Fiscal Year 2007/2008 Progammatic Timber Salvage Environmental Assessment and Finding of No Significant Impact

Environmental Assessment Number OR-080-07-07

August 21, 2007

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

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BLM
Salem District

Abstract: This EA (environmental assessment) discloses the predicted environmental effects of one project on federal land located within multiple sections of Benton, Lane, Lincoln and Polk Counties. On December 14, 2006, a severe storm brought unusually heavy rains and strong winds to the Oregon Coast Range and the Willamette Valley, causing trees to blow down in various locations within the Marys Peak RA (Resource Area). The project proposes to remove a portion of these trees to reduce the risk of population build-up in bark beetles, the resulting infestation of adjacent healthy trees, as well as reduce the likelihood of fire killing the remaining live trees by meeting a need to reduce high surface fuel loadings. The project would provide access to permittees, the public and for administrative purposes by removing trees that have fallen across roads. The project would also produce a sustainable supply of timber to provide jobs and economic stability, while reducing the potential removal of wood fiber due to firewood and/or timber theft and also improve feasibility for tree planting. The actions would occur within LSR (Late-Successional Reserve), RR (Riparian Reserve), Matrix and AMA (Adaptive Management Area) LUAs (Land Use Allocations).

This document will serve as a programmatic document to cover future salvage sales throughout the RA. It will establish project design features, mitigation measures, etc., programmatically. As long as sales are designed to meet the criteria and measures herein, they will be allowed to proceed. Maps of each sale and an annual table of salvage areas (ie. Table 1) will be attached to this document to provide a record of where the activities are planned and for monitoring purposes.

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

BLM/OR/WA/PT-07/001+1792

FINDING OF NO SIGNIFICANT IMPACT

Introduction

The BLM (Bureau of Land Management) has conducted an environmental analysis (Environmental Assessment Number OR080-07-07) for a proposal to implement annual salvage operations on up to 90 acres (180 acres total) in LSR (Late-Successional Reserve), RR (Riparian Reserve), Matrix and AMA (Adaptive Management Area) LUAs (Land Use Allocations). The project would provide the following:

- Reduce the risk of bark beetle population increase
- Reduce fire hazard and risk
- Remove trees blocking road access
- Reduce the potential for removal of wood fiber due to illegal firewood and/or timber theft
- Restore oak/woodland/meadow habitat
- Restore instream and aquatic habitat.

Implementation of the Proposed Action will conform to management actions and direction contained in the attached FY 2007/2008 Programmatic Timber Salvage EA (*Fiscal Year 2007/2008 Programmatic Timber Salvage Environmental Assessment*). The FY 2007/2008 Programmatic Timber Salvage EA is attached to and incorporated by reference in this FONSI (Finding of No Significant Impact) determination. The analysis in this EA is site-specific and supplements analyses found in the RMP/FEIS (*Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994) (EA p.1). The FY 2007/2008 Programmatic Timber Salvage EA has been designed to conform to the RMP (*Salem District Record of Decision and Resource Management Plan*, May 1995), and related documents which direct and provide the legal framework for management of BLM lands within Marys Peak RA (Resource Area) (EA pg.3). Consultation with the U.S. Fish and Wildlife Service and NOAA (National Oceanic and Atmospheric Administration) NMFS (National Marine Fisheries Service) is described in Section 5.1 of the EA.

The EA and FONSI will be made available for public review at the Salem District office and on the internet at Salem BLM's website, http://www.blm.gov/or/districts/salem/index.htm (under Plans and Project) from August 23, 2007 to September 21, 2007. The notice for public comment will be published in a legal notice by the *Polk County Itemizer Observer*, *Gazette Times* and *Newport News Times* newspapers. Comments received by the Marys Peak Resource Area of the Salem District Office, 1717 Fabry Road SE, Salem, Oregon 97306, on or before September 21, 2007 will be considered in making the decisions for this project.

Finding of No Significant Impact

Based upon review of the FY 2007/2008 Programmatic Timber Salvage 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 information:

Context: Potential effects resulting from the implementation of the Proposed Action have been analyzed within the following 5th-field watersheds and the project area boundaries.

5th-field Watershed	% of BLM managed land within watershed
Beaver Creek-Waldport Bay	1
Big Elk Creek	5
Deadwood Creek	1
Devils Lake-Moolack Frontal	0
Drift Creek	3
Five Rivers-Lobster Creek	20
Lake Creek	0
Long Tom River	0
Lower Alsea River	13
Lower Siletz River	2
Lower Yaquina River	0
Luckiamute River	4
Marys River	1
Middle Siletz River	0
Mill Creek-South Yamhill River	36
Rickreall Creek	2
Rock Creek-Siletz River	5
Salmon River-Siletz River	6
Salt Creek-South Yamhill River	0
Upper Alsea River	52
Upper Siletz River	27
Upper South Yamhill River	4
Upper Yaquina River	3
Yachats River	1

The Proposed Action would occur on approximately 90 acres per year (180 acres total) of LSR, Matrix, AMA and RR LUA land, encompassing less than 0.014% of the forest cover within the affected watersheds [40 CFR 1508.27(a)].

Intensity:

1. The *Project* is unlikely to a have any significant adverse impacts on the affected elements of the environment (EA section 3.2 – vegetation, fuels/air quality, wildlife, soils, water, and fisheries/aquatic habitat). The following is a summary of the design features that would reduce the risk of affecting the above resources (EA section 2.2.2).

   - ✓ Seasonally restricting ground-based yarding, road construction and hauling operations to avoid runoff and sedimentation,
   - ✓ Operating equipment on top of slash and logging debris when possible to minimize compaction,
   - ✓ Installing erosion control measures as needed (water bars, sediment traps in ditchlines, silt fences, straw bales, and grass seeding exposed mineral soil areas),
   - ✓ Establishing stream protection zones (no cutting/no yarding) of at least 50 feet slope distance along streams and identified wet areas within the treatment area,
   - ✓ Reserving existing snags and a portion of the blow down trees, except within road rights-of-way, yarding corridors, skid trails or for safety reasons.

   With the implementation of the project design features described in EA section 2.2.2, 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 areas). The project is designed to meet RMP Standards and Guidelines, modified by subsequent direction (EA section 1.3); and the effects of the project would not exceed those effects described in the RMP/FEIS [40 CFR 1508.27(b) (1), EA sections 3.2].

2. The *Project* 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 areas (EA section 3.1);
   - ✓ 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 section 3.1).

3. The *Project* is 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. The *Project* does not set a precedent for future actions that may have significant effects, nor do they represent a decision in principle about a future consideration [40 CFR 1508.27(b)(6)]. The BLM has experience implementing similar actions in similar areas without setting a precedent for future actions.

5. The interdisciplinary team evaluated the *Project* 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 90 acres annually (180 acres total)], encompassing less than 0.014% of the forest cover within the Marys Peak Resource Area (RA), and duration (direct effects would occur over a maximum period of 4-6 years following salvage) (EA section 3.2).

6. The *Project* is not expected to adversely affect endangered or threatened species or habitat under the ESA (Endangered Species Act) of 1973 [40 CFR 1508.27(b) (9)].

   NOAA (National Oceanic Atmospheric Administration) NMFS (National Marine Fisheries Service)

   Consultation with NOAA NMFS is required for all actions which 'may affect' listed fish species and critical habitat under the ESA (Endangered Species Act of 1973) [40 CFR 1508.27 (b)(9)]. A preliminary determination has been made that the proposed FY 2007/2008 Programmatic Timber Salvage project includes both 'No Effect' action areas and 'May Affect' action areas to ESA listed threatened UWR (Upper Willamette River) steelhead trout. These determinations were primarily derived from the distance of listed fish and critical habitat from treatment areas and proposed haul routes.

   Proposed actions which 'May Affect' would comply with existing programmatic consultation and relevant design criteria, or would need additional consultation coverage. Existing programmatic consultations cover log removal associated with road prism salvage and log

removal for in-stream restoration projects. Road prism salvage is covered under NOAA NMFS *Endangered Species Act Section 7 Informal Consultation and Magnuson Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Three Programmatic Categories in Northwestern Oregon,* and log removal for in-stream restoration is covered under NOAA NMFS *Endangered Species Act Section 7 Formal Programmatic Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Fish Habitat Restoration Activities in Oregon and Washington, CY2007-CY2012.* Due to the programmatic nature of this EA, other salvage actions may occur which could not be specifically addressed under this assessment. Any future activities which 'may affect' listed UWR steelhead trout, and are not covered under the existing programmatic consultations, would require separate consultation in order to comply with ESA.

Protection of EFH (Essential Fish Habitat) as described by the Magnuson/Stevens Fisheries Conservation and Management Act and consultation with NOAA NMFS is required for all projects which may adversely affect EFH of Chinook and coho salmon. The proposed actions in the FY 2007/2008 Programmatic Timber Salvage EA are not anticipated to adversely affect EFH. This determination is primarily due to the distance of EFH from treatment areas and proposed haul routes. Actions determined to adversely affect EFH and are not covered under the existing programmatic consultations would be consulted on, most likely concurrently with any additional ESA consultation, with NOAA NMFS.

U. .S. Fish and Wildlife Service

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

7. The *Project* does not violate any known Federal, State, or local law or requirement imposed for the protection of the environment [40 CFR 1508.27(b)(10)].

Prepared by: Gary J. Humbard — Date 8/20/07
Gary Humbard, Team Lead

Reviewed by: Carolyn Sands — Date 8/20/07
Carolyn Sands, NEPA

Approved by: — Date 8/20/07
for Trish Wilson, Field Manager
Marys Peak Resource Area

Glossary: Abbreviations, Acronyms, and Terms

Glossary Item	Definition
ACS	Aquatic Conservation Strategy. A set of objectives developed to restore and maintain the ecological health and aquatic habitat of watersheds
Alternative	Proposed project (plan, option, choice)
Anadromous fish	Species that migrate to oceans and return to freshwater to reproduce.
Basal Area (BA)	The cross section area of a tree measured in square feet.
BLM	Bureau of Land Management. Federal agency within the Department of Interior responsible for the management of 275 million acres.
Blow Down	Trees blown over by wind events.
BMP	Best Management Practice(s). Design features and mitigation measures to minimize environmental effects.
CEQ	Council of Environmental Quality, established by the National Environmental Policy Act of 1969
CEQ Regulations	Regulations that tell how to implement NEPA
Cumulative effects	Past, present, and reasonably foreseeable effects added together (regardless of who or what has caused, is causing, and might cause those effects)
CWD	Coarse Woody Debris refers to a tree (or portion of a tree) that has fallen or been cut and left in the woods. Usually refers to pieces at least 20 inches in diameter as described in Northwest Forest Plan.
EA	Environmental Assessment
ESA	Endangered Species Act. Federal legislation that ensures federal actions would not jeopardize or elevate the status of living plants and animals.
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy Management Act
FONSI	Finding of No Significant Impact
Ground base yarding	Moving trees or logs by equipment operating on the surface of the ground to a landing where they can be processed or loaded
Harvester/Forwarder Equipment (cut to length system)	A logging system which uses "harvesters" to fell and delimb a tree and then cut it into logs, paired with a tracked "forwarder" that has a long reach, gathers up the logs and transfers them to a log truck. Many of these systems are known for their low PSI (pounds per square inch) impact to the ground.
Invasive Plant	Any plant species that is aggressive and difficult to manage.
Landing	Any designated place where logs are laid after being yarded and are awaiting subsequent handling, loading and hauling
LSR	Late-Successional Reserve (a NWFP designated land use allocation) Lands to be managed or maintained for older forest characteristics.
LSRA	Late-Successional Reserve Assessment for Oregon Coast Province – Southern Portion

Glossary Item	Definition
LUA	Land Use Allocation. NWFP designated lands to be managed for specific objectives
LWD	Large Woody Debris. Woody material found within the bankfull width of the stream channel and is specifically of a size 23.6 inches diameter by 33 feet length (per ODFW - Key Pieces)
Matrix	BLM lands managed predominately for a sustainable supply of timber
NEPA	National Environmental Policy Act (1969)
NMFS	National Marine Fisheries Service. Federal agency within NOAA which is responsible for the regulation of anadromous fisheries in the U. S.
NOAA	National Oceanic Atmospheric Administration. Agency within the Department of Commerce responsible for regulating migratory fisheries
Non-native plant	Any species that historically does not occur in a particular ecosystem or were introduced
Non-Point	No specific site
Noxious weed	A plant species designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or diseases; or non-native, new, or not common to the United States.
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
ODFW	Oregon Department of Fish and Wildlife. Oregon State Agency responsible for the management and protection of fish and wildlife.
Oregon Smoke Management Plan	The State of Oregon's plan for implementing the National Clean Air Act in regards to burning of forest fuels
RMP	Salem District Record of Decision and Resource Management Plan (1995)
RMP/FEIS	Salem District Proposed Resource Management Plan / Final Environmental Impact Statement (1994).
Road Decommissioning	Road work which generally includes removal of culverts, re-establishment of natural drainage patterns, and blocking.
ROD	Record of Decision. Document that approves decisions to the analyses presented in the FEIS.
RR	Riparian Reserves (NWFP land use allocation). Lands on either side of streams or other water feature designated to maintain or restore aquatic habitat.
RPA	Reserve Pair Areas. Lands designated for further protection of spotted owls and their habitat due to their low densities.

