimpeded access would continue to their structures.** |

| PROJECT 2- ROAD DECOMMISSIONING | | | | |
|---|---|---|---|---|
| Other Elements Of The Environment | | Status: (i.e., Not Present, Not Affected, or Affected) | Does this project contribute to cumulative effects? Yes/No | Environmental Effects |
| Late Successional and Old Growth Habitat | | Not Present | No | No Old Growth stands are included in the proposed action. |
| Mineral Resources | | Not Present | No | |
| **Recreation** | | **Affected** | **No** | **These roads are fairly short and are not likely to hinder recreation use in the area.** |
| Rural Interface Areas | | Not Present | No | The proposed project is not in rural interface zones according to the Salem District RMP page 39. |
| **Soils** | | **Affected** | **No** | **The project area, presently occupied by the roads to be decommissioned is not counted in the productive soil (timber growing) base. Ripping of the road surface, removal of culverts and creation of water bars would partially restore the soils to a productive state. Further action from weathering, activities of micro and macro fauna and the effects of vegetation (roots and litter fall) would restore the soil to a highly productive state over several decades.** |
| Special Areas outside ACECs (Within or Adjacent) (RMP pp. 33-35) | | Not Present | No | |
| Other Special Status Species/ Habitat | Plants | Not Affected | No | There are no known sites of any Bureau Special Status Species within the project area. |
| | Wildlife | Not Affected | No | No short-term negative impacts to any wildlife Species of Concern are anticipated, and there would be no negative cumulative effects. |
| **Visual Resources** | | **Affected** | **No** | **The proposed project is located in and complies with VRM 4 designation.** |
| **Water Resources - Other (303d listed streams, DEQ 319 assessment, Downstream Beneficial Uses; water quantity, Key watershed, Municipal and Domestic)** | | **Affected** | **No** | **Addressed in Table 8- Water Quality (Surface and Ground) (Parker Bear LSR Enhancement Hydrology Environmental Assessment p.1-4)** |
| Wildlife Structural, Habitat Components and **Road Densities** | | Wildlife Structural and Habitat Components Not Affected **Road Densities Affected** | No | There are no special habitat features and no special habitat components associated with the road segments proposed for decommissioning. Beneficial effects anticipated due to reduction of open road miles and less human disturbance. |

### 3.3.1 Comparison of Alternatives With Regard to the Purpose and Need

**Table 11: Comparison of Alternative by Purpose and Need for Project 2**

| Purpose and Need (EA section 3.1) | Proposed Action | No Action |
|---|---|---|
| Control and minimize road related runoff and sediment production into streams associated with these roads and to decrease road density within the Upper Alsea River Watershed. | After the completion of the project, the road related runoff and sediment production is expected to decrease. Decommissioning the roads would reduce road density within the area. | Road conditions would not change. Road related runoff and their consequences on streams would continue. There would be no change in road densities within this area. |

# 4.0 COMPLIANCE WITH THE AQUATIC CONSERVATION STRATEGY

Table 12 and Appendix 1 describe the project's compliance with the four components of the Aquatic Conservation Strategy. Unless otherwise specified, this table applies to both projects.

**Table 12: Projects' Compliance with Components of the Aquatic Conservation Strategy**

| ACS Component | Project Consistency |
|---|---|
| Component 1 - Riparian Reserves | **Project 1:** The Riparian Reserve boundaries would be established with direction from the Salem District Resource Management Plan (p. 10). Maintaining canopy cover along all streams would protect stream bank stability and water temperature. There would be no road construction within the Riparian Reserve.<br>**Project 2:** Actions/directions for the management of roads in Riparian Reserves, as directed on p. 11 of the ROD/RMP: close and stabilize roads based on the ongoing and potential effects to ACS objectives and considering short-term and long-term transportation needs. |
| Component 2 - Key Watershed | The projects are located within the Upper Alsea River Watershed, which is not designated as a key watershed. |
| Component 3 - Watershed Analysis | Parker Creek and the Yew Creek were analyzed as part of the *North Fork Alsea River Watershed Analysis* (BLM, May 1996). |
| Component 4 - Watershed Restoration | **Project 1:** Increasing stand diversity in Riparian Reserves addresses this component.<br>**Project 2:** Complies with Watershed Restoration management actions/direction as stated on p.7 of the RMP: "Focus watershed restoration on removing some roads and, where needed, upgrading those that remain in the system." |

## 4.1 Compliance with Aquatic Conservation Strategy Objectives

Project 1: Parker Bear LSR Enhancement - Over the long term, this project should aid in meeting ACS Objectives by speeding the development of older forest characteristics in Riparian Reserves, including increased large wood recruitment for stream channels. In addition, more open stands would allow for the growth of important riparian species in the understory (EA Appendix 1).

Project 2: Road Decommissioning - This project is likely to have a positive cumulative effect on watershed function. In the long term, it is likely to help restore channel function and improve water quality. Culvert removal and water bar installation would help restore natural flow paths, while reducing the "artificial" channel network (EA Appendix 1).

# 5.0 LIST OF PREPARERS

**Table 13: List of Preparers**

| Resource | Name | Initial | Date |
|---|---|---|---|
| Cultural Resources | Tom Vanderhoof for Tom | FMP | 6/14/05 |
| Hydrology/ Water Quality/ACSO | Ashley La Forge | | 6/13/05 Acting Snedaker |
| Silviculture/Riparian Ecology | Diane Morris | DM | 6/15/05 |
| Botany TES and Special Attention Plant Species | Ron Exeter | RE | June 15, 2005 |
| Wildlife TES and Special Attention Animal Species | Scott Hopkins | | 6/13/05 |
| Soils/Fuels/Air Quality | Tom Tomczyk | TST | 6/13/05 |
| Fisheries | Dave Roberts\Scott Snedaker | | 6/13/05 |
| Recreation Sites and Visual Resources Management and Rural Interface | Traci Meredith | TMM | 6/13/05 |
| NEPA / Plans | Carolyn Sands | CDS | 6/13/05 |

# 6.0 CONTACTS AND CONSULTATION

## 6.1 Agencies, Organizations, and Persons Consulted

### 6.1.1 ESA Section 7 Consultation

#### 1. US Fish and Wildlife Service

To address concerns for affects to 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 Endangered Species Act. Consultation for this proposed action was facilitated by inclusion within a programmatic Biological Assessment (USDA-FS and USDI-BLM 2004b) 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 2005 and 2006. This action would be considered a **"**may affect, likely adverse affect**"** to marbled murrelets due to the potential noise disturbance from helicopter operations occurring after August-5, where un-surveyed suitable habitat exists beyond ¼ and within ½ miles of the proposed unit. The resulting Biological Opinion (reference #1-7-2005-F-0005; USDI-FWS 2004), concluded that this action would not result in jeopardy to listed species and would not adversely modify critical habitat for any species. This proposed action has been designed to incorporate all appropriate design standards set forth in the Biological Assessment to ensure compliance with the Terms and Conditions included within the Biological Opinion. Appropriate design features for this action include maintaining 40% average canopy cover in dispersal habitat, restricting daily noise disturbance [Time period beginning two hours after sunrise and ending two hours before sunset (April 1 through September 15)], restrict helicopter yarding between April 1 and August 5 in any given year restrict helicopter yarding and restrict blasting between January 1 and September 30 in any given year.

#### 2. NOAA Fisheries (NMFS)

The area where the proposed action is located has two stream systems (Yew Creek and Parker Creek). Both provide habitat for Coastal Coho Salmon (approximately two miles down stream from the project areas), which are proposed for listing as threatened under the Endangered Species Act. Consultation with NOAA Fisheries will be conducted under current BLM policy.

The road decommissioning project would be covered under the Endangered Species Act Section 7 Formal consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for U.S. Forest Service and Bureau of Land Management Programmatic Activities in Northwestern Oregon, February 25, 2003.

### 6.1.2 Cultural Resources - Section 106 Consultation and Consultation with State Historical Preservation Office

Projects 1 and 2 follow Protocol for Managing Cultural Resources on Lands Administered by the Bureau of Land Management in Oregon; Appendix D - "Coast Range Inventory Plan" dated August 5, 1998.

## 6.2 Public Scoping and Notification

### 6.2.1 Tribal Governments, Adjacent Landowners, General Public, and State County and local government offices

- A scoping letter, dated September 9, 2003, was sent to 24 potentially affected and/or interested individuals, groups, and agencies. - One response was received during the scoping period

- A scoping letter, dated February 27, 2004, was sent to 24 potentially affected and/or interested individuals, groups, and agencies. - Four responses were received during the scoping period.
- A description of the projects was included in the March, June, September, and December 2004 and March 2005 project updates to solicit comments on the purposed projects.

### 6.2.2 30-day public comment period

The EA and FONSI will be made available for public review June 16, 2005 to July 15, 2005. The notice for public comment will be published in a legal notice by the *Gazette Times* newspaper; and posted on the Internet under Environmental Assessments at http://www.or.blm.gov/salem/html/planning/index.htm. Comments received by the Marys Peak Resource Area of the Salem District Office, 1717 Fabry Road SE, Salem, Oregon 97306, on or before July 14, 2005 will be considered in making a final decision for these projects.

# 7.0 MAJOR SOURCES AND COMMON ACRONYMS

## 7.1 Major Sources

Atterbury Consultants. 1998. *Stand Exam and Planning System Edition 6.0.* BLM Stand Exam Program. (Super Stand).

Bosch, J.M., and J.D. Hewlett. 1982. *A Review of Catchment Experiments to Determine the Effect of Vegetation Changes on Water Yield and Evapotranspiration*. Journal of Hydrology, 55:3-23.

Carey, A. 2002. *Ecological Foundations of Biodiversity: Promoting Habitat Complexity in Second-Growth Forests*. Brochure. Pacific Northwest Research Station, USDA Forest Service, Forestry Sciences Laboratory, Portland, OR. [Available at http://www.fs.fed.us/pnw/].

Carey, A.B., J.K. Kershner, B.L. Biswell, and L.D. de Toledo. 1999. *Ecological Scale and Forest Development: Squirrels, Dietary Fungi, and Vascular Plants in Managed and Unmanaged Forests.* Wild. Monog. 142:1-71.

Courtney, S, J. Blakesley, R. Bigley, M. Cody, J. Dumbacher, R. Fleischer, A. Franklin, J. Franklin, R. Gutiérrez, J. Marzluff, L. Sztukowski. 2004. *Scientific Evaluation of the Status of the Northern Spotted Owl.* Unpublished Report. Sustainable Ecosystems Institute, Portland, OR. Prepared for the U.S. Fish and Wildlife Service, Region 1. Portland, OR.

Exeter, R. 2005. *Botanical Report.* Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR.

Evans-Mack, D., W. Ritchie, K. Nelson, E. Kuo-Harrison, P. Harrison, and T. Hamer. 2002. Methods for surveying Marbled Murrelets in forests: a revised protocol for land management and research. Pacific Seabird Group. Unpublished document. [Available at http://www.pacificseabirdgroup.org].

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Meredith, T. 2004. *Recreation/Rural Interface/VRM Report for Parker Bear LSR Enhancement*. Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR.

Morris, D. 2004. *Silviculture and Riparian Reserve Prescription for Parker Bear Density Management*. Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR.

Tomczyk, T. 2004. *Parker Bear LSR Enhancement Proposal Fuels/Soils Report.* Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR.

USDA. Forest Service, USDI. Bureau of Land Management. 2000. *Delineation and Management of Reserve Pair Areas within Oregon's Northern Coast Range Adaptive Management Area*. Salem, OR.

USDA. Forest Service, USDI. Bureau of Land Management. 2004b. *Final Draft, Biological Assessment of Habitat-Modification Projects Proposed During Fiscal Years 2005 and 2006 in the North Coast Province, Oregon That Would Affect Bald Eagles, Northern Spotted Owls, or Marbled Murrelets, or Wouild Modify the Critical Habitats of the Northern Spotted Owl or the Marbled Murrelet.* Salem, OR.

USDA. Forest Service, USDI. Bureau of Land Management. 1994. *Final Supplemental Environmental Impact Statement Management of Habitat for Late Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl.* Portland, OR.

USDA. Forest Service, USDI. Bureau of Land Management. 1997. *Late Successional Reserve Assessment for Oregon's Southern Portion* (RO267 & RO268).Version 1.3, June 1997. Corvallis, OR.

USDA. Forest Service, USDI. Bureau of Land Management. 1994. *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl (ROD) and Standards and Guidelines for Management of Habitat for Late Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (S&G).* Portland, OR. **Note:** The ROD and S&G are collectively referred to as the *Northwest Forest Plan (NWFP).*

USDA. Forest Service, USDI. Bureau of Land Management. 2004a. *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.* Portland, OR.

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USDI. Bureau of Land Management. 1996. *North Fork Alsea River Watershed Analysis*. Salem, OR.

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USDI. Fish and Wildlife Service. 2004. *Biological Opinion and Letter of Concurrence for the Effects to Bald Eagles, Northern Spotted Owls, Marbled Murrelets, Spotted Owl Critical Habitat and Marbled Murrelet Critical Habitat from the USDI-BLM, Eugene District and Salem District, and UDSA, Siuslaw National Forest Fiscal Year 2005/2006 Habitat Modification Activities within the North Coast Province.* USDI, Fish and Wildlife Service, Oregon Fish and Wildlife Office, Portland, OR. Dated [Reference Number 1-7-2005-F-0005].

USDI. Fish and Wildlife Service [USDI-FWS]. 1996. *Final Designation of Critical Habitat for the Marbled Murrelet; Final Rule*. Federal Register, Volume 61(102): 26255-26320. Washington, DC.

(USDA-FS and USDI-BLM 2004b) Programmatic Biological Assessment 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 2005 and 2006.

PERTINENT POLICY MEMORANDA

IM-OR-2003-003 Protocol Revisions to the "Survey Protocol for the Red Tree Vole", Version 2.0. October 23, 2002. BLM-Oregon State Office.