Glossary Item	Definition
Rural Interface	BLM lands within ½ mile of private lands zoned for 1 to 20 acre lots. Areas zoned for 40 acres and larger with homes adjacent to or near BLM lands.
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).
Seral	One stage of a series of plant communities that succeed one another.
Silviculture	The manipulation of forest stands to achieve desired structure.
Skid trails	Path through a stand of trees on which ground-based equipment operates.
Skyline yarding	Moving trees or logs using a cable system to a landing where they can be processed or loaded. During the moving process, a minimum of one end of trees and logs are lifted clear of the ground
Snag	A dead standing tree lacking live needles or leaves
SPZ	Stream Protection Zone is a buffer along streams where no material would be removed and heavy machinery would not be allowed. The minimum distance is 50 feet.
Succession	The stages a forest stand makes over time as vegetation competes and natural disturbances occur.
Turbidity	Multiple environmental sources which causes water to change conditions.
USDI	United States Department of the Interior
USEPA	United States Environmental Protection Agency
VRM	Visual Resource Management, all lands are classified from 1 to 4 based on visual quality ratings.
Waterbars	A ridge of compacted soil or loose rock or gravel constructed across disturbed rights-of-way and similar sloping areas.
Yarding corridors	Corridors cut through a stand of trees. Cables are strung in these corridors to transport logs from the woods to the landing.

FISCAL YEAR 2007/2008 Programmatic Timber Salvage
ENVIRONMENTAL ASSESSMENT

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1.0 INTRODUCTION

1.1 Project Covered in this EA

The project is a proposal to cut and remove a portion of blow down trees within LSR (Late Successional Reserve), RR (Riparian Reserve), Matrix and AMA (Adaptive Management Area) LUAs (Land Use Allocations) stands (up to 180 acres) for commercial and restoration purposes. The 2007 project areas include blow down, leaning, and root sprung trees that blew down in groups or as individuals (see Table 1 below).

This document will serve as a programmatic document to cover future salvage sales throughout the RA. It will establish project design features, mitigation measures, etc., programmatically. As long as sales are designed to meet the following criteria they will be allowed to proceed:

- Areas would be less than 15 contiguous acres.
- No more than 90 acres per year would be treated.
- Would meet the purpose and need.
- No road construction is needed.

Maps and table (Table 1) of the 2007 salvage areas is attached to this document to provide a record of where the activities are planned and for monitoring purposes.

Figure 1: blow down trees (group blow down area)

1.2 Project Area Location

The current project areas are located in multiple sections within Benton, Lincoln, Polk and Lane Counties on forested land managed by the Marys Peak RA (Resource Area), Salem District of the BLM (Bureau of Land Management) (see EA Location Maps). Future projects could occur in the above mentioned counties and in different watersheds.

Table 1: Project Area Locations for 2007 (Example of the annual table of blow down areas)

Project Area	*Land Use Allocations*	*Township and Range (Willamette Meridian)*	*Sections*	*Tree Loss*	*Watershed*
Teal/Grant Creek	LSR/RR [1,2,3]	8 South, 6 West 9 South, 6 West	31 5	Group	Luckiamute River
Cold Springs	LSR [1,2]	9 South, 7 West	11	Group	Luckiamute River
Savorski Salvage	LSR [1,2,4]	9 South, 7 West	23	Group	Luckiamute River
Little Boulder	AMA/RR	8 South, 8 West	11	Group	Upper Siletz River
Buttermilk Lake	Matrix	11 South, 8 West	6	Scattered	Upper Yaquina River
Old Blue	LSR [1]	13 South, 7 West	5, 7	Group and scattered	Upper Alsea River
Lake Lyons	Martix/RR	13 South, 7 West	29	Group	Upper Alsea River
Roberts Road	LSR	14 South, 7 West	13	Scattered	Upper Alsea River
Prairie Mountain/Bummer Swamp/Hull Park	LSR/RR [1]	15 South, 8 West 14 South, 8 West 14 South, 7 West	1 29, 31 32, 33 35	Scattered	Upper Alsea River
South Willie	Matrix/RR	15 South, 6 West 15 South, 7 West	6 and 7 12	Scattered	Upper Alsea River
Mainline-1 / Dawson Thin	Matrix/RR	14 South, 6 West	17, 19	Scattered	Marys River/Upper Alsea River
Greasy Creek	Matrix	13 South, 6 West	17	Scattered	Marys River
Finley Hill	Matrix	13 South, 6 West	35	Group	Marys River
Glen Hammer	Matrix	15 South, 6 West	5	Group and scattered	Marys River
Beck Road	AMA	6 South, 6 West	35	Scattered	Salt Creek-South Yamhill River

1). Land-Use Allocation also includes designated Critical Habitat for northern spotted owls and marbled murrelets.
2). Proposed salvage units within LSR allocation of the Luckiamute Watershed fall within a spotted owl RPA (Reserve Pair Area).
3). Trees selected to meet restoration needs
4). Area deferred due to adverse cost/benefit ratio (road construction vs benefit of salvage harvest)

Table 2 describes the percentage of BLM managed land within the 5th field watersheds proposed for FY 2007 along with Watershed Analyses with completion dates, and Special Designations.

Table 2: Current project area watershed analysis, special designation and % of BLM managed land

5th Field Watershed	Watershed Analysis	Special Designations	% of Land Managed by BLM
Upper Siletz 12/1996	Upper Siletz 12/1996	*North Fork Siletz = Tier 1 Key*	27%
Luckiamute River	Rowell Cr./Mill Cr./Rickreall Cr./Luckiamute River 9/1998	NA	4%
Upper Yaquina River	Midcoast Sixthfield Watershed Assessment 7/2001/	NA	1%
Upper Alsea River	South Fork Alsea 10/1995 North Fork Alsea 7/1996	NA	51%
Marys River 4/1999	Benton Foothills 9/1997	NA	3%
Salt Creek-South Yamhill River	Salt Creek Watershed Assessment 2001	NA	0%

1.3 Conformance with Land Use Plans, Policies, and Programs

The FY 2007/2008 Programmatic Timber Salvage project has 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/ RMP (*Salem District Record of Decision and Resource Management Plan*, May 1995); 2/ NWFP (the Northwest Forest Plan or *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); 3/ (2001 ROD), (*Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (January, 2001).

The analysis in the FY 2007/2008 Programmatic Timber Salvage EA is site-specific and supplements analyses found in the RMP/FEIS (*Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994). The RMP/FEIS includes the analysis from the NWFP/FSEIS (*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). The RMP/FEIS is amended by the *Final Supplemental Environmental Impact Statement For Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (S&M FSEIS) November 2000.

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.

The following documents provided additional direction in the development of the FY 2007/2008 Programmatic Timber Salvage project: 1/ NCAMA LSRA (*Late Successional Reserve Assessment for Oregon's Northern Coast Range Adaptive Management Area*, USDA Forest Service, USDI BLM 1998); 2/ LSRA (*Late Successional Reserve Assessment Oregon Coast Province – Southern Portion*, USDA Forest Service, USDI BLM 1997).

These documents are available for review in the Salem District Office. Additional information about the proposed project is available in the Fiscal Year 2007/2008 Programmatic Timber Salvage Project EA Analysis File (NEPA file), also available at the Salem District Office.

Survey and Manage Review

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

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

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

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

We do not expect that the litigation over the ASR process in Klamath-Siskiyou Wildlands Center et al. v. Boody et al will affect the FY 2007/2008 Programmatic Timber Salvage project because the

development and design of the project areas comply with the Northwest Forest Plan prior to the ASR process. The project area would be surveyed for federal and Oregon state Threatened, Endangered and bureau special status and survey and manage (if applicable) wildlife, botanical and fungal species, as directed by the current management policy(s) prior to implementation. All known sites would be protected as required.

Therefore, based on the preceding information regarding the status of surveys for Survey & Manage wildlife and botany species and the results of those surveys, it is my determination that the 2007/2008 Programmatic Timber Salvage project complies with the provisions of the 2001 ROD, as amended or modified as of March 21, 2004. For the foregoing reasons, this decision is in compliance with the 2001 ROD as stated in Point (3) on page 14 of the January 9, 2006, Court order.

Compliance with the Aquatic Conservation Strategy

On March 30, 2007, the District Court, Western District of Washington, ruled adverse to the USFWS (US Fish and Wildlife Service), NOAA-Fisheries (National Oceanic and Atmospheric Administration) and USFS and BLM (Agencies) in *Pacific Coast Fed. of Fishermen's Assn. et al v. Natl. Marine Fisheries Service, et al and American Forest Resource Council,* Civ. No. 04-1299RSM (W.D. Wash)((PCFFA IV). Based on violations of ESA (the Endangered Species Act) and NEPA (the National Environmental Policy Act), the Court set aside:

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

Previously, in *Pacific Coast Fed. Of Fishermen's Assn. v. Natl. Marine Fisheries Service,* 265 F.3d 1028 (9th Cir. 2001)(PCFFA II), the United States Court of Appeals for the Ninth Circuit ruled that because the evaluation of a project's consistency with the long-term, watershed level ACS objectives could overlook short-term, site-scale effects that could have serious consequences to a listed species, these short-term, site-scale effects must be considered. The following discussion shows how the FY 2007/2008 Programmatic Salvage project meets the Aquatic Conservation Strategy in the context of PCFFA IV and PCFFA II.

Existing Watershed Conditions

Within the Marys Peak RA the BLM manages approximately 128,457 acres, the U.S. Forest Service manages 192,019 acres and other landowners manage 1,236,640 acres. Table 3 describes the amount of forest greater than 80 years old and the amount of riparian area within 100 feet of streams on BLM managed lands in the RA. Forest conditions have been generally influenced by such activities as timber harvest, wildfire, and road building within the watersheds. The 2007/2008 Programmatic Timber Salvage Project area is located where tributaries flow towards both the coast and the Willamette Valley.

Table 3: Total acres of BLM managed land, % of BLM managed lands with stands greater than 80 years old and % of BLM lands within 100 feet of streams

5th-field Watershed	Total BLM managed lands (acres)	% of BLM managed lands with forest greater than 80 years old	% of BLM managed lands within 100 feet of a stream
Beaver Creek-Waldport Bay	327	39	23
Big Elk Creek	2,686	44	25
Deadwood Creek	200	21	26
Devils Lake-Moolack Frontal	128	7	11
Drift Creek	1,240	81	15
Five Rivers-Lobster Creek	15,291	33	28
Lake Creek	304	3	4
Long Tom River	11	7	1
Lower Alsea River	12,903	50	25
Lower Siletz River	2,800	44	23
Lower Yaquina River	40	0	19
Luckiamute River	8,263	35	22
Marys River	6,597	12	22
Middle Siletz River	18	100	15
Mill Creek-South Yamhill River	12,274	15	29
Rickreall Creek	3,093	8	29
Rock Creek-Siletz River	1,445	29	30
Salmon River-Siletz River	2,979	32	18
Salt Creek-South Yamhill River	96	27	6
Upper Alsea River	41,408	37	26
Upper Siletz River	12,168	18	28
Upper South Yamhill River	3,454	13	19
Upper Yaquina River	459	39	17
Yachats River	273	0	36

Review of Aquatic Conservation Strategy Compliance:

I have reviewed this analysis and have determined that the project complies with the ACS on the project (site) scale.

The project would comply with:

Component 1 – Riparian Reserves: Maintaining canopy cover along all streams and the wetlands would protect stream bank stability and water temperature. Riparian Reserve boundaries would be established consistent with direction from the *Salem District Resource Management Plan.*

Component 2 – Key Watershed: The 2007/2008 Programmatic Timber Salvage project area contains the following key watersheds: North Fork Siletz River/Warnicke Creek, Drift Creek-Siletz River, Drift Creek Alsea River, Tobe Creek and Upper Lobster Creek. Currently, only Tobe Creek Key Watershed would be affected (removal of individual trees within the road prism) by the proposed action.

Component 3 –Watershed Analysis: Watershed analysis was completed for all affected watersheds within the project area. Findings from the watershed analyses were incorporating into this EA (pgs. 37, 39 and 50).

Component 4 – Watershed Restoration: Reducing the amount of blow down timber in the project area, treating the residual fuels, planting seedlings and utilizing a portion of the blow down trees for in-stream structures would result in long-term restoration of coniferous forest and aquatic habitat.

In addition, I have reviewed this project against the ACS objectives at the project or site scale with the following results: The no action alternative does not retard or prevent the attainment of any of the nine ACS objectives because this alternative would maintain current conditions. The proposed action does not retard or prevent the attainment of any of the nine ACS objectives.

Table 4: Project's Consistency with the Nine Aquatic Conservation Strategy Objectives

Aquatic Conservation Strategy Objectives (ACSOs)	Project 1 - Alternative 2 (EA section 3.2)
1. Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features.	**Does not prevent the attainment of ACSO 1**. Treatments would likely reduce the potential for bark beetles to kill live green trees, thus protecting the remaining stands diversity and complexity locally. The small scale of the proposed project would have no effects on distribution, diversity, and complexity at a watershed scale. Treatments adjoining roads would protect remaining stands from fire risk and protection to surrounding stands from catastrophic impacts thus protecting the distribution, diversity, and complexity.
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 increasing the availability and proximity of functioning riparian habitat.
3. Maintain and restore the physical	**Does not prevent the attainment of ACSO 3**. Stream

Aquatic Conservation Strategy Objectives (ACSOs)	Project 1 - Alternative 2 (EA section 3.2)
integrity of the aquatic system, including shorelines, banks, and bottom configurations.	protection zones adjacent to all surface water would maintain the physical integrity of the aquatic system.
4. Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems.	**Does not prevent the attainment of ACSO 4**. No measurable effects to water quality would be anticipated from the proposed action. Stream buffers of at least 50 feet would eliminate disturbance of streamside vegetation; no trees would be cut/removed from the stream bank or where roots are stabilizing the stream bank.
5. Maintain and restore the sediment regime under which aquatic ecosystems evolved.	**Does not prevent the attainment of ACSO 5**. The proposed project is designed to minimize the risk of a mass soil movement event (slump/landslide). Stream protection zones and project design features would minimize any potential sediment from harvest, burning, and road-related activities from reaching water bodies.
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 proposed alternative would not measurably alter in-stream flows. The proposed timber harvest would affect only 0.014% of the forest cover in the Marys Peak RA watersheds – well below the 20% threshold for measurable effects. Removal of downed trees would not affect flows.
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**. Project design features, such as stream protection zones, coupled with the small percent of vegetation proposed to be removed, would maintain groundwater levels and floodplain inundation rates.
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**. Vegetation management within the Riparian Reserve would help restore structural diversity. Treatments would also reduce beetle kill and fire hazard thus protecting species composition and diversity from radical changes.
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.** The SPZ maintains populations of riparian dependent species. Retaining diverse CWD features in the RR, consistent with design features, should maintain habitats disturbed from blow down events while at the same time reducing beetle mortality and fire hazards in the remaining stands thus protecting the habitat of native plants, invertebrates, and vertebrate riparian dependent species.