## 7.2 Common Acronyms

ACS..... Aquatic Conservation Strategy
ACSO..... Aquatic Conservation Strategy Objectives
BLM..... Bureau of Land Management
BMP..... Best Management Practice(s)
BO..... Biological Opinion
CWD..... Coarse Woody Debris
DBHOB..... Diameter Breast Height Outside Bark
DEQ..... Department of Environmental Quality
EA..... Environmental Assessment
ESA..... Endangered Species Act
FONSI..... Finding of No Significant Impact
LSR..... Late Successional Reserves
LSRA..... Late Successional Reserve Assessment (1996)
LUA..... Land Use Allocation
LWD..... Large Woody Debris
NEPA..... National Environmental Policy Act (1969)
NFAWA..... North Fork Alsea River Watershed Analysis
NOAA..... National Oceanic Atmospheric Administration (formally called National Marine Fisheries Service (NMFS))
NWFP..... Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Related Species within the Range of the Northern Spotted Owl (1994) (Northwest Forest Plan)
ODEQ..... Oregon Department of Environmental Quality
RMP..... Salem District Record of Decision and Resource Management Plan (1995)
RMPFEIS..... Salem District Proposed Resource Management Plan / Final Environmental Impact Statement (1994)
RR..... Riparian Reserves (land use allocation)
S&M FSEIS... Final Supplemental Environmental Impact Statement For Amendment to the Survey and Manage, Protection Buffer, and Other Mitigation Measures Standards and Guidelines (2000)
S&M ROD..... Record of Decision and Standards and Guidelines For Amendment to the Survey and Manage, Protection Buffer, and Other Mitigation Measures Standards and Guidelines (2001)
SPZs..... Stream Protection Zones (no-cut protection zone/no-cut buffer/no-treatment zone/stream buffer)
USDI..... United States Department of the Interior
USFWS..... United States Fish and Wildlife Service

# 8.0 APPENDICES

## 8.1 Appendix 1 - Aquatic Conservation Strategy Objectives

### 8.1.1 Documentation of the Projects' Consistency with the Nine Aquatic Conservation Strategy Objectives

Unless otherwise specified, the No Action Alternative for each project would not prevent the attainment of any of the nine ACS objectives. Current conditions and trends would continue and are described in EA Sections (2.4 for Project 1 and 3.1 for Project 2). EA section 4.0 describes each project's consistency with the Aquatic Conservation Strategy Objectives.

**Table 14: Projects' Consistency with the Nine Aquatic Conservation Strategy Objectives**

| **Aquatic Conservation Strategy Objectives (ACSO)** | **Project 1:Parker Bear Late Successional Reserve Enhancement** | | **Project 2:Road Decommissioning** |
|---|---|---|---|
| | **Alternative 1** *Mixed Logging Systems With Road Construction* | **Alternative 2** *Mixed Logging Systems, Including Helicopter, With Less Road Construction* | **Proposed Action** *Decommissioning numerous roads near/within Parker Bear LSR Enhancement* |
| *1. Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features.* | Does not prevent the attainment of ***ACSO 1***. Thinning within the riparian areas also allows for establishment of a secondary canopy and may increase species diversity and habitat complexity. Desirable habitat for aquatic and riparian dependant species would be enhanced by the maintenance of stand health and stability and a long term increase in quality LWD recruitment. (EA section 2.4.4.1) | Does not prevent the attainment of ***ACSO 1***. Alternative 2 would restore more areas by enhancing structural and species diversity, accelerating development of desired tree characteristics, increasing long term quality LWD recruitment and increasing stand health and stability. (EA section 2.4.1.1) | Does not prevent the attainment of ***ACSO 1***. This project is not expected to affect diversity and complexity of the watershed or landscape features. |
| *2. Maintain and restore spatial and temporal connectivity within and between watersheds.* | Does not prevent the attainment of ***ACSO 2***. Long term connectivity of terrestrial watershed features would be improved by enhancing conditions for understory development (structural diversity), increasing the proportion of minor species in the stand (species diversity), and increasing growth rates on remaining trees. In time, these reserves would improve in functioning as refugia for late successional, aquatic and riparian associated and dependent species.. | Does not prevent the attainment of ***ACSO 2***. See project 2 | Does not prevent the attainment of ***ACSO 2***. This project is not expected to affect spatial and temporal connectivity between watersheds. |

| Table 14: Projects' Consistency with the Nine Aquatic Conservation Strategy Objectives | | | |
|---|---|---|---|
| **Aquatic Conservation Strategy Objectives (ACSO)** | **Project 1:Parker Bear Late Successional Reserve Enhancement** | | **Project 2:Road Decommissioning** |
| | **Alternative 1** *Mixed Logging Systems With Road Constr*uction | **Alternative 2** *Mixed Logging Systems, Including Helicopter, With Less Road Construction* | **Proposed Action** *Decommissioning numerous roads near/within Parker Bear LSR Enhancement* |
| *3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.* | Does not prevent the attainment of ***ACSO 3***. Measurable effects to stream flow, channel conditions, and water quality due to the proposed action are unlikely. Over the long-term, this action is unlikely to alter the current condition of the aquatic system either by affecting its physical integrity, water quality, sediment regime or in-stream flows. (EA section 2.4.3.1) | Does not prevent the attainment of ***ACSO 3***. See Alternative 1 | Does not prevent the attainment of ***ACSO 3***. Activities associated with road decommissioning may cause short-term disturbance to channel function. |
| *4. Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystem.* | To the extent that this proposal would influence overall watershed condition, it is likely to lead to short term increases in stream turbidity over haul routes and long term increases in LWD recruitment potential to streams. Since long term LWD supply to streams is likely the most critical factor for maintenance of aquatic habitat in these watersheds, this proposal is expected to maintain or improve aquatic habitat in these watersheds. (EA section 2.4.3.1) | Does not prevent the attainment of ***ACSO 4***. See Alternative 1 | Does not prevent the attainment of ***ACSO 4***. In the long term, it is likely to help restore channel function and improve water quality. Culvert removal and water bar installation would help restore natural flow paths, while reducing the "artificial" channel network |

| Table 14: Projects' Consistency with the Nine Aquatic Conservation Strategy Objectives | | | |
|---|---|---|---|
| **Aquatic Conservation Strategy Objectives (ACSO)** | **Project 1:Parker Bear Late Successional Reserve Enhancement** | | **Project 2:Road Decommissioning** |
| | **Alternative 1** *Mixed Logging Systems With Road Construction* | **Alternative 2** *Mixed Logging Systems, Including Helicopter, With Less Road Construction* | **Proposed Action** *Decommissioning numerous roads near/within Parker Bear LSR Enhancement* |
| *5. Maintain and restore the sediment regime under which aquatic ecosystems evolved.* | Does not prevent the attainment of ***ACSO 5***. During work on stream crossings and cross drains, impacts to water quality would be expected, as equipment is operating in and/or adjacent to the stream channel. Likely impacts would include short-term increases to sedimentation and stream turbidity. Turbidity levels may remain elevated during the winter following operations Timber hauling during periods when water is flowing on roads and into ditches could substantially increase stream turbidity if flows from ditches are large enough to enter streams. The project is likely to lead to short term increases in stream turbidity over haul routes and long term increases in LWD recruitment potential to streams. Since long term LWD supply to streams is likely the most critical factor for maintenance of aquatic habitat in these watersheds, this proposal is expected to maintain or improve aquatic habitat in these watersheds. (EA section 2.4.3.1) | Does not prevent the attainment of ***ACSO 5***. See Alternative 1 | Does not prevent the attainment of ***ACSO 5***. See *ACSO* #4. |

| Table 14: Projects' Consistency with the Nine Aquatic Conservation Strategy Objectives | | | |
|---|---|---|---|
| **Aquatic Conservation Strategy Objectives (ACSO)** | **Project 1:Parker Bear Late Successional Reserve Enhancement** | | **Project 2:Road Decommissioning** |
| | **Alternative 1** *Mixed Logging Systems With Road Constr*uction | **Alternative 2** *Mixed Logging Systems, Including Helicopter, With Less Road Construction* | **Proposed Action** *Decommissioning numerous roads near/within Parker Bear LSR Enhancement* |
| *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.* | Does not prevent the attainment of ***ACSO 6***. The project would affect 0.7% of the forest cover in the Upper Alsea River watershed. Because of the small percentage of forest cover being affected by this project, increases to stream flow caused by this action are unlikely to be measurable. Substantial portions of the riparian canopy (including all vegetation within SPZs) would be retained, maintaining riparian microclimate conditions and protecting streams from increases in water temperature. (EA section 2.4.3.1) | Does not prevent the attainment of ***ACSO 6***. See Alternative 1 | Does not prevent the attainment of ***ACSO 6.*** Culvert removal and water bar installation would help restore natural flow paths, while reducing the "artificial" channel network. (*Hydrology Report*, in EA file) |
| *7. Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.* | Does not prevent the attainment of ***ACSO 7***. Floodplain inundation and water table elevation would not be affected by the proposed action. The Proposed Action would not affect flow rates or volumes. No activities would occur on or adjacent to floodplains or wetlands (due to SPZs). | Does not prevent the attainment of ***ACSO 7***. See Alternative 1 | Does not prevent the attainment of ***ACSO 7.*** See *ACSO* #6 (EA Project File, Hydrology Report) |
| *8. Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands.* | Does not prevent the attainment of ***ACSO 8***. The proposed action would enhance structural and species diversity, accelerate development of desired tree characteristics, increase long term quality LWD recruitment and increase stand health and stability.(EA section 2.4.1.1) | Does not prevent the attainment of ***ACSO 8***. See Alternative 1 | Does not prevent the attainment of ***ACSO 8.*** Riparian vegetation would be minimally disturbed, and would recover quickly (EA sec. 3.3) |

| Table 14: Projects' Consistency with the Nine Aquatic Conservation Strategy Objectives | | | |
|---|---|---|---|
| **Aquatic Conservation Strategy Objectives (ACSO)** | **Project 1:Parker Bear Late Successional Reserve Enhancement** | | **Project 2:Road Decommissioning** |
| | **Alternative 1** *Mixed Logging Systems With Road Constr*uction | **Alternative 2** *Mixed Logging Systems, Including Helicopter, With Less Road Construction* | **Proposed Action** *Decommissioning numerous roads near/within Parker Bear LSR Enhancement* |
| *9. Maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species.* | Does not prevent the attainment of ***ACSO 9***. Habitat to support well distributed riparian-dependent and riparian associated species would be restored by reducing overstocked stands, increasing tree species diversity, and altering forest structural characteristics (increased diameter and increased crown depth/width). Density management within the Riparian Reserves would enhance stand conditions, growing residual trees faster than if the stand were to grow without treatment. This would increase the potential for high quality CWD and LWD. | Does not prevent the attainment of ***ACSO 9***. See Alternative 1. | Does not prevent the attainment of ***ACSO 9.*** See ACSO 8. (EA) |

## 8.2 Appendix 2 - Response to Scoping Comments

A scoping letter was sent on several occasions (see EA 6.2) to federal, state and municipal government agencies, nearby landowners, tribal authorities, and interested parties on the Marys Peak Resource Area mailing list. The letter briefly described the current version of the Parker Bear Late Successional Reserve Enhancement Projects and included maps.

### 8.2.1 Summary of comments and BLM responses

The following addresses comments raised in five letters 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.

#### *8.2.1.1 Friends of Mary's Peak (November 19, 2004)*

1. **Comment:** *"We propose an additional option to be considered in the EA. This option removes unit 29C which has such a complex set of issues that it would require an EIS in our opinion… "*

   **Response:** An unresolved conflict concerning alternative uses of available resources was identified between road construction activities and effects to water and soil resources. An alternative (Alternative 2) proposing a reduction of road construction and increased acres of density management (utilizing helicopter yarding) would meet the purpose and need of the project and address these conflicts. Alternative 1 (Proposed Action) in the EA excludes Unit 29C. See EA section 2.2.

   Since this action complies with the *Salem District Record of Decision and Resource Management Plan* (RMP), which was analyzed in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (**RMP/FEIS**), its effects in a broad scope have been already analyzed in an EIS.

   However, an Environmental Assessment was prepared, in accordance with 40 CFR Part 1508.9(a)1 that can be used by an agency to "make (its) determination whether to prepare an environmental impact statement" or not. In the attached Finding of No Significant Impact (FONSI), the field manager found that "Based upon review of the EA and supporting documents, I have determined that the proposed projects are not major federal actions and would 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. Therefore, an environmental impact statement is not needed."

   The FONSI goes on further with rationale for the field manager's determination.

2. **Comment:** *"Units 29C and 33D do not appear to need thinning. Natural thinning is already taking place"*.

**Response:**

The current stand densities are approaching or are above the upper limit (Relative Density 55-60) of where individual tree vigor and stand growth are reduced due to competition. Above Relative Density 55-60, inter-tree competition begins to cause mortality.

- According to stand data, unit 29C, at an age of 65, has a canopy closure of 70%, a relative density of 83 and 213 trees per acre. In Alternative 2, the proposed treatment would reduce the relative density to 38 and retain 65 trees per acre. Approximately 34 soft short snags per acre exist in Unit 29C
- The 52 year old stand in Unit 33D has a canopy closure of 74%, a relative density of 90 and 258 trees per acre. The proposed treatment would drop the relative density to 39 and retain 74 trees per acre. Although a portion of Unit 33D has a moderate amount of blow down which resulted from a winter storm in early 2004, the majority of the unit consists of a dense uniform stand. Stand exam data indicates very few snags exist within Unit 33D. .

Thinning dense uniform stands such as these to a wider or variable spacing would provide the remaining trees more of an opportunity to differentiate without stagnating creating future higher quality CWD. Wildlife habitat would be enhanced by this project through the immediate creation of hard snags and CWD.

3. **Comment:** *"This proposed thinning needs a broader range of options than just go/no go."*

   **Response:** We agree. This EA includes two action alternatives in addition to a no action alternative. The IDT developed Alternative 2 that would require aerial yarding in conjunction with a reduction of new road construction. A description of the alternatives and analysis of potential environmental effects is included in the attached EA (Sec.2.4 pp.29-52). Brad Keller, Marys Peak Field Manager is the official responsible for deciding whether to approve the projects as proposed, not at all, or to some other extent.