1.4 Purpose of and Need for Action

On December 14, 2006, a severe storm brought unusually heavy rains and strong winds to the Oregon Coast Range and the Willamette Valley, causing trees to blow down in various locations within the RA. Several areas received severe damage as the majority of the trees within the stands were blown down. These areas were typically located either adjacent to recent harvest (clearcut) activities on industrial forest lands or within recent commercial thinning activities on BLM managed lands.

These freshly killed snags and down logs provide a pulse of CWD (coarse woody debris) which is a necessary and natural component of forest ecosystems (NWFP page B-8). All BLM land use allocations provide some direction for maintaining late-successional forests and biological diversity (RMP page 5), and providing for natural processes such as blow down events is an important part of managing our forest ecosystems to meet these objectives. But, excessive amounts of freshly killed trees may present a heightened risk for subsequent bark beetle tree mortality in the surrounding forest stands, and may increase the risk of wildfire severity.

Douglas-fir bark beetles are attracted to freshly killed Douglas-fir trees over approximately 8 - 12 inches in diameter (they are particularly attracted to larger diameter trees). It has been observed that forest disturbances that produce large numbers of dead trees can cause a population build-up in bark beetle populations and result in infestation of adjacent healthy trees. If all blown down trees were to remain in a portion of the proposed project areas, there is a heightened risk that such infestations could occur, which could result in killing many of the reserved trees as well as green trees outside the proposed treatment areas. It is difficult to predict the full extent of subsequent bark beetle damage with any degree of certainty; however, removal of a portion of the blow down trees would reduce the risk.

The risk of a fire start and the rate of its spread would be highest during the first 1 to 2 years following the blow down incident, and would return to pre-blow down risk levels within 5 to 10 years. The resistance to control, determined by the amount and size of fuels would remain substantially higher than normal for 15 to 25 years. A high loading of surface fuels would increase the likelihood of fire spreading upward into the canopy and into snags further increasing the difficulty of controlling a wildfire and the likelihood of tree mortality. Consequently, desired structural characteristics such as snags and multi-layered canopies would be at a greater risk of loss.

<u>LSR, RR and AMA LUA</u>

The purpose for the proposed salvage activities within LSR, RR and AMA (Northern Coast Adaptive Management Area) stands is to attain Aquatic Conservation Strategy objectives, remove salvage trees only when watershed analysis determines that present and future woody debris needs are met, maintain and develop late-successional forest conditions and (RMP 11, 15): By

- reduce the risk of beetle kill which might degrade or destroy adjacent forest stands,
- reduce the risk of fire killing the remaining live trees or adjacent stands by reducing high surface fuel loadings in areas adjacent to roads open to the public.

An additional purpose for the proposed salvage activities within the LSR and RR and AMA stands is to "restore the distribution, diversity, and complexity of watershed and landscape features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted" (RMP pp. 5-6). When adequate funding and the ability to implement the placement of wood in streams is available, there is a need to redistribute excess CWD from project blow down areas to areas known to be CWD limited, and occupied by fish.

Oregon white oak/woodland and meadow habitat

Oregon white oak, woodland and meadow habitat have decreased in the Coast Range Foothills of Oregon. Conifer succession due to fire exclusion and other factors has greatly reduced these habitat types from the past, as evidenced by historical records and current stand conditions. The purpose for the proposed salvage within Oregon white oak, woodland and meadow habitat is to restore habitat on areas formerly characterized by very low conifer density. The removal of conifer blow down trees is needed to restore the habitat and to manage understory vegetation and fuels to meet habitat objectives.

Matrix LUA

The purpose and need for Matrix is the same as LSR, RR and AMA with the additional need to produce a sustainable supply of timber.

All LUAs

The removal of blow down trees within all LUAs would also provide the following needs:

- Remove blow down trees that are blocking road access or have fallen onto other landowners.
- Reduce the potential for illegal removal of blow down trees.

1.5 Decision to be made

1.5.1 Decision Criteria/Project Objectives

The Marys Peak Resource Area Field Manager will use the following criteria/objectives in selecting the alternative to be implemented. The field manager would select the alternative that would best meet these criteria. The selected action would:

- Meet the purpose and need of the project (EA section 1.4)
- Comply with 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 the Salem District (EA section 1.3)
- Would not have significant impact on the affected elements of the environment beyond those already anticipated and addressed in the RMP EIS.
- Salvage down trees in a timely manner.
- Reduce fuel hazard and risk.
- Reduce the potential for bark beetle infestations.
- Ensure adequate amounts of snags and down wood for habitat diversity.
- Minimize erosion and impacts to soil productivity.
- Not contribute to the expansion of invasive/nonnative weed populations.
- Provide in-stream structures to meet aquatic habitat restoration needs.

1.6 Results of Scoping

A scoping letter, dated June 7, 2007, was sent to 16 potentially affected and/or interested individuals, groups, and agencies. Two responses were received during the scoping period.

Oregon Wild

Oregon Wild requested that impacts to soil, water and vegetation caused by harvesting and hauling be analyzed. They also urged the BLM to develop an alternative that would use all (or most) of the wood for restoration purposes.

They requested and/or supplied the following information:

- How much commercial product is proposed for removal and what size is proposed for removal versus would be left on the site after harvest operations?
- How many trees are proposed to be left for down wood?
- They urged the use of some of the trees for in-stream restoration purposes.

American Forest Resources Council

The American Forest Resources Council requested for the salvage of timber to be completed in a timely manner, for appropriate harvesting systems to be used and the BLM should remove all dead trees and trees likely to die utilizing patch cuts or regeneration harvest methods.

Bureau of Land Management responses are included in EA Section 7.0.

2.0 ALTERNATIVE DEVELOPMENT

Pursuant to Section 102 (2) (E) of the National Environmental Policy Act of 1969, as amended (NEPA), 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." No unresolved conflicts were identified. Therefore, this EA will analyze the effects of the Alternative 1 (No Action) and Alternative 2 (Proposed Action).

2.1 Alternative 1 (No Action)

The BLM would not implement the proposed action at this time. Under this alternative, the existing blow down trees and snags would be left in place, and natural processes would proceed without intervention of any management action, except as needed to clear road right-of-ways to permit access. This alternative serves to set the environmental baseline for comparing effects to the action alternative.

2.2 Alternative 2 (Proposed Action)

This project consists of salvaging timber on approximately 90 acres per year (up to 180 acres) within LSR, RR, Matrix and AMA LUAs and would predominately occur through timber sales. The intent is to remove a portion of the blow down and damaged trees to reduce fire hazard and risk as well as the potential for bark beetle infestations. The proposed action would also provide access to the public and permittees for administrative purposes, while reducing the potential removal of wood fiber due to

firewood and/or timber theft. Enhancement of terrestrial and aquatic habitat would occur as a portion of the blow down and/or damaged timber would remain on site following harvest operations. Trees would be skyline yarded on approximately 45 acres and ground based yarded on approximately 45 acres. Ground based yarding would occur on slopes less than 35% and skyline yarding would occur generally on slopes ranging from 35% to 70%. Approximately 90% of the trees to be removed would range in sizes from 10" to 16" DBHOB. Timber sales would be offered beginning in fiscal year 2007.

2.2.1 Connected Actions

1. **Road Work**: No new road would be constructed. Road renovation (bushing, blading, spot rock application etc.) could occur if needed.

2. **Fuel Treatments**: Fuel treatment strategies would be implemented on portions (group blow down area) of the project areas. Strategies would include a reduction of the amount and continuity of surface fuels in order to reduce both the intensity and severity of potential wildfires. Fuel reduction may be accomplished for light concentrations by lopping and scattering and for heavier concentrations by machine and/or hand piling, covering and burning. Mechanical chipping is also an option for limited areas with good access to the fuels. In order to mitigate fire risk, the areas would be monitored for the need to close or restrict 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 areas would be posted and closed to all off road motor vehicle use.

3. **Coarse Woody Debris Management:** Management of CWD within RR, LSR and AMA LUA within the Northern Coast Range Adaptive Management Area would be achieved by adhering to the following general design features:

- ✓ No trees over 80 years old would be removed from the LSR except for that portion within the road prism.
- ✓ Within blow down group areas that are adjacent to existing roads in high human use areas or in areas which could provide structures for restoring the distribution, diversity, and complexity of watershed and landscape features (fish logs), blow down trees within 50 feet of road edges would not be left on site. A portion of the blow down trees located between 50 and 200 feet from road edges would be left on site following harvest operations. Trees beyond 200 feet from road edges would be left on site. A gradual transition in the amount of retained blow down trees would occur, with smaller amounts being left closer to road edges and larger amounts being retained farther from road edges.
- ✓ Within blow down group areas which are not adjacent to roads in high human use areas, the portion of the tree outside the road prism would remain on site, unless they pose a safety or maintenance hazard or are at high risk for theft.
- ✓ Within individual tree blow down areas that are adjacent to existing roads, the portion of the tree outside the road prism would remain on site unless they pose a safety or maintenance hazard or are at high risk for theft.
- ✓ In addition to existing CWD levels (prior to the December 14, 2006 storm event), a total of 6 to 16 trees per acre would be retained in LSR blow down group areas to meet the intent for

providing high levels of CWD as recommended by the LSRA (USDA-FS and USDI-BLM 1998, page 99).

- ✓ Trees to be left on site for CWD would be approximately the stand average diameter or larger.

Management of CWD within Matrix LUA and outside the North Coast Range Adaptive Management Area would be achieved by adhering to the following general design features:

- ✓ Within blow down group areas, at least 2 trees per acre would remain on site as CWD. Trees to be utilized for CWD would be approximately the stand average diameter or larger.
- ✓ Within individual tree blow down areas, approximately 10% of the total portion of blow down tree would remain on site. This 10% CWD material could consist of blow down trees within the project area which are not harvested and/or portion of trees left on site (due to damage and breakage) after harvest operations.

2.2.2 Project Design Features

The following is a summary of the design features that reduce the risk to the affected elements of the environment described in EA section 3.2.

General

All logging activities would utilize the BMPs (Best Management Practices) 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 5: Season of Operation/Operating Conditions

Season of Operation or Operating Conditions	Applies to Operation	Objective
During periods of low tree sap flow, generally July 15-April 15	Yarding outside of road right of ways (cable)	Protecting the bark and cambium of residual trees
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, (dry season) generally May 1-October 31	Timber Hauling: All routes where wet season hauling could result in 'May Affect' to ESA listed fish, or result in adverse affects to EFH, would be restricted to the dry season.	Minimize soil erosion/stream sedimentation
Time period beginning two hours after sunrise and ending two hours before sunset (April 1 through September 15)	Operation of power equipment if within 0.25 mile of occupied or un-surveyed suitable marbled murrelet habitat.	Minimize noise disturbance (marbled murrelet)

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, hydraulic loaders or harvester/forwarders would take place generally on slopes less than 35%.
- Hydraulic loader use would require utilization of pre-designated skid trails spaced at least 40 feet apart where they intersect boundaries and utilize existing skid trails as much as practical. Use of skid trails should be limited to one pass in and one pass out. Logging debris would be placed in skid trails in front of equipment to minimize the need for machines to drive 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. Skid trails would be spaced approximately 60 feet apart and be less than 15 feet in width. Logging debris would be placed in skid trails in front of equipment to minimize the need for machines to drive on bare soil.
- Crawler tractor use would require utilization of pre-designated skid trails spaced approximately 150 feet apart where they intersect boundaries and utilize existing skid trails as much as practical.
- Waterbars would be constructed where they are determined to be necessary by the contract administrator.
- In skyline yarding areas, 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 a maximum of 15 feet wide. Lateral yarding up to 75 feet from the skyline using an energized locking carriage would be required.
- In areas where mineral soil is exposed (skid trails and landings) and considered to be at risk for the establishment of non-native species would be sown with Oregon Certified (blue tagged) red fescue (*Festuca rubra*), and/or sown with a wildlife vegetation mix and applied at a rate equal to 40 pounds per acre or sown/planted with other native species as approved by the resource area botanist.
- All skid trails would be blocked after harvest operations are completed.
- During periods of high rainfall, the contract administrator may restrict log hauling to minimize water quality impacts, and/ or require the Purchaser to install silt fences, barkbags or apply additional road surface rock.

To protect and enhance fisheries habitat components (EFH and ESA designated Critical Habitat):

All salvage activities, with the intent to sell timber, shall be limited such that no effects to ESA listed fish or designated Critical Habitat and no adverse effects to EFH would occur. In order to meet these conditions the following design criteria shall be incorporated:

The following project design features pertain to Matrix, LSR and AMA LUA within the North Coast Range Adaptive Management Area:

- The logs to be removed would consist of trees within the Matrix, LSR, and AMA LUA when the following applies:
  - ✓ Adequate amount of CWD currently exist as determined by RA Wildlife Biologist,
  - ✓ All treatments areas would be limited to Low and Medium landslide risk grounds as documented in Watershed Analysis or are considered highly unlikely to increase slide risk through site specific clearance by a Hydrologist or Soils Scientist.
  - ✓ In high risk landslide areas a portion of the tree may be removed where it is determined there is a high probability of theft, a high level of risk from fire, or when retaining the trees is otherwise determined to be unsafe and/or unfeasible to leave.