4. **Comment:** *"There is very high public interest in Mary's Peak, and this goes way beyond the NW Forest Plan. Marys Peak has more economic impact as a significant ecological, historical, scenic and recreational conservation area than it does as a source for commercial timber haul. No activity should take place there that is motivated by commercial timber production."*

   **Response:** The proposed density management treatment is documented within the *North Fork Alsea River Watershed Analysis (NFAWA, 1996).* The watershed analysis identified a corridor of federal lands that could provide a substantial opportunity to promote terrestrial connectivity of older forest habitats across the watershed. The *Late Successional Reserve Assessment (LSRA), Oregon Coast Province-Southern Portion (1997)* set priorities for treatment of federal lands designated as LSR across the landscape. The project area is designated as "Corridor LSR Zone" lands in the *LSRA* with a high priority of treatment as the area was identified as a critical link between large patches of late-successional habitat. As a follow-up to the findings of the *LSRA* and *NFAWA*, the silviculture and wildlife staff prioritized areas within the LSR that would benefit from density management and which would contribute to the provincial strategies for recovering LSR conditions across the landscape.

   The essential long-term goal is to accelerate the development of late-successional characteristics in the younger forests. When treated stands reach 120-150 years old, the

desired stand conditions include enhanced structural and species diversity, snags and down logs in all decay classes, and large green conifer trees.

The objectives include enhancing stand development by moving these densely stocked stands toward a late seral stage condition for both the LSR and Riparian Reserve LUA's. For many of the units in the proposed project area, this would be the first thinning entry. Areas of sections 5, 32 and 33 have had one previous thinning, therefore, a second entry should further enhance those objectives. Commercial timber production is not a goal and would be a by-product of this project.

Thinning based on a range of basal area retention and/or diameter limit designation should lead to variable spacing. This variable spacing creates horizontal diversity leading to desired late-seral forest characteristics of a patchy and diverse understory. Further, it can hasten development of multiple canopy layers, as the understory grows and the growth of residual trees is affected by the variability of residual density. In other words, variable thinning promotes diversity in crown structures by allocating varying amounts of space to different trees (Carey, et al. 1999a). Variable density thinning and clump and gap creation would enhance canopy gaps of various sizes.

5. **Comment:** *"The area above…, and parts of the area below the Harlan Road, is part of a proposed Mary's Peak Conservation Area that the Friends of Mary's Peak are working to protect. Its roadless nature needs to be protected rather than reduced, and nothing should be done on the land that is incompatible with a public park or, in culturally sensitive areas, a Native American sacred site. …the scenic value of this trail and recreational wandering through this area should not be compromised by stumps."*

   **Response:**
   *Proposed Marys Peak Conservation Area:* The Bureau of Land Management will comply with current land use allocations for the area as described in the RMP. To date, there has been no land use allocation changes legislated for the public lands surrounding Marys Peak.

   *Roadless nature:* There is evidence of numerous old skid trails, stumps and logging in this roadless area. No road construction would occur to the area north (above) of the Harlan Road (USFS #30). Approximately 450 feet of temporary road that would be decommissioned and blocked to vehicular traffic following harvest operations would occur south (below) of the Harlan Road. In addition approximately 4,500 feet of existing road south of the Harlan Road would be decommissioned and blocked to vehicular traffic in project 2 of the Parker Bear EA.

   *Protection of culturally sensitive areas*: Through the scoping process, a letter with a description and maps of the proposed project was mailed to the Confederated Tribes of Siletz Indians and Confederated Tribes of Grande Ronde.

   The Bureau of Land Management did not receive comments from either with concerns about the project. Projects 1 and 2 follow Protocol for Managing Cultural Resources on Lands Administered by the Bureau of Land Management in Oregon; Appendix D - "Coast Range Inventory Plan" dated August 5, 1998 (EA 6.1.2. p.60)

6. **Comment:** *"Cannot understand why BLM is venturing back to cut on Mary's Peak."*

   **Response:** Addressed in response #4 above.

7. **Comment:** *"stick to overstocked, younger (30-50 year old) plantations in the LSRs and stay out of mature 70+ year old forests." Thinning older stands will likely fall outside the LSR guideline of protecting and enhancing for old growth forest ecosystem.*

   **Response:** All of the proposed stands included in the alternatives range from 46 to 66 years of age. The *LSRA* acknowledged that the majority of density management would be needed in the 25-50 year old stands and while the majority of the stands in the older age group may be on a trajectory which meets LSR objectives, a few of these stands may benefit from manipulation. In Units 29B and C, if left untreated tree growth would continue to be stagnated, a lack of immediate hard CWD and snags may continue to exist and many of the live crowns of the isolated old growth trees would continue to decline as the advancing mid-seral canopy encroaches.

8. **Comment:** *"All BLM actions on the peak need to be compatible with the best available research. Relevant research by PNW and others, specifically on similar wet Pacific NW forests and not more southern or drier forests, needs to be considered."*

   **Response:** We agree. The NWFP and subsequently the RMP were developed using the best available science for managing forest ecosystems within the range of the northern spotted owl. In addition, specialists constantly receive literature, attend lectures, and take training on relevant information specifically to stay on top of the best available research. The specific prescription for management activities in the EA considered what is possible and appropriate for this area. Successional pathways, management criteria and desired future conditions of the area were considered in the development of management activities.

9. **Comment:** *"All BLM actions on the peak need to be compatible with the relevant LSRA and NFAWA for this area…"*

   **Response:** As stated in section 1.3 of this EA the project received guidance from the **1/** *Late Successional Reserve Assessment,* Oregon Coast Province - Southern Portion (June 1997); **2/***North Fork Alsea River Watershed Analysis,* July 1996 and **3/**North *Fork Alsea and South Fork Alsea Watershed Analysis: Riparian Reserve Treatment Recommendations Update,* May 2000. The *NFAWA* cites the need to upgrade, decommission or close many of the roads included in the project road renovation to reduce the potential of sedimentation entering the aquatic system. The *LSRA* identified a general objective of closing roads in the project area near mature blocks of timber to allow large blocks of harassment-free landscapes. Although the BLM is constrained by mixed ownerships, the roads to be decommissioned would result in lower road densities within the project area. provide some reduction All 3 documents cited an objective of enhancing the development of late-successional forest characteristics within LSR lands through density management and CWD and snag creation and recruitment and upgrading existing roads to reduce the potential for increase of sedimentation into the aquatic system.

10. **Comment:** *"Reducing to 50 trees per acre appears to be too heavy of a thin in Units 29C and 33D. We need to leave more trees per acre than 50."*

    **Response:** We agree. Approximately 65 trees per acre would be reserved in Unit 29C and approximately 74 trees per acre would be reserved in Unit 33D. The proposed thinning is designed to maintain at least 40% canopy closure averaged over the project area and no trees

with suitable nesting structure would be cut, such that treated stands are anticipated to retain their function as a constituent element of critical habitat for murrelets. No suitable spotted owl habitat would be modified by this alternative. "The short-term reduction in canopy closure may slightly diminish the quality of dispersal habitat for owls, but since the entire project area would average more than 40% canopy closure, the treated stands are anticipated to retain their function as dispersal habitat for spotted owls in the short-term and would likely achieve suitable habitat quality for spotted owls in the long-term at a faster rate than if left untreated" (EA. p. 45).