The following project design features pertain to Riparian Reserve LUA:

- Unless fisheries personnel determine that LWD [large woody debris (greater than 24" diameter breast height outside bark)] for RR and streams channels in the proposed project area are met (as defined by Watershed Analysis and NWFP Standards and Guidelines) LWD located within Riparian Reserves and outside the road prism would remain on site.
- Allow salvage within RR only on grounds rated as low risk of landslide as documented in Watershed Analysis or by site specific clearance by a Hydrologist or Soils Scientist.
- A Stream Protection Zone (where no cutting or yarding is permitted) would be established for all channels with a distance of at least 50 feet or to slope break, which ever is greater. Except for within the road prism, no activities would be allowed within the SPZ.
- Any whole tree which fell into the SPZ would be retained if tree diameter at SPZ location is 6 inches diameter outside bark or greater. Trees which fell into the SPZ and are less than 6 inches diameter outside bark at SPZ location would be bucked at the SPZ location and removed. The top would be retained within the SPZ.
- For trees within the RR, tree tops would be bucked at 6 inches or greater and all tops would be left on site for CWD (lop and scatter may be necessary to reduce fuel hazards).
- Where it is safe and feasible, downed trees and portions of downed trees within the road prism that are greater than 8 inches diameter at the largest end and not removed for sale would be moved or placed off to the stream side of the road or used for in-stream restoration projects.
- Where it is safe and feasible, take actions to deter theft of LWD in Riparian Reserves such as moving tree portions away from immediate road prism area in a manner that would make the large woody material less visible and accessible.
- Operate heavy equipment in a manner that minimizes sedimentation to streams in order to avoid effects to listed fish.
- Allow rock surface roads as haul routes with stream crossings at least 1000 feet upslope from listed fish habitat and no portion of the road closer than 500 feet from listed fish habitat at any point. No distance limitations apply for paved haul routes. Additional consultation would need to occur if disturbance limitation cannot be met.
- Seasonally restrict use of rock surfaced haul routes within ½ mile of listed fish habitat, to the dry season (generally May 15 through October 15). No seasonal restrictions apply for paved haul routes.

- Harvest operations that do not fall within these design criteria but appear to have mitigating circumstances that would result in actions that would not affect ESA or EFH would be individually reviewed and approved by the fisheries specialist.
- Salvage activities which do not meet the project design features outlined above, or may result in disturbance to stream channels, would need to be assessed for effects to listed species. Activities found to be a "May Affect" would need to be consulted on with NOAA NMFS.

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

- To protect water quality, the portion of the tree within the SPZ would remain in place (except for where a blow down tree is located within the road prism).
- Stream protection zones (where no cutting or yarding is permitted) would be established for all streams and identified wet areas with a distance of at least 50 feet or to slope break, which ever is greater. They would average approximately 60 to 75 feet (range is 50 to 100 feet).

To protect and enhance stand diversity and wildlife habitat components:

- Conifer species such as western hemlock, noble fir, and western redcedar would be planted in areas large enough to support a conifer understory. These areas would be planted utilizing variable spacing resulting in a low to moderate number of planted trees per acre.
- All existing snags and a portion of the blow down trees would be reserved, except where they pose a safety risk or affect access and operability. Any snags felled or moved for these purposes would remain on site within the project area.

To reduce fire hazard risk and protect air quality:

- Light accumulations of debris along roads that would remain in drivable condition following the completion of the project would be scattered along the length of rights-of-way.
- Large accumulations of debris on landings and along existing roads that would remain in drivable condition would be machine piled. Within thirty (30) feet of the edge of each landing and road, all logs, tops, and debris would be decked or windrowed as directed by the Authorized Officer (except for logs sold and removed from the project area).
- During the late summer before the onset of fall rains, all machine and hand piles to be burned, would be covered at least 80% with 4 mil polyethylene plastic.
- All burning would occur under favorable smoke dispersal conditions in the fall, in compliance with the State Smoke Management Plan (RMP pp. 22, 65).

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

- Management of existing known sites of Survey and Manage Species as well as those found as a result of additional inventories would be accomplished in accordance with the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines*, January, 2001),
- All project areas would be evaluated for federal and Oregon state Threatened and Endangered and bureau special status and survey and manage species prior to implementation.
- Within the North Coast AMA (CHU OR-45), all proposed salvage areas would occur beyond 1.0 mile from any active spotted owl site within RPA. (Reinitiating of consultation would be required for activities occurring within 1.0 mile of active spotted owl sites within RPAs).

- Salvage harvest operations that would occur within 100 meters of un-surveyed marbled murrelet habitat between April 1 and September 15 would be restricted to occur during the period from two hours after sunrise to two hours before sunset.
- 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 protect Cultural Resources:
The project area occurs in the Coast Range. Survey techniques are based on those described in Appendix D of the *Protocol for Managing Cultural Resource on Lands Administered by the Bureau of Land Management in Oregon*. Post-project survey would be conducted according to standards based on slope defined in the Protocol appendix. Ground disturbing work would be suspended if cultural material is discovered during project work until an archaeologist can assess the significance of the discovery.

2.3 Alternatives Considered but not Analyzed in Detail

Inclusion of additional salvage areas and road construction

An alternative that would require road construction to access a salvage area (Savorski Salvage) was considered. The cost/benefit ratio of road construction within LSR LUA compared to the relatively small benefit of reducing the fire hazard created by blow down trees in conjunction with a low fire risk was determined to be unfavorable. Subsequently, this alternative was not analyzed.

Use of the majority of blow down trees for restoration purposes

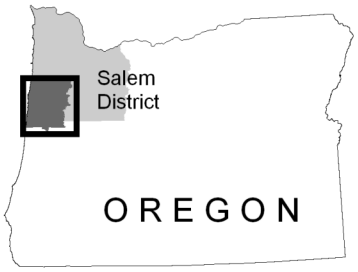
An alternative to use the majority of blow down trees for restoration purposes was considered. Currently, the lack of funding and inability to immediately implement the removal of the majority of blow down trees for restoration purposes (thereby reducing the fire risk and hazard) exists, thus preventing the ability to utilize the majority of blow down trees for restoration purposes.

However, where the removal of blow down trees for restoration purposes can be accomplished, this action would be implemented within a reasonable time period.

Table 6: Comparison of Alternatives with Regard to Purpose and Need

Purpose and Need (EA section 1.2)	Alternative 1 (No Action)	Alternative 2 (Proposed Action)
Within LSR, RR and AMA stands within the Northern Coast Adaptive Management Area where the majority of trees blew down: reduce the risk of beetle kill which might degrade or destroy adjacent forest stands and the risk of fire killing the remaining live trees or adjacent stands by reducing high surface fuel loadings in areas adjacent to roads open to the public. An additional need for the proposed salvage activities within the LSR and RR and AMA stands is to redistribute excess CWD from project blow down areas to areas known to be CWD limited, and occupied by fish.	Does not meet this purpose and need. If an infestation occurred, it could result in the death of numerous adjacent live trees. This could result in the delay of late successional forest by reducing future large tree, down wood and snag development. Fuel loadings would not be reduced, thus fuel hazard would increase substantially. If a fire did start, its potential spread could be catastrophic, resulting in potential crown fire and a high death rate of vegetation. Concentrations of blow down are localized near headwaters on non-fish bearing streams. The 'no action' would retain on site all CWD materials. The 'no action' would maintain CWD levels below desirable conditions on nearby fish bearing streams, and remain recruitment limited for sometime in the future.	Meets. Removal of some of the blow down trees would meet the need to reduce the risk of infestations that could result in the death of many green trees within and adjacent to the proposed project areas. The reduction of fuel loadings would reduce fire intensities if a fire did start and would reduce the death of adjacent live trees and vegetation. Redistributing excess CWD from project blow down areas to areas known to be CWD limited, and occupied by fish, would restore distribution and complexity patterns at greater rates over the 'no action'.
The proposed salvage within Oregon white oak, woodland and meadow habitat would restore habitat on areas formerly characterized by very low conifer density. The removal of conifer blow down trees is needed to restore the habitat and to manage understory vegetation and fuels to meet habitat objectives.	Does not meet this purpose and need. Maintaining the blow down of conifer trees would prevent future site preparation (piling/burning) needed to restore oak/woodland/meadow habitat.	Meets. The removal of conifer blow down trees would provide the necessary site preparation needed to restore oak/meadow habitat. The removal of conifer blow down trees would more closely resemble historic habitat.
Within the Matrix LUA, produce a sustainable supply of timber, maintain a healthy forest ecosystem with habitat to support plant and animal populations and protect riparian reserves and water resources.	Does not meet purpose and need. Would not supply timber for market. The project areas where the majority of standing trees blew down would likely develop more slowly than if a portion of the blow down trees were removed.	Meets. Would offer approximately 90 acres annually (up to 180 acres) of timber for sale. Minor species in the stands would be maintained on site. It would meet the immediate need for the continued development of late successional forest conditions by reserving existing snags and CWD. The proposed action would unlikely alter the current condition of aquatic systems either by affecting their physical integrity, water quality, sediment regime or in-stream flows.
The removal of blow down trees within all LUAs would provide access to permittees and the public; reduce the likelihood of theft.	Does not meet purpose and need of reducing timber theft as without removal of blow down trees from the project areas, potential theft would continue.	Meets. Reduces the potential for timber theft by removing trees within road prisms blocking roads. The removal of blow down trees within all LUAs would also provide access to permittees and the public.