11. **Comment:** "*There are a substantial number of old growth trees adjacent to and scattered within Unit 29C. The Parker Creek area is populated by the rare Haddock's Caddisfly and the sensitive Tailed Frog. Thinning may change the microclimate of this area.*"

    **Response:** All projects undergo surveys for plant and animal species before the completion of the NEPA process. If any species are found within the project area, corresponding habitat is buffered according to all applicable standards and guides listed in applicable standards and guidelines at the time of surveying. Thinning would not occur within a minimum distance of 200 feet from Parker Creek. "Tree harvest is also unlikely to have any measurable effect on stream temperatures in the project watershed. Although thinned, substantial portions of the riparian canopy would be retained, maintaining riparian microclimate conditions and protecting streams from increases in water temperature" (EA. p.37).

12. **Comment:** *"The adjacent old growth in the area and scattered in 29C and 33D need to be surveyed for old growth dependent species, including fungi and mollusks."*

    **Response:** Pre-disturbance field inventories of the project area for bureau special status vascular plant, lichen and bryophyte species were accomplished through intuitive controlled surveys. Unit 29C was only surveyed for *bridgeporous nobilissimus* Polypore. Otherwise fungi surveys are considered as "not practicable to survey for". Unit 33D was surveyed for fungi protocol under the Survey and Manage requirements. There are no "known sites" of any bureau special status vascular plant, lichen, bryophyte or fungal species in the project area. "Due to the proximity of adjacent older forest patches (suitable murrelet nesting habitat) and the occurrence of scattered old-growth trees (potential nesting structure) in some of the units, marbled murrelet surveys were conducted in or near Units 29A, 29B, 29C, 32C, and 33D. None of these units were found to be occupied by murrelets. Extensive spotted owl surveys have been completed within the vicinity of the project area by BLM staff, federal research programs, and private timber companies. Continuous survey efforts by BLM were conducted within the watershed from 1986 through 1995. From 1996 to the present, a Demographic study of spotted owls in the Oregon Coast Range has continued surveys in this vicinity. In addition, during the course of project planning, intermittent spotted owl survey efforts were conducted by BLM staff within and adjacent to some of the proposed units. No spotted owl sites exist within or adjacent to any of the proposed units. The red tree voles current status requires surveys in suitable habitat on BLM forest lands in the Oregon Coast Range north of Highway 20. This project area, which lies in the Oregon Coast Range south of Highway 20, has no requirement for surveys and no requirement for protection of known sites. Red tree voles are considered to be well distributed in this part of the Oregon Coast Range, and adequately protected by the existing framework of land-use allocations and the higher percentage of the landscape in older forest habitats on federal lands" (EA p. 43).

13. **Comment:** *"Manage for much more mortality, decadence, and the creation over time of a large supply of snags and large downed woody debris, especially in Units 29C and 33D. …debris would be available for the next two centuries."*

    **Response:** Monitoring would occur throughout the project area as described in Table 2 of the EA. Table 6 in the EA provides data for present CWD and Table 2 in the EA describes the desired immediate and future input for each unit within 5 years following harvest. To meet current and future amounts of CWD the Silviculture and Riparian Reserve Prescription incorporated "Alternative Prescriptions for Coarse Woody Debris Alternative #1" as included in the *LSRA*. The objective would be to supply a steady input of down wood and snags over time to provide conditions for down wood processes and snag-dependent species.

14. **Comment:** *"Visual buffer along Harlan Road (Units 29B, 29A)."*

    **Response:** Visual resource impacts to Visual Resource Management (VRM) class 2 lands along the U. S. Forest Service Road #30 (Harlan Road) would be reduced by retaining a greater density (within 50 feet of the road) of leave trees than the recommended silviculture prescription for Units 29A and 29B. Additional management activities would include disposing of logging debris adjacent to Road #30 by piling and burning, applying grass and forbs seed to disturbed areas and replant with large nursery stock" . Unit 29C would not be visible due to a minimum 400 feet "no-cut" buffer adjacent to the Road #30. Changes to the visual character of the area's forested landscape would occur, and likely would not attract the attention of the casual observer. The canopy cover would decrease initially but overtime would under normal growing conditions close in to create a closed canopy. A forest setting would still be maintained, and vegetation disturbed by logging activities would be expected to return within five years. The proposed units would most likely retain enough canopy cover to still appear relatively natural, with some potential changes to contrast, color, and texture.

15. **Comment:** *"Retain helicopter yarding for 33D."*

    **Response:** Under alternative 2, unit 33D is proposed for helicopter yarding. Alternative 1 has this unit as skyline yarding. Logging specialists review all aspects of harvesting trees, including the slope, density and costs. Brad Keller, Marys Peak Field Manager is the official responsible for deciding whether or not to prepare an environmental impact statement, and whether to approve the projects as proposed, not at all, or to some other extent.

16. **Comment:** *"Underplant with shade tolerant site appropriate hemlock, cedar, yew, and where suitable, chinquapin and other significant trees as well as shrubs.*

    **Response:** A post-harvest assessment would determine if underplanting is appropriate. The assessment would determine how much of the area can be underplanted dependent upon slash and brush competition. Douglas-fir would not be planted in openings less than ½ acre. Shade tolerant seedlings, such as western hemlock or western red cedar would be planted in openings less than ½ acre. In patch cut openings (approximately 20 trees per acre) greater than 1/2 acre to 1 acre, Douglas-fir would be planted in the center to capture full sunlight and shade tolerant seedlings around the edges (see Silviculture Prescription NEPA file, p.28)

17. **Comment:** *"Minimize road building, and decommission all new roads as well as other roads that enter onto Harlan Road."*

**Response:** We agree. In fact as a result of your comments and internal scoping, the IDT developed Alternative 2 that would require 3000 feet less of new road construction. Some new road construction is necessary for operability due to topography present in the project area. Best Management Practices would be followed during road construction to reduce the risk of adverse effects to aquatic resources. All of the new roads, some renovated roads and existing roads would be decommissioned following the thinning harvest. Overall, the implementation of projects 1 and 2 would result in the reduction of approximately 3.4 miles of road in the project area.

18. **Comment:** "*Make Parker Bear a full restoration plan, not a piecemeal project.*

    Response: We agree. Parker Bear consists of road decommissioning (reduction of road density within the Upper Alsea watershed), density management and CWD and snag creation to promote late-successional forest conditions and road renovation to reduce environmental effects associated with identified existing roads within the project area.

#### *8.2.1.2 Oregon Natural Resource Council (October 4, and November 19, 2004)*

1. **Comment:** *"We think federal agencies should focus most of their silvicultural resources into a young stand thinning program across all land allocations."*

   **Response:** The Salem District implements the preferred alternative of the RMP. All of the proposed stands included in the alternatives have an age ranging from 44 to 66 years of age. Sixty-one percent of the stands are less than 55 years of age. Additional direction to this comment can be found in response to question #2 and #4 in 8.2.1.1 above.