Location Maps



United States Department of the Interior
BUREAU OF LAND MANAGEMENT

FY 2007 PROGRAMMATIC SALVAGE
OVERVIEW OF PROJECT AREAS

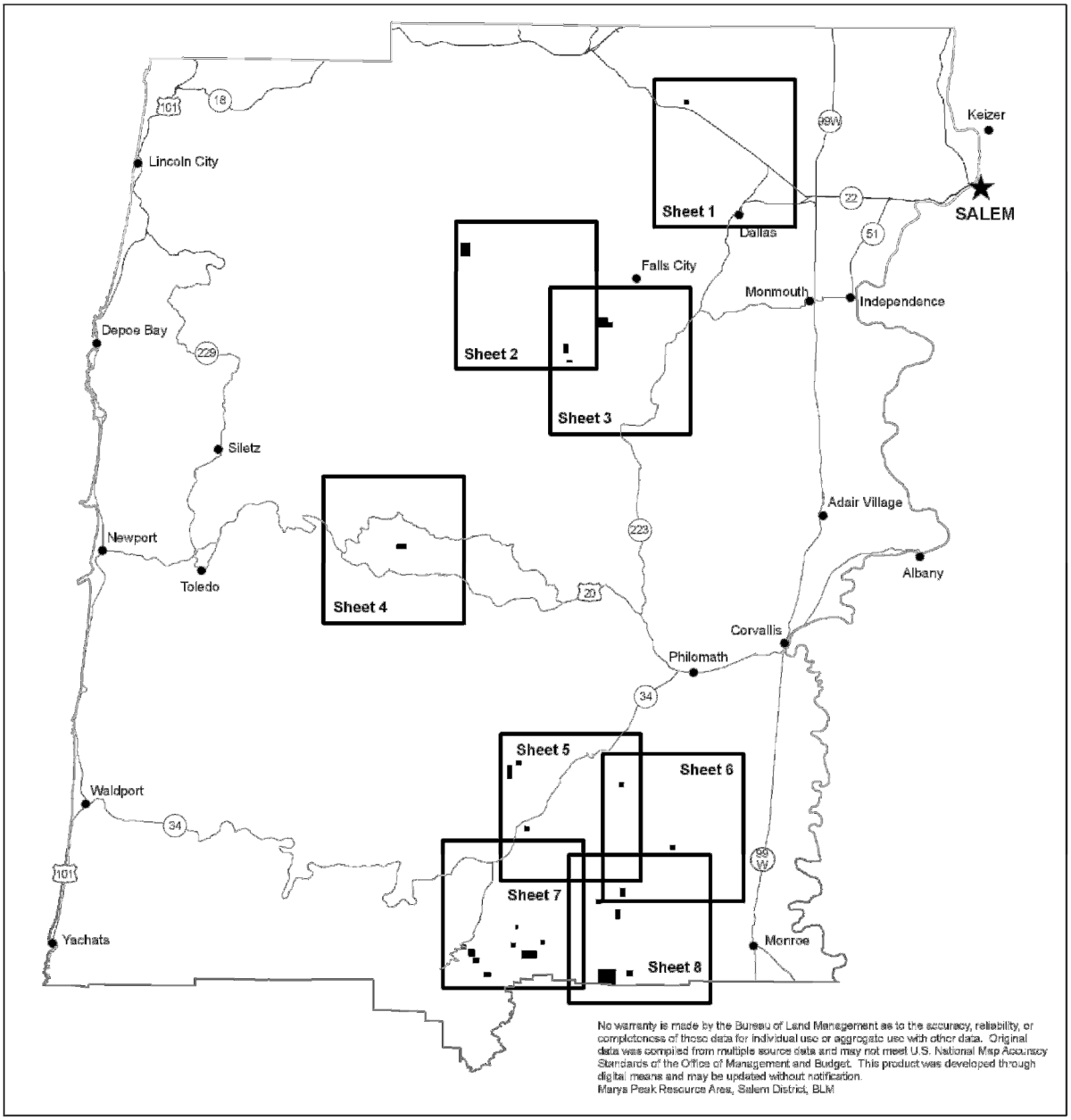
SALEM DISTRICT - OREGON

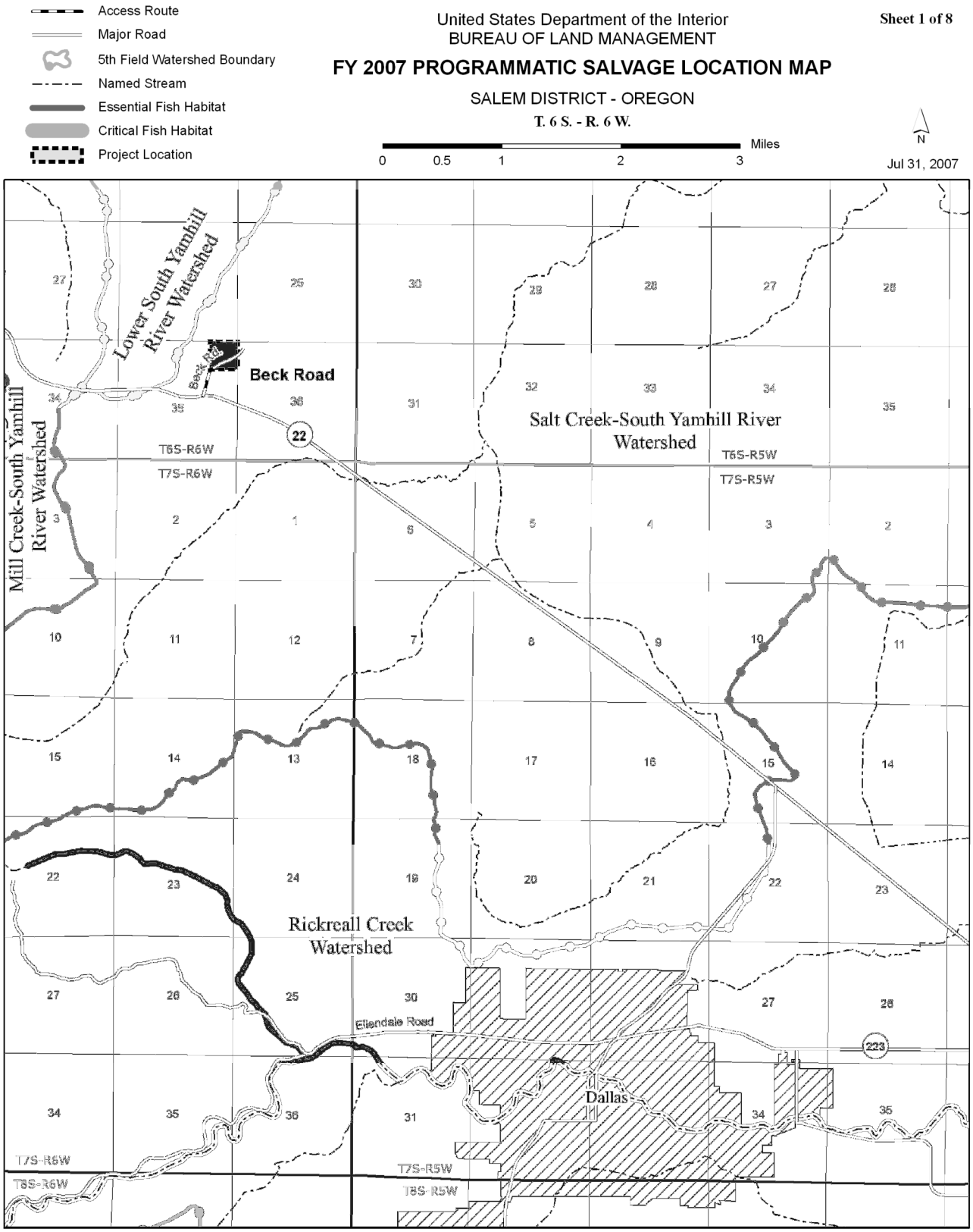
Project Locations

July 30, 2007

N

0 2.5 5 10 15 20 Miles





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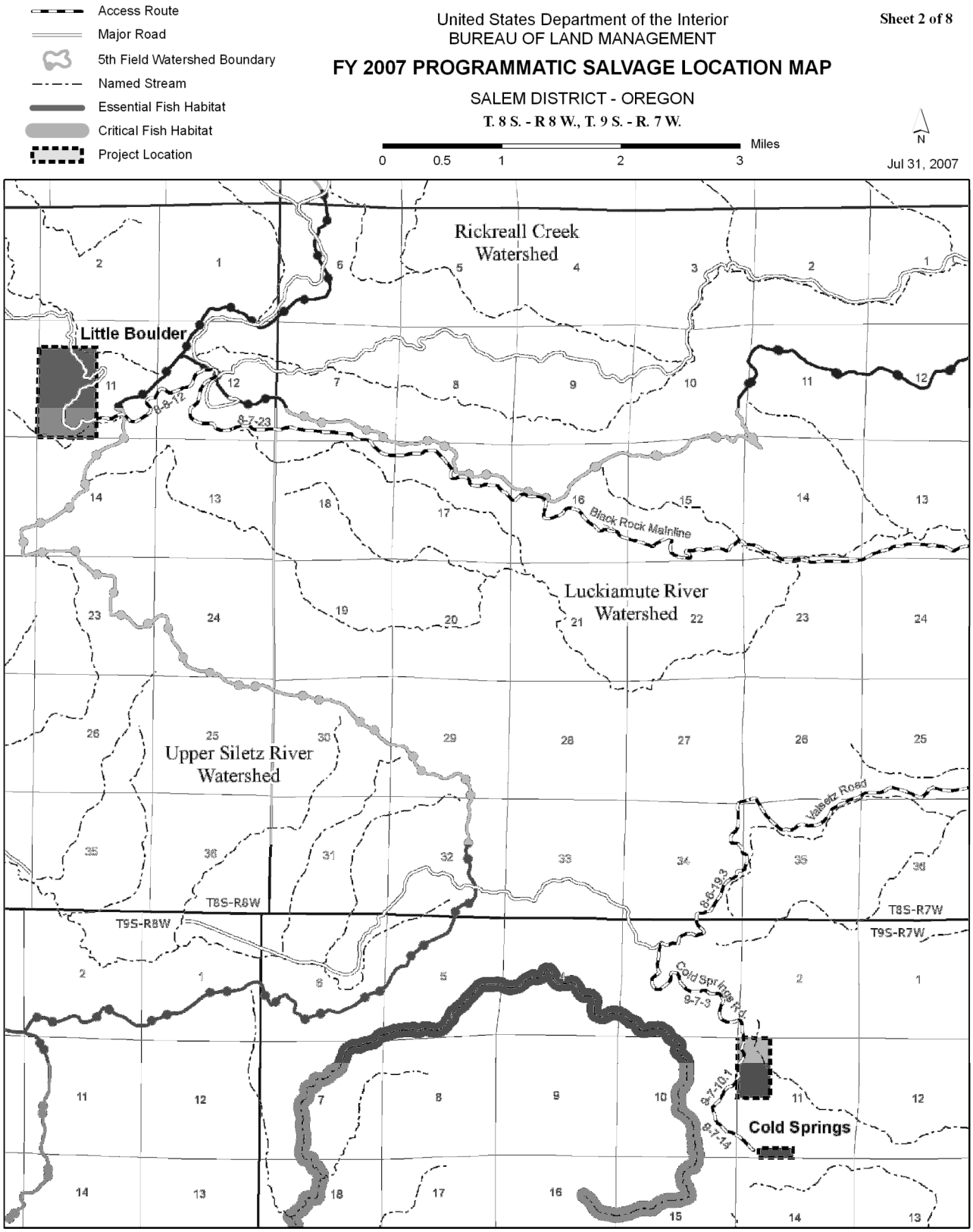

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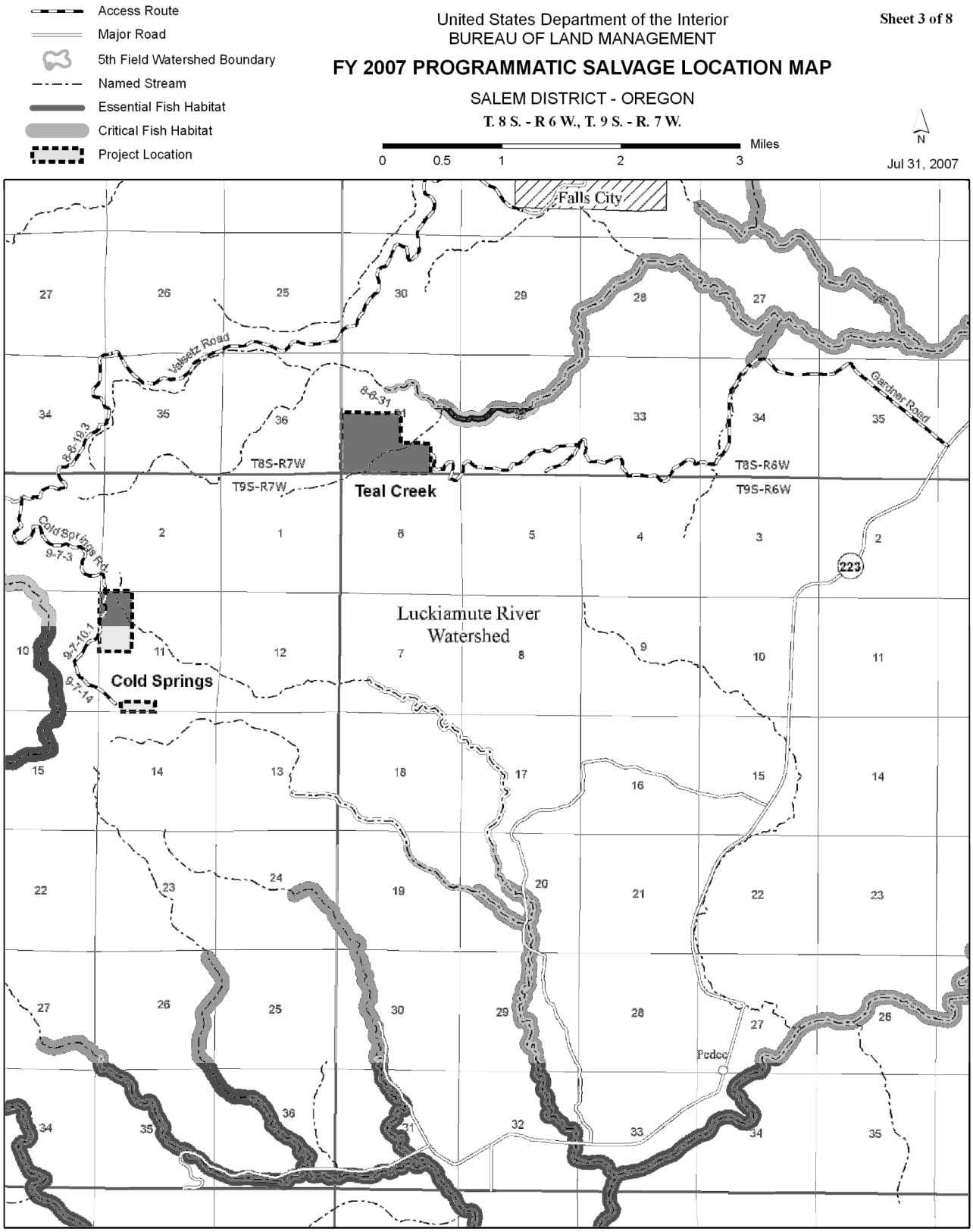
Access Route
Major Road
5th Field Watershed Boundary
Named Stream
Essential Fish Habitat
Critical Fish Habitat
Project Location
United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Sheet 3 of 8
FY 2007 PROGRAMMATIC SALVAGE LOCATION MAP
SALEM DISTRICT - OREGON
T. 8 S. - R 6 W., T. 9 S. - R. 7 W.
Miles
0 0.5 1 2 3
N
Jul 31, 2007
Falls City
Valsetz Road
Gardner Road
8-6-31
8-6-19.3
T8S-R7W
T9S-R7W
T8S-R6W
T9S-R6W
Teal Creek
Cold Springs Rd
9-7-3
9-7-10.1
9-7-14
Cold Springs
Luckiamute River
Watershed
223
Pedee
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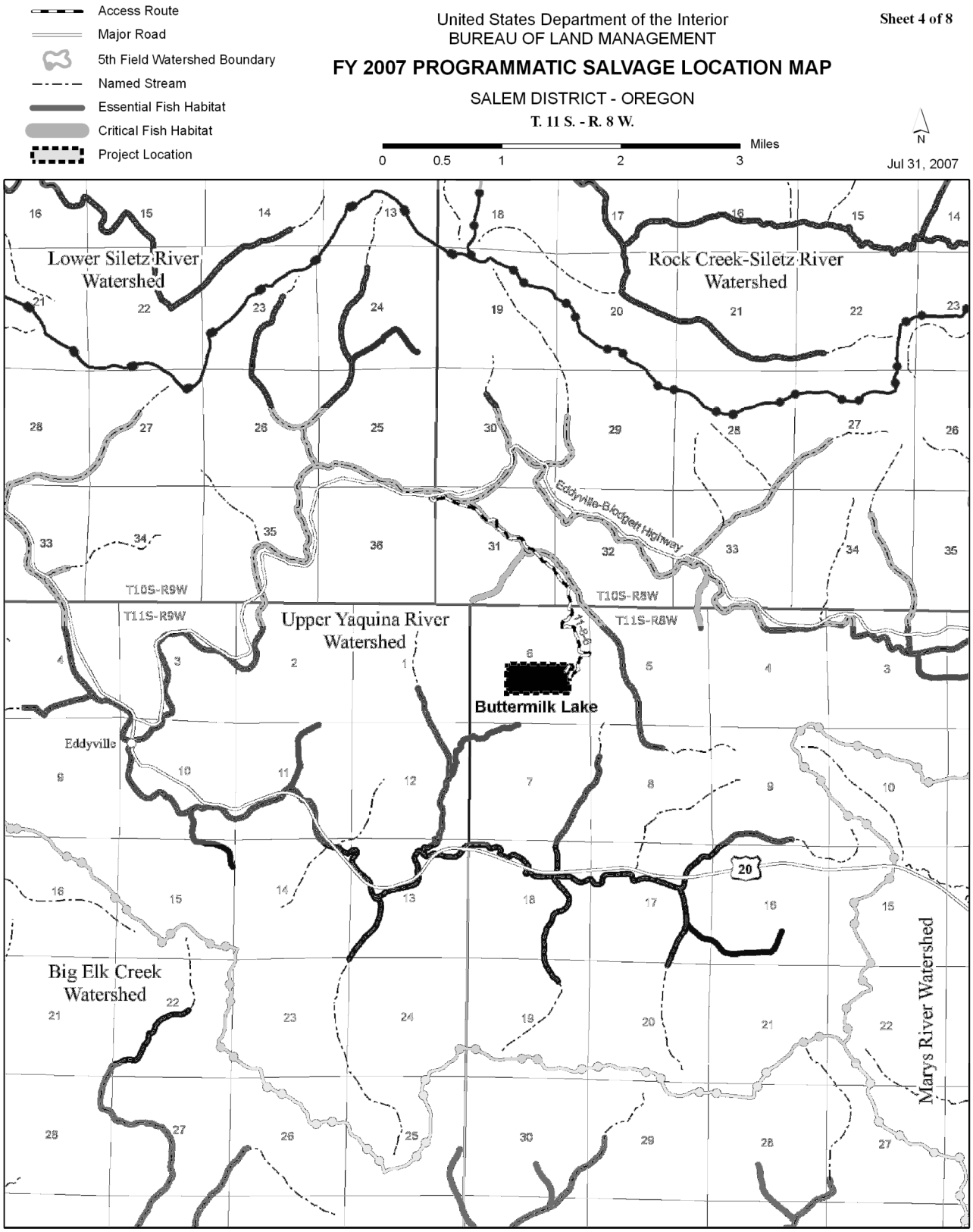