2. **Comment:** *"We believe this thinning, especially when it is in reserves, must follow the current science on variable density thinning. We expect that in the reserves, forest management would be to promote late-seral conditions, which is best done by promoting variability in spacing between and among stands."*

   **Response:** We agree. In fact as a result of your comments and the stated purpose and need to enhance late-successional forest characteristics, our Interdisciplinary team felt that performing a variable density thin would be the best method to achieve those objectives for both alternatives. During the past 5 years the Marys Peak Resource Area has incorporated a "diameter-cut limit" method for implementing variable spaced thinnings. This method has resulted in creating the desired variable spaced thinnings (variability in thinning intensities, patch openings and leave islands) that accelerate the development of late-seral habitat.

3. **Comment:** "*Concerned with further road construction to facilitate logging. Any road construction … should disclose"*; length and width, number of acres accessed, number of cross drains, feet of cut bank, number of waterbars installed for decommissioning.

   **Response:** The following table includes the length of each road and the number of acres accessed by each road and then computed the cost:benefit ratio of the number of acres treated per mile of road construction.

| Road # | Primary Road Work | Miles | Associated Unit Acres | Acres of Unit/Mile of Road |
|---|---|---|---|---|
| T1 | New | 0.08 | 10 | 163 |
| T2 | New | 0.09 | 5 | 56 |
| T3 | New | 0.05 | 4 | 80 |
| T4 | New | 0.06 | 11 | 183 |
| T5 | New | 0.35 | 30 | 86 |
| T6 | New | 0.21 | 30 | 143 |
| | Totals | 0.84 | 90 | |

| Road # | Length/Width | # Cross Drains | Feet of Cut Bank | # Waterbars |
|---|---|---|---|---|
| T1 | 305 feet/16 | 0 | 0 | 1 |
| T2 | 515 feet/16 | 0 | 0 | 2 |
| T3 | 290 feet/16 | 0 | 0 | 1 |
| T4 | 215 feet/16 | 0 | 0 | 1 |
| T5 | 1870 feet/16 | 0 | 0 | 6 |
| T6 | 1070 feet/16 | 0 | 400 | 3 |
| Totals | 4,265 feet | | 400 | 14 |

4. **Comment:** *"Suggest that you develop an alternative that has limited road construction."*

   **Response:** We agree. Addressed in response #17 in 8.2.1.1 above.

5. **Comment:** *"Unit 29C is also sandwiched between patches of snag-rich old growth, and being located inside the circumpeak road less area, it should definitely be dropped."*

   **Response:** Addressed in responses #2 and #7 in 8.2.1.1 above.

6. **Comment:** *"We urge the BLM to absolutely minimize any temporary roads and justify every section of road with clear restoration benefits."*

   **Response:** Some new road construction is necessary for harvest operability due to topography present in the project area. The IDT developed Alternative 2 that would require 3,000 less feet of new road construction. The justification of every road was addressed in response #17 in 8.2.1.1 above.

7. **Comment:** "*Concerned about removal of snags and dead wood during thinning. The agency must consciously and very deliberately manage for decadence in the design of all thinning efforts"*.

   **Response:** As stated in the design features of this EA, all open grown "wolf trees", existing snags and coarse woody debris would be reserved, except where they pose a safety risk or affect access and operability. Any snags or logs felled or moved for these purposes would remain on site as CWD within the project area. According to the *Oregon Occupational Safety and Health Code* danger trees within reach of landings, rigging or work areas shall be felled before regular operations begin or work shall be arranged so that employees are in the clear. Snags are classified as danger trees and are subject to felling during the normal course of falling and harvest operations. Prior to operations a BLM contract administrator explains the

importance of protecting snags and CWD to the logging contractor, however, ultimately the decision whether to fall or leave snags that pose a safety hazard is directed by the Oregon Occupational Safety and Health Code.

#### *8.2.1.3 Coast Range Association (CRA) (November 19, 2004)*

1. **Comment:** *"Units 29C and 33D do not, nor do they appear to need thinning."*

   **Response:** Addressed in response #2 in 8.2.1.1 above.

2. **Comment:** *"This proposed thinning needs a broader range of options and specific adjustments to the proposed management activities."*

   **Response:** Addressed in response #3 in 8.2.1.1 above.

3. **Comment:** *"We recommend…focus management on overstocked, younger plantations in the LSRs and avoid mature 70+ year old forests."*

   **Response:** Addressed in response #7 in 8.2.1.1 above.

4. **Comment:** *"The area above …, and parts of the area below the Harlan Road, is part of a proposed Mary's Peak Conservation Area by the Friends of Mary's Peak. As a road less area, forest structure needs to be maintained in a natural state rather than through artificial treatment."*

   **Response:** Addressed in response #5 in 8.2.1.1 above.

5. **Comment:** *"All BLM actions on the peak need to be compatible with the best available science."*

   **Response:** Addressed in response #8 in 8.2.1.1 above.

#### *8.2.1.4 Northwest Environmental Defense Center (NEDC) (October 31, 2003)*

1. **Comment:** *"NEDC is concerned about the environmental impacts of logging late successional/old growth habitat in the Parker Bear Project area."* Additional questions under this comment are as follows: *"1) How does the Bureau of Land Management define old growth?, 2) How intensive will the commercial and non-commercial thinning activities be in the areas labeled old growth on the maps attached to the scoping notice?, 3) How much of the proposed management activities will take place in old growth, in habitat supporting old growth dependent species, or in habitat that evidences some of the characteristics of old growth?"*

   **Response:** Parker Bear Late Successional Reserve Enhancement proposed project stands are between 44 and 66 years. One of the many objectives is to move the forest stands proposed for density treatment from an Early Seral through a Mature Seral Stage and later to an Old Growth Seral Stage. The Mature Seral Stage typically occurs in stands from ages 81 to 199, where diversity gradually increases in response to canopy openings created by wind throw, stand mortality, disease and insects. The Old Growth Seral Stage represents the climax and sub-climax plant communities generally around 200 years. This stage is characterized by two

or more tree species with a wide range of tree size and ages including decadence of long-lived dominants, deep multi-layered canopy, high amounts of snags and down logs, canopy openings, clumps or gaps.

As defined above, no mature seral stage trees and definitely no old growth trees would be cut. Additional direction to this comment is found in response #4 in 8.2.1.1 and #7 in 8.2.1.2 above.

2. **Comment:** *"NEDC is encouraged by the Bureau's decision to commercially thin, rather than clear cut,…the NEPA analysis must specifically state the areas in which commercial logging would take place."* Additional questions under this comment are as follows: *"4) What effects would commercial logging have on wildlife?, 5) What effects would commercial logging have on watersheds and riparian areas?, 6) What effects would commercial logging have on noxious weeds?, 7) Would grazing be allowed in areas that have been commercially logged?, 8) How would commercial logging be accomplished in the project areas?"*

   **Response:** All units in the Parker Bear LSR Enhancement project are proposed for commercial thinning. Impacts to wildlife are addressed in EA section 2.4.5. This project follows the *LSRA* management guidelines and includes the creation of CWD. In addition, question 5 is addressed in EA section 2.4.3.1, question 6 is addressed in EA section 2.4.1.1 and question 8 is addressed in EA sections 2.2.1. As for grazing, the Marys Peak Resource Area has no grazing permits.