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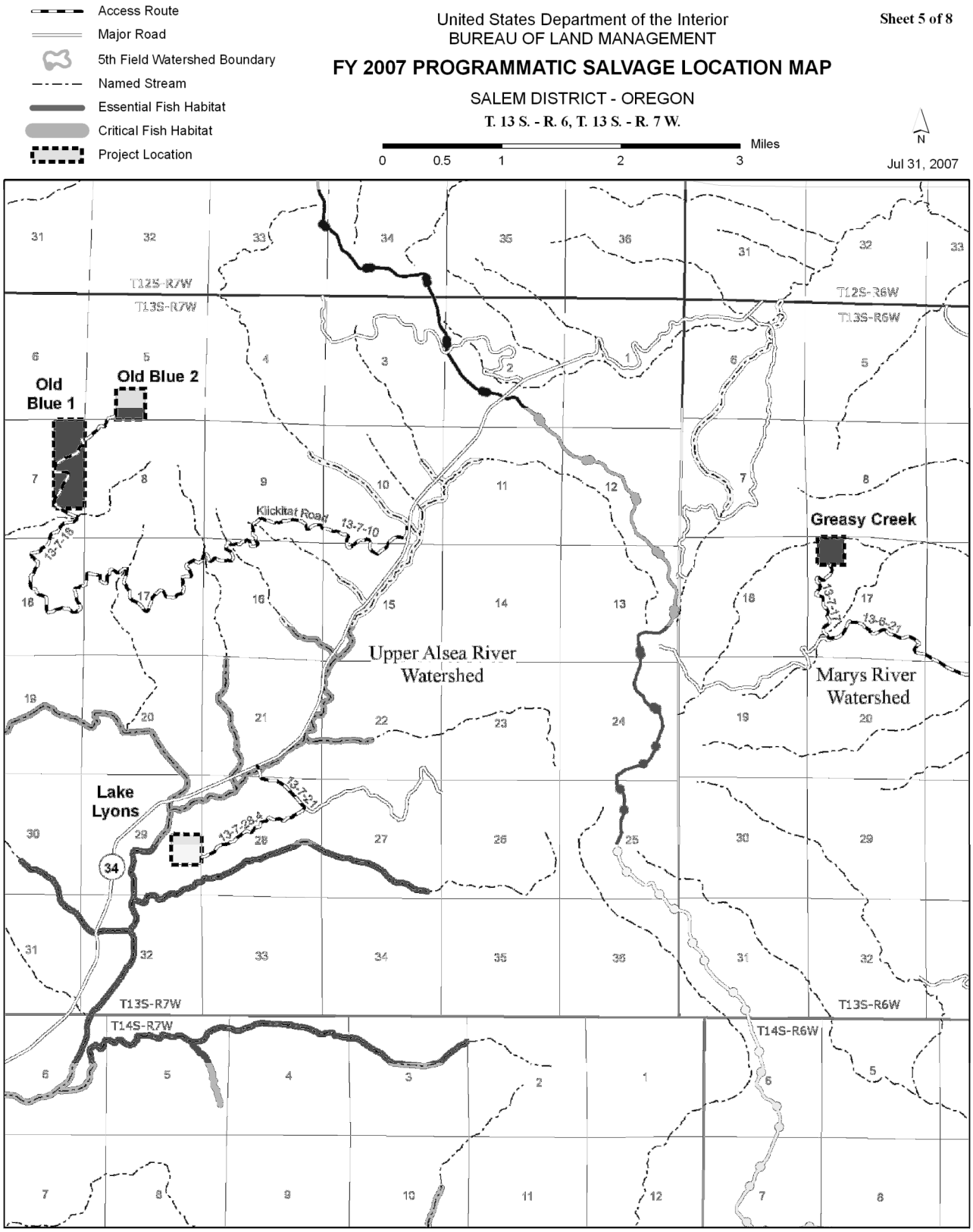

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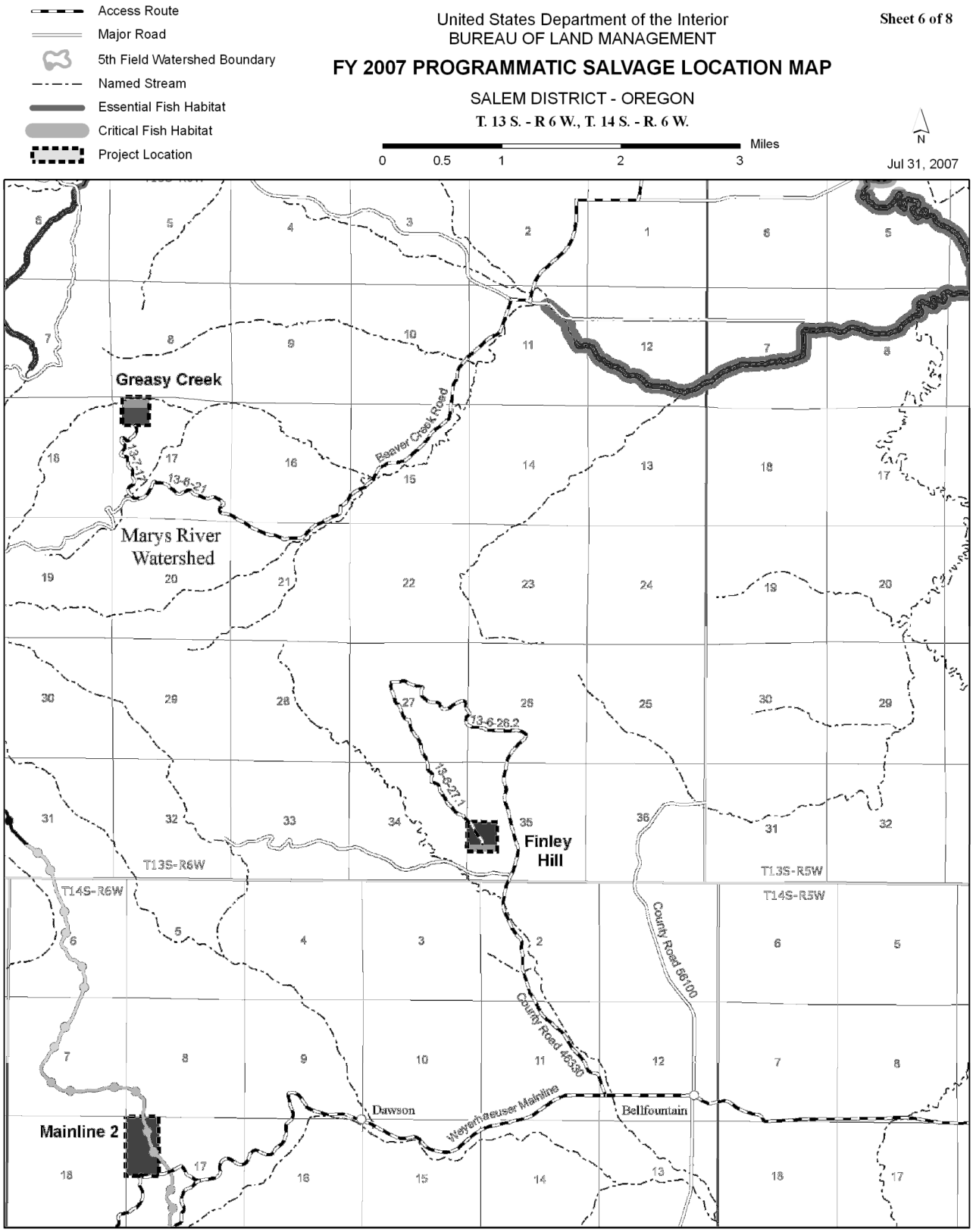

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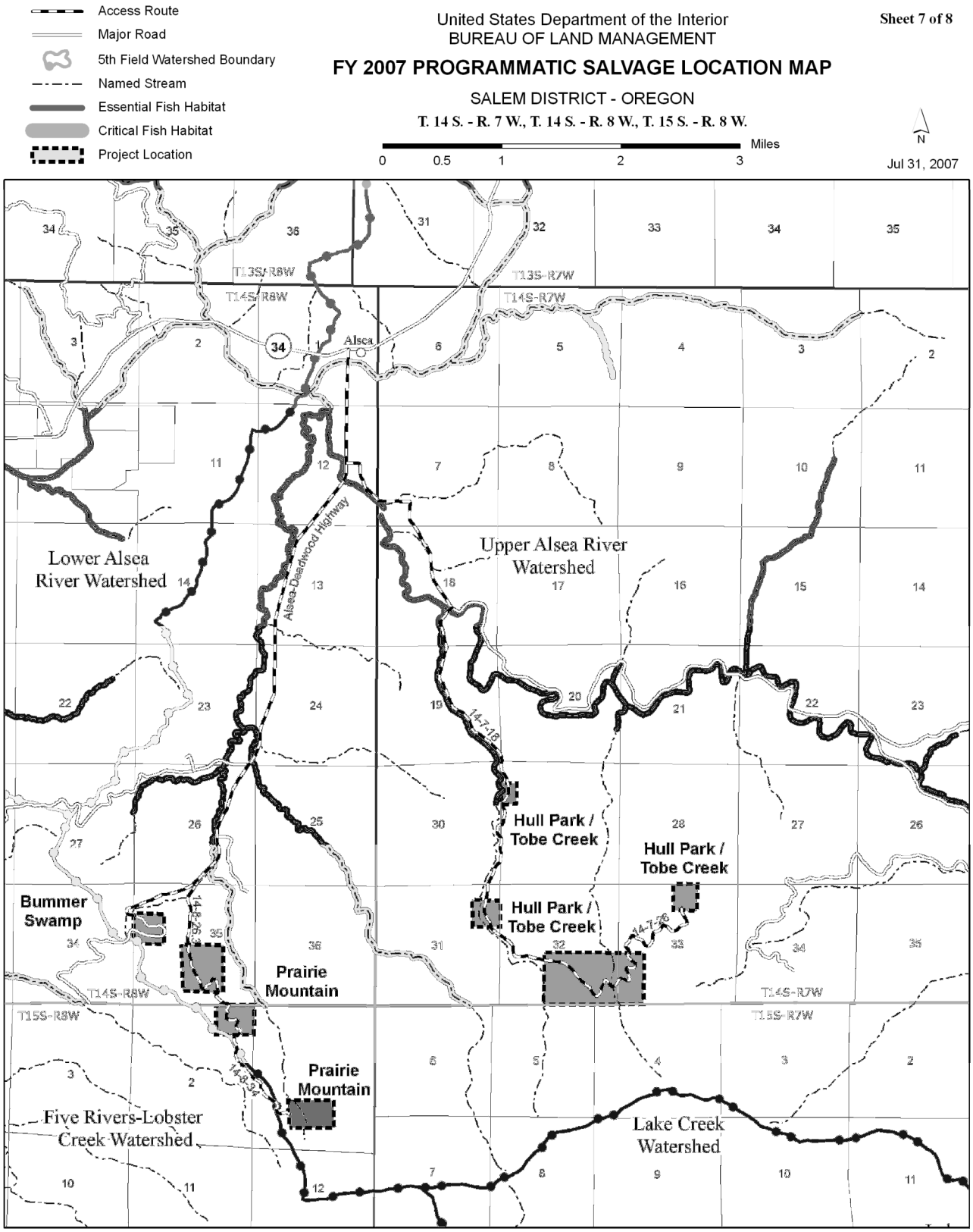

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Access Route
Major Road
5th Field Watershed Boundary
Named Stream
Essential Fish Habitat
Critical Fish Habitat
Project Location