3. **Comment:** *"In all project areas, pre- and post-burn logging should be eliminated."*

   **Response:** The forest stands range from 44-66 years with a past history of fires up to 1930s and logging activities since the 1940s to present. BLM manages fuel levels by piling and burning large amounts of debris accumulated from timber harvest. The piling and burning of debris would reduce the fire risk and reduce the likelihood of causing tree mortality by prescribed burning of the debris adjacent to standing live trees. Prescribed burning of piles (slash piles along roads, near landings) could result in limited damage to the crowns of residual trees. To the extent that yarding systems or prescribed burning results in tree mortality, such small impacts to the residual stand would be consistent with inputs of CWD proposed for the treatment units.

4. **Comment:** *"Encourages BLM to allow felled trees to remain to serve as habitat."*

   **Response:** At least 2 green trees/acre intended to be part of the residual stand would be felled/topped for CWD creation following harvest operations. Trees to be utilized for snag/down log creation would be stand average or larger DBH. Incidentally felled trees or topped trees (ie. tailtrees, intermediate supports, guyline anchors) that are left by harvest operations would first be counted toward this target. All open grown "wolf trees", existing snags and coarse woody debris would be reserved, except where they pose a safety risk or affect access and operability. Any snags or logs felled or moved for these purposes would remain on site as CWD within the project area (EA section 2.2.2.2). These actions would facilitate the move of forest stands proposed for density treatment from an Early Seral through a Mature Seral Stage and later to an Old Growth Seral Stage.

5. **Comment:** *"Concerned about logging and fuels reduction activities in riparian reserves. Treatments that may be appropriate for upland areas should be avoided in riparian*

*zones…they tend to have a greater concentration of wildlife."* Additional questions under this comment are as follows: *"9) Would the management activities result in sedimentation and turbidity in wetlands and streams?, 10) How many wetlands are in the project area?, 11) Has the planning area been surveyed for wetlands?, 12) How much activity would take place in riparian reserves? and 13) Are there any water-quality limited streams in the project area?"*

**Response:** Approximately 146 acres (40%) of the proposed project is within Riparian Reserves. Within these Riparian Reserves, stands would be thinned anywhere from approximately 41-99 trees per acre to "enhance structural and species diversity, accelerate development of desired tree characteristics, increase long term quality LWD recruitment, and increase stand health and stability" (EA section 2.4.2.1). Road construction would not occur within the Riparian Reserve. Approximately 53 culverts would be either removed/replaced to improve or solely removed. These improvements would provide better drainage and better road surface conditions resulting in less road surface erosion into streams and a lowered risk of culvert or fill failures (EA section 2.4.2.1). The actual riparian vegetation along streams would be excluded from treatment and designated as stream protection zones (SPZ), which average approximately 60 feet or more but at least a minimum 50 feet. Only the upslope portions of the Riparian Reserves would be proposed for density management or patch cuts. Additional trees would be left close to the SPZ where desired. See Appendix F of the Silviculture and Riparian Reserve Prescription Report for criteria used to identify stream protection zones. Questions 10 and 11 are addressed in EA section 2.4.3.

There are no "wetlands" in the project area, which meet the criteria for implementing section 404 of the Clean Water Act adopted by the EPA (as identified using the protocol of the 1987 Corps of Engineers Wetlands Manual). There are several "wet areas" (areas which contain either ephemeral/intermittent surface water, have shallow, fragile, compacted and/or hydric soils or otherwise exhibit poor infiltration capacity) within or adjacent to the proposed units. In almost all cases, these areas are associated with streams and are included within Riparian Reserves. The same standards and guidelines that are applied to Riparian Reserves would be applied to these areas (ie. protection zones / no-treatment buffers area applied; management is directed towards achieving the goals of the Aquatic Conservation Strategy).

The proposed action is unlikely to result in any measurable increase in stream temperature or sedimentation and would not place large amounts of fine organic material in the stream or alter stream reaeration, it is unlikely that it would have any measurable effect on dissolved oxygen or nutrient levels."

Design features restrict timber hauling to periods when no water is flowing on road surfaces, the amount of sediment produced from roads and entering streams would be negligible to none.

*Oregon Department of Environmental Quality's 1998 303d List of Water Quality Limited Streams* is a compilation of streams which do not meet the state's water quality standards. Neither Parker Creek, Yew Creek, nor the North Fork Alsea River are listed for impaired water quality. However, the Alsea River mainstem is listed as not meeting water quality standards for fecal coliform (river mile 0-10), dissolved oxygen (mile 4.9-31.4) and exceeding summer temperature standards (mile 15.2 to 47.4).

6. **Comment:** *"It is imperative that each individual wetland be buffered by an area at least equal to the height of one site potential tree."*

**Response:** As stated in the RMP (p.10) all wetlands less than one acre in size would be protected by reserving the outer edges of the riparian vegetation. Wetlands greater than one acre in size would be protected by reserving vegetation within 210 feet of the wetland.

7. **Comment:** *"The Northwest Forest Plan prohibits timber harvest in riparian reserves, but allows limited harvest only when needed to facilitate compliance with Aquatic Conservation Stratagey (ACS) objectives. If these reserves already meet or would attain ACS objectives without active management then harvest should not be allowed. The NEPA analysis should consider each of the nine objectives within the ACS in relation to each of the action alternatives offered. Forest planners must also be cognizant of the Clean Water Act, which prohibits the degradation of waterways."*

   **Response:** In section 1.3 of this EA, Compliance or Conformance with Land Use Plans, Policies, and Programs, all action alternatives of the proposed projects are designed to comply with the management goals, objectives, and direction (e.g. standards and guidelines) of those mentioned documents. Section 4.0 and 8.1 of this EA explain the projects' consistency with the nine Aquatic Conservation Strategy Objectives.

8. **Comment:** *"The Bureau of Land Management should consider the recent federal district court decision in California, requiring land management agencies to acquire a NPDES permit for sediment discharges from ditches and discernable conveyances."*

   **Response:** We are unaware of any recent federal district course decision requiring land management agencies to acquire a NPDES permit for sediment discharge from roadside ditch or other discernable conveyances. Please provide reference for the ruling, if applicable. All necessary and applicable state and local permits would be obtained for this project.

9. **Comment:** *"The impacts to wildlife as a result of management activities…would be significant. An EIS should consider the effects of direct habitat loss, fragmentation of biological corridors, and indirect impacts from human activity and decreased seclusion. NEDC asks that the Bureau of Land Management prepare an EIS to address its above listed concerns."* Additional questions under this comment are as follows: *"14) Are there population studies for the Parker Bear project?"*

   **Response:** Addressed in response #1 in 8.2.1.1 and #2 in 8.2.1.4 above.