United States Department of the Interior
BUREAU OF LAND MANAGEMENT

Sheet 8 of 8

FY 2007 PROGRAMMATIC SALVAGE LOCATION MAP

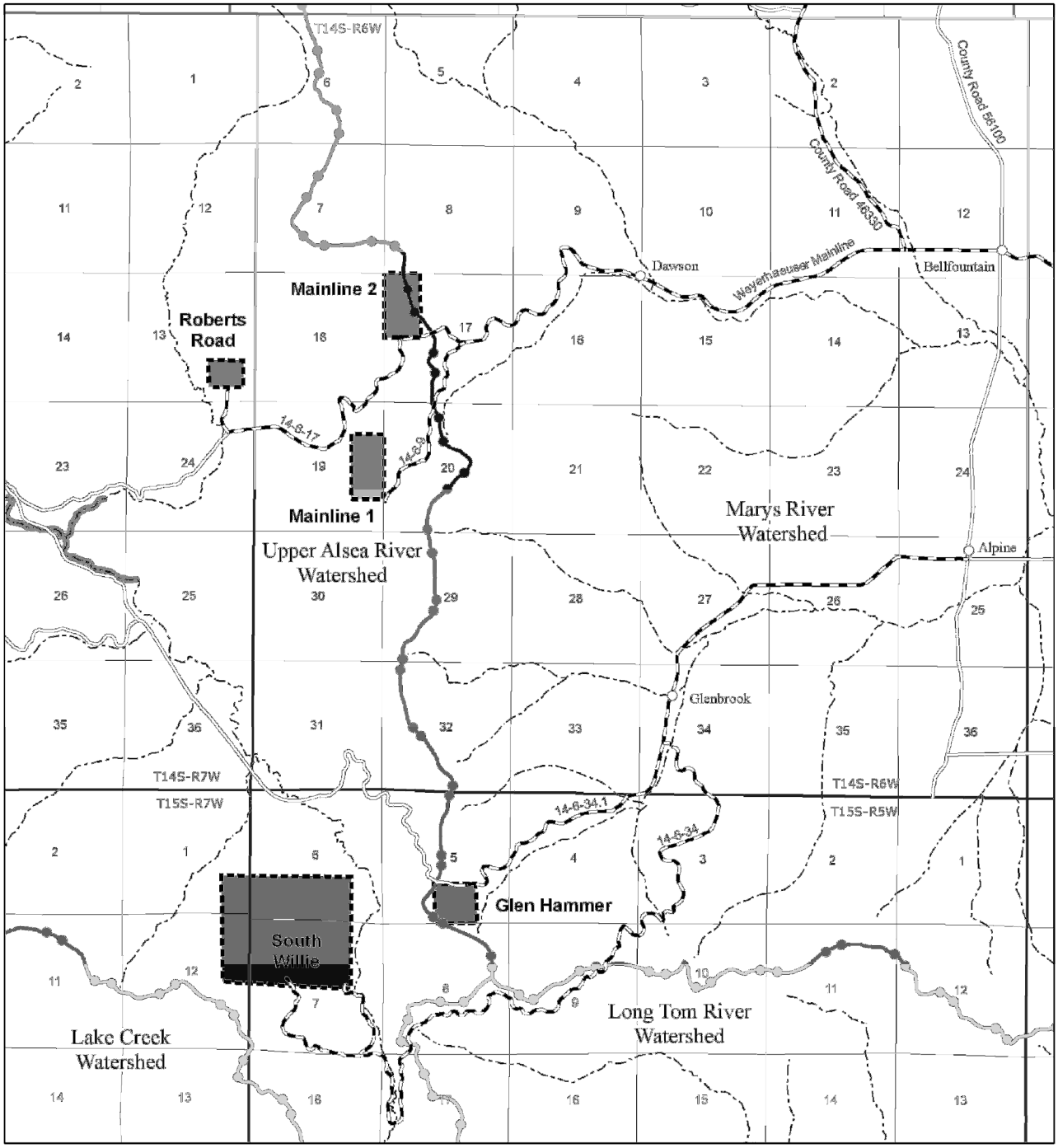
SALEM DISTRICT - OREGON

T. 14 S. - R 6 W, T. 14 S. - R. 7 W., T. 15 S. - R. 6 W., T. 15 S. - R. 7 W.

Miles
0 0.5 1 2 3

N

Jul 31, 2007



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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS - COMMON TO ALL PROJECT LOCATIONS

3.1 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 5 ("Critical Elements of the Human Environment") and Table 6 (Other Elements of the Environment) summarize the results of that review. Affected elements are **bold**. All entries apply to the Proposed Action, unless otherwise noted.

Table 7: Review of "Critical Elements of the Human Environment" (BLM H-1790-1, Appendix 5) for All Project Locations

"Critical Elements Of The Human Environment"	Status: (i.e., Not Present , Not Affected, or Affected)	Does this project contribute to cumulative effects? Yes/No	Remarks
Air Quality (Clean Air Act)	**Affected**	**No**	**Addressed in text (EA section 3.2.2 & FY 2007 Programmatic Timber Salvage Fuels/Soils Report)**
Areas of Critical Environmental Concern	Not Affected	No	No salvage of blow down would occur in designated ACECs.
Cultural Resources	Not Affected	No	Cultural resource sites in the Coast Range, both historic and prehistoric, occur rarely. The probability of site occurrence is low because the majority of BLM managed Coast Range land is located on steep upland mountainous terrain 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 are no known energy resources located in the project areas. The Proposed Action would have no effect on energy development, production, supply and/or distribution.
Environmental Justice (Executive Order 12898)	Not Affected	No	The Proposed Action is not anticipated to have disproportionately high and/or adverse human health or environmental effects on minority populations and/or 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.

"Critical Elements Of The Human Environment"		Status: (i.e., Not Present , Not Affected, or Affected)	Does this project contribute to cumulative effects? Yes/No	Remarks
Hazardous or Solid Wastes		Not Present	No	
Invasive, Nonnative Species (plants) (Executive Order 13112)		**Affected**	**No**	**Addressed in text (EA section 3.2.1 & FY 2007 Programmatic Timber Salvage Botany Report).**
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**	**Addressed in text (EA section 3.2.6 & FY 2007 Programmatic Timber Salvage Fisheries Report).**
	Plant	Not Affected	No	Project areas would be evaluated for T&E species prior to implementation. In the unlikely event of a T&E species occurring in the project area, the species would be protected according to bureau policies. There are few locations of T&E species within the project area.
	Wildlife (including designated Critical Habitat)	**Affected**	**No**	**Addressed in text (EA section 3.2.3 & FY 2007 Programmatic Timber Salvage Biological Evaluation).**
Water Quality (Surface and Ground)		**Affected**	**No**	**Addressed in text (EA section 3.2.5 & FY 2007 Programmatic Timber Salvage Hydrology Report).**
Wetlands (Executive Order 11990)		Not Affected	No	Wetlands and Riparian zones (i.e., near stream areas with actual riparian vegetation or characteristics) would be designated as SPZs and buffered out of the treatment areas (except for small area within Unit 14B). (Fiscal Year 2007 Programmatic Timber Salvage Project Silvicultural Prescription: Including Upland and Riparian Reserves in NEPA file).
Wild and Scenic Rivers		Not Present	No	
Wilderness		Not Present	No	

Table 8: Review of Other Elements of the Environment for All Project Locations

Other Elements of the Environment		Status: (i.e., Not Present , Not Affected, or Affected)	Does this project contribute to cumulative effects? Yes/No	Remarks
Fire Hazard/Risk		**Affected**	**No**	**Addressed in text (EA section 3.2.2 & FY 2007 Programmatic Timber Salvage Fuels/Soils Report).**
Other Fish Species with Bureau Status and EFH		**Affected**	**No**	**Addressed in text (EA section 3.2.6 and FY 2007 Programmatic Timber Salvage Fisheries Report).**
Land Uses (right-of-ways, permits, etc)		Not Present	No	.
Late Successional and Old Growth Habitat		Not Present	No	
Mineral Resources		Not Present	No	
Recreation		Not Affected	No	Dispersed recreation use (i.e. hunting, leisure driving, camping, fishing). Removal would close roads temporarily while timber is removed causing minimal inconvenience. Recreation would return to normal levels after operations. Salvage operations would not occur within designated recreation sites under this EA.
Rural Interface Areas		Not Affected	No	Residential houses along haul routes would be accustom to this type of traffic.
Soils		**Affected**	**No**	**Addressed in text (EA section 3.2.4 & FY 2007 Programmatic Timber Salvage Fuels/Soils Report).**
Special Areas outside ACECs (Within or Adjacent) (RMP pp. 33-35)		Not Present	No	
Other Special Status Species / Habitat (including Survey and Manage)	Plants	Not Affected	No	Project areas would be evaluated for special status species prior to project implementation. If any known sites are located within the project area, the species would be protected according to bureau policies.
	Wildlife	Not Affected	No	There are no known sites of any bureau special status species nor is there any likely habitat for such species within the proposed project areas. No red tree vole suitable habitat within project areas; no surveys required; incidental surveys have not detected species within project areas.
Visual Resources		Not Affected	No	Current and future projects are located within VRM Class II and IV land. Changes to the landscape character are expected to be low and comply with VRM guidelines. Any additional salvage of blow down would follow BMPs and would not be expected to have an effect on visual resources due to the small scale of the proposed action.

Other Elements of the Environment	Status: (i.e., Not Present , Not Affected, or Affected)	Does this project contribute to cumulative effects? Yes/No	Remarks
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 3.2.5 and Fiscal Year 2007 Programmatic Timber Salvage Hydrology Report).**
Wildlife Structural or Habitat Components - Other (Snags/CWD/ Special Habitats, road densities)	**Affected**	**No**	**Addressed in text (EA section 3.2.3 & Fiscal Year 2007 Programmatic Timber Salvage Biological Evaluation).**

3.2 Affected Environment and Environmental Effects

Those elements of the human environment that were determined to be affected are *vegetation, fuels/air quality, wildlife, soils, water, and fisheries/aquatic habitat*. This section describes the current condition and trend of those affected elements, and the environmental effects of the alternatives on those elements.

3.2.1 Vegetation

(IDT Reports incorporated by reference: Fiscal Year 2007 Programmatic Timber Salvage Project Silvicultural Prescription: Including Upland and Riparian Reserves [Silviculture Prescription])

Affected Environment

General

The majority of Marys Peak lands (~128,414 acres) occur in the Oregon Coast Range Physiographic Province as described by Franklin and Dyrness (1973) with a small portion of the BLM administered lands occurring within the Willamette Valley Province. The Willamette Valley Province tends to be drier than the Coast Range Province.

Two main plant associations or zones have been described within the Coast Range Physiographic Province, the Sitka Spruce (*Picea sitchensis*) zone and the Western Hemlock (*Tsuga heterophylla*) zone. The Sitka Spruce zone occurs as a narrow band along the Pacific Ocean extending inland up to a few miles and often following the coastal fog belt. The Western Hemlock Zone extends from the Sitka Spruce zone east to the Willamette Valley and is the most extensive zone in Coast Range Province. This zone is mostly known for its seral Douglas fir (*Pseudotsuga menziesii*) forests. Other associations have been described but occupy few acres within Marys Peak Resource Area. These associations include; Silver-fir (*Abies amabilis*) zone known only from Saddlebag Mountain in Lincoln County, the Grand fir (*Abies grandis*), Douglas-fir and Oregon white oak (*Quercus garryana*) zones known from adjacent the Willamette Valley margins and the Noble fir (*Abies*

procera) communities that are scattered in the Oregon Coastal Mountains in higher (ca. 3,000 feet) elevations, but are generally considered to be included in the Western Hemlock zones.

Approximately 123,665 acres or 96.3% of the gross area within Marys Peak are considered forested lands. Although these acres are considered coniferous forests, acres along perennial streams and roadways are often dominated by hardwoods such as big leaf maple (*Acer macrophyllum*) and red alder (*Alnus rubra*). The majority of these forested lands have been logged beginning in the late 1800's. Timber harvesting has resulted in various age classes of forested stands occurring across the landscape and throughout checkerboard ownership. Existing right-of-ways traverse much of the forested landscape. Road acres total approximately 3,881 acres or 3.02% of the resource area. Approximately 901 acres or 0.7% of the RA is considered non-forested and are comprised of grassland meadows, shrubs, rock outcrops and wetlands.

Structure/Species Composition

2007 Salvage Areas

Stands currently proposed for salvage fall into two distinct age groups: stands aged from 50 to 60 years, and those aged 60 to 120 years or more. The older forest type falls into two categories: scattered mature trees remaining from recent (since 2002) regeneration harvest, and unmanaged stands where scattered trees blew down. Table 7 displays current stand species, diameter range, and age.

Table 7: FY 2007 Proposed Salvage Area Land Use Allocations and Forest Stand Type

Project Area	***Tree Loss***	***Land Use Allocations***	***Species, average size, age***	***Comments***
Teal Cr.	Group	LSR/RR[1,2]	Douglas-fir, 11-21" dbh, 55 years.	Recent clearcut adjacent.
Cold Springs	Group	LSR[1,2]	Douglas-fir, 5-21" dbh, 50 years.	Recent clearcut adjacent.
Dawson Thin	Scattered	Matrix/RR	Douglas-fir, 11-21" dbh, 60 years.	Density management/ thinning less than 5 yrs ago
Little Boulder	Multiple groups	AMA/RR	Douglas-fir & western hemlock, 11-21" dbh, 50 years.	Density management/ thinning less than 5 yrs ago
Old Blue	Group	LSR[1]	Douglas-fir & western hemlock, 11-21" dbh, 65 years.	Density management/ thinning less than 5 yrs ago. Recent clearcut adjacent
Old Blue 2	Scattered	LSR	Douglas-fir & western hemlock, 11-21" dbh, 65 years.	Density management/ thinning less than 5 yrs ago. Recent clearcut adjacent
Glen Hammer	Group and scattered	Matrix	Douglas-fir, 21"+ dbh, 65 years.	Density management/ thinning less than 5 yrs ago

Project Area	*Tree Loss*	*Land Use Allocations*	*Species, average size, age*	*Comments*
Mainline 1	Group and scattered	Matrix	Douglas-fir, 11-21" dbh, 50 years.	Density management/ thinning less than 5 yrs ago
Greasy Creek	Scattered	Matrix	Douglas-fir & bigleaf maple, 11-21" dbh, 65 years.	Density management/ thinning less than 5 yrs ago
South Willie	Scattered	Matrix/RR	Douglas-fir & western hemlock, 11-21" dbh, 55 years.	Density management/ thinning less than 5 yrs ago
Finley Hill	Group	Matrix	Douglas-fir, 21"+ dbh, 100 years.	Reserve area within regeneration harvest 2002
Buttermilk Lake	Scattered	Matrix	Douglas-fir, 21"+ dbh, 100 years.	Wildlife trees that fell on private land
Bummer Swamp	Scattered	Matrix/RR[1]	Douglas-fir, 21"+ dbh, 100 years.	Reserve area in regeneration harvest less than5 yrs ago.
Hull Park Road	Scattered	LSR/RR[1]	Mix of stand ages	Scattered trees
Prairie Mtn.	Scattered	LSR/RR[1]	Mix of stand ages	Scattered trees
Roberts Road	Scattered	LSR	Douglas-fir, 21"+ dbh, 120-200 years.	Six scattered trees
Beck Road	Scattered	AMA	Douglas-fir, 21+" dbh, and Oregon white oak 11-21" dbh, 90 years.	Oak restoration harvest 2004, leaving DF clumps.

1). Land-Use Allocation also includes designated Critical Habitat for northern spotted owls and marbled murrelets.
2). Proposed salvage units within LSR allocation of the Luckiamute Watershed fall within a spotted owl RPA.

Forest Health

Wind damage in these stands ranges from toppling or breakage of scattered trees to areas of complete stand loss on 1-8 acres. In areas of grouped tree loss, there are few (1-10 trees per acre) remaining trees and they are damaged by wind or are of low vigor.

Douglas-fir beetle:

Hazard Created by Blow Down

Disturbance events such as major fires or large wind storms will lead to population outbreaks of Douglas-fir beetles because of the large amounts of preferred habitat that allow production of large broods. Beetle populations that build up in the downed or injured trees can then infest nearby green trees. When there are three or more blow down Douglas-fir trees per acre greater than 12 inches in diameter, the numbers of beetles produced is sufficient to cause infestation and mortality of standing live Douglas-fir trees (Hostetler and Ross 1996). The research estimate that the number of live standing trees infested and killed by Douglas-fir beetles would be approximately 60% of the number of infested down trees. More recent research indicates felling of 20 trees per acre in an 88 year old stand in the Coast Range resulted in mortality of only 0.8 live standing trees per acre (Ross

and Hostetler, 2006).

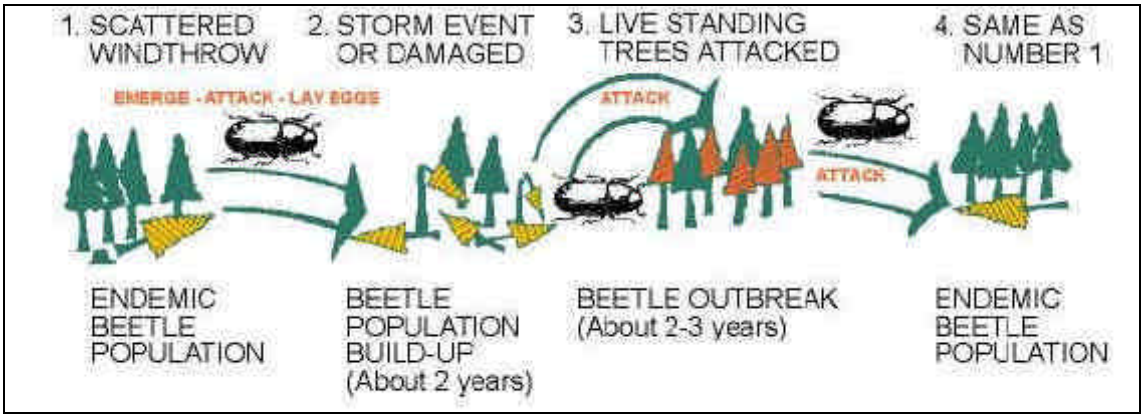

Figure 2: Douglas-fir beetle outbreak cycle

Risk Factors

The level of risk resulting from the hazard of blow down depends on:

1) ***Tree Size:*** Douglas-fir bark beetle risk is greater to larger trees (greater than 20" dbh).

2) ***Blow down Quantity:*** The threshold quantity or concentration of blow down trees that leads to bark beetle outbreak is variable. An analysis of stand replacement disturbance (root rot and windthrow) over a 4,800 acre area that includes the Cold Springs, Teal Creek and Savorski windthrow areas show approximately 1% of the area affected in the last decade (Hopkins, Marys Peak RA). The 2006/2007 blow down comprises about 0.2% of the area. Mean decadal mortality of Douglas-fir forest statewide is 0.5% (Filip et al, 2007). Over the landscape, the level of blow down represents a low risk of tree mortality. However, some individual concentrations of group blow down over one acre in size present a moderate risk of local tree mortality.

3) ***Blow down Exposure:*** The Douglas-fir beetle is known to prefer down trees in partial shade over those in full sunlight (Ross and Hostetler, 2006).

4) ***Blow down Proximity:*** Patches of beetle-killed trees historically are aggregated at 0.6 to 2.4 miles apart. (Powers, et al, 1999). Proposed 2007 salvage areas average 4.3 miles to the next closest site. There are five pairs of sites (nine sites) within 2 miles apart (Grant and Teal – 1.4 mi., Teal and Savorski – 1.7 mi., Cold Springs 1 and 2 – .75 mi., Old Blue 1 and 2 – .3 mi, and Mainline 1 and 2 – 1.0 mi.). The first four of those listed are in LSR LUA and the other pair is in Matrix.

5) ***Background Population Levels:*** It has been over 3 years (2004) since the last wind event that produced substantial windthrow within the Marys Peak Resource Area, so population levels are likely at or below average, thus decreasing the risk.

6) ***Weather Conditions following Blow down:*** Over-wintering conditions affect mortality, and

spring conditions affect dispersal and reproduction.

Threatened/Endangered and Special Status Botanical and Fungal Species
Marys Peak RA has few known sites of T&E botanical and hundreds of special status and fungal known sites. These sites occur throughout the resource area and within both conifer and hardwood habits. Most of the known sites occur in forested stands older than 80 years.

Noxious Weeds
The following noxious weeds are commonly found throughout the Marys Peak RA; Tansy ragwort (*Senecio jacobaea*), bull and Canadian thistles (*Cirsium vulgare* and *C. arvense*), St. John's wort (*Hypericum perforatum*) and Scot's broom (*Cytisus scoparius*).

Environmental Effects

3.2.1.1 Alternative 1 (No Action)

Bark Beetle Risk
Under this alternative, blow down trees would remain. An estimate of potential bark beetle mortality could be made considering the guidelines issued by Hostetler and Ross in 1996, and their 2006 research.

The number of live Douglas-fir trees likely killed would equal roughly 60% of the downed Douglas-fir trees greater than 12 inches DBH. The research in 2006 showed a response of one live tree killed per 25 downed Douglas-fir (4%). Taking the mid-point of these two estimates (32%) and estimating 80 downed trees per acre greater than 12 inches in group blow down areas, adjacent green tree mortality could be estimated at 26 trees per acre. The sites currently proposed are at low to moderate risk of adjacent tree mortality estimated at up to 205 trees (26 trees x 8 acres), neither widespread nor catastrophic. Late-seral stands within 1.0 mile of blow down areas would be at risk of loss of large trees, negatively affecting late-successional structure in areas of 1-5 acres.

Reforestation
In areas of group blow down, very few standing trees remain. Planting the group blow down areas would not be feasible because overlapping boles are 3-6 feet deep. Reforestation by natural regeneration may occur over a relatively short period of 10-15 years, but could take as long as 20 years. These open patches are likely to be dominated by shrubs for the first decade or longer. This would not meet LUA objectives in Matrix lands, but would not impede objectives unduly in LSR, RR and AMA lands within the NCAMA lands.

3.2.1.2 Alternative 2 (Proposed Action)

Bark Beetle Risk
Under this alternative a portion of the blow down trees would be removed. The most effective method for reducing the risk to standing green trees is removing the underlying hazard (blow down trees). Depending on LUA, a certain number of trees would be left for CWD, ranging from 2 to 16 per acre. This would equate to a low to moderate risk of mortality of 0.6 to 5.1 trees per acre for each acre of blow down salvaged, leaving CWD behind (assuming a rate of 32% green tree

mortality for each downed tree). The risk of live tree mortality would be greatly reduced from Alternative 1, but would not be eliminated (see table 8).

In some areas, stands would be made less susceptible to natural disturbances by focusing salvage activities on reduction of catastrophic insect, disease, and wildfire threats, and by designing treatments to provide effective fuel breaks wherever possible. These treatments would be designed so that they would not result in degeneration of currently suitable, spotted owl habitat or other late-successional conditions. Treatments would be implemented to reduce risk in older stands if the proposed management activity would clearly result in greater assurance of long-term maintenance of habitat is clearly needed to reduce risks, and would not prevent LSR from playing an effective role in attaining the objectives for which they were established (Upper Siletz River Watershed Analysis pg).

Table 8: Comparison of Estimated Douglas-fir Bark Beetle Mortality in green trees per acre between Alternative 1 and Alternative 2.

Alternative 1 *(No Removal)*	**Alternative 2** *(Removal with CWD retention)*		
80 CWD/Ac	*2 CWD/Ac*	*6 CWD/Ac*	*16 CWD/Ac*
26	0.6	1.9	5.1

Reforestation

Under this alternative, areas of group blow down would be replanted to approximately 300 trees per acre after salvage. Reforestation would be complete 5-15 years sooner than under Alternative 1. Closed canopy conditions would likely occur within 15 years of planting, and would best meet objectives of all LUAs.

Threatened/Endangered and Special Status Botanical and Fungal Species:

All project areas would be evaluated for T&E and special status botanical and fungal species prior to implementation. If any known sites are found or are within the project areas they would be protected according to bureau policies.

Noxious Weeds:

Any ground disturbing activity may lead to an increase in the noxious weeds known from within the project area. However, salvage operations, such as this proposal generally disrupt very small areas of organic material and expose mineral soil. Non-native species may become established in any exposed mineral soil areas. These non-native species often persist for several years but soon decline as native vegetation increases within the project areas.

All of the known noxious weed species from the project area are classified by the Oregon Department of Agriculture as “B” designated weeds. “B” designated weeds are weeds of economic importance which are regionally abundant, but which may have limited distribution in some counties. Where implementation of a fully integrated statewide management plan is not feasible, biological control shall be the main control approach.

The noxious weeds species that occur within the project area are widespread throughout western Oregon and a fully integrated statewide management plan has not been implemented. The Marys Peak Resource Area has an integrated non-native plant management plan in place for the control of

non-native weed species. Any adverse effects from noxious weeds within the project area are not anticipated because the amount of soil to be displaced is expected to be minimal and because the known noxious weeds in the area are regionally abundant. In general, the risk rating for the long-term establishment of noxious weed species and consequences of adverse effects on this project area is low because; 1) the amount of soil to be displaced is expected to be minimal, 2) the known noxious weeds in the area are regionally abundant, and 3) the native vegetation in western Oregon tends to become established fairly quickly in areas with little ground disturbances which limits the establishment of many noxious weed species.

3.2.1.3 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.

3.2.2 Fuels/Air Quality

(IDT Reports incorporated by reference: Fiscal Year 2007 Timber Salvage Fuels and Soils Report)

Affected Environment

The project areas are predominately occupied by stands of 50-120 yr old Douglas-fir and western hemlock. The surrounding stands range from a fully stocked condition to areas occupied by stands that have been commercially thinned in the last 10 years or areas that have been recently harvested. Understory vegetation is mostly a light to moderate growth of sword fern, salal, and vine maple on the uplands with heavier brush near the draws, adjacent to openings and thinned areas. Salmonberry and red alder are common on the wetter sites. Prior to the wind throw, fuel loading ranged from 5-15 tons per acre for fuels less than 9 inches in diameter and for larger fuels over 9 inches in diameter fuel loads averaged less than 20 tons per acre. Following the wind throw, total fuel loading ranges from 25 to 90 tons per acre depending on the amount of down timber and pre-existing conditions. Duff depth ranges between ½ to 3 inches, averaging less than 2 inches.

Environmental Effects

3.2.2.1 Alternative 1 (No Action)

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 would occur. However, without the removal of logs and application of fuels treatment, fire risk and hazard would remain high in areas adjacent to roads.

3.2.2.2 Alternative 2 (Proposed Action)

<u>Fuels</u>

Fuel loading, risk of a fire start, fire intensities and the resistance to control a fire, would all be reduced as a result of the proposed action. Removing tree boles and piling and burning some of the slash would reduce the total fuel loading and break up the fuel continuity. The fuel model would shift from a timber and light logging slash model toward a timber with litter and understory type of fuel model. This shift in fuel models results in lower fire intensities and less resistance to control as well as a reduction in the overall risk of a fire starting.

<u>Air Quality</u>

Burning scattered, cured and/or piled fuels under favorable atmospheric conditions in the Coast Range is not expected to result in any long-term negative effects to air quality in the airshed. Locally within ¼ - ½ mile of the piles there may be some very short-term smoke impacts after piles are ignited resulting from drift smoke. Generally once covered, dry piles have been ignited, the fire intensity builds rapidly to a point where the fuels burn cleanly and very little smoke is produced. The strong convection column produced carries the smoke and gases well up into the atmosphere where it is diluted and carried away in the air mass. After a few hours as the piles burn down and the intensity subsides, additional smoke may be produced due to lower temperatures and less efficient combustion. Depending on size, arrangement, type and moisture content of the remaining fuel, the smoke would diminish over several hours or days as the piles cool and burn out (sooner if rain develops). Generally this smoke only affects the immediate area (¼- ½ mile or less) around the pile. If a temperature inversion develops over the area during the night time hours, smoke may be trapped under the inversion and accumulate resulting in a short-term impact to the local air quality. The accumulated smoke generally clears out by mid-morning as the inversion lifts. Burning of slash would always be coordinated with ODF (Oregon Department of Forestry) in accordance with the Oregon State Smoke Management Plan which serves to coordinate all forest burning activities on a regional scale to prevent negative impacts to local and regional airsheds.

3.2.2.3 Cumulative Effects (Proposed Action)

Fuels

Although there would be an increase in fuel loading and resultant fire hazard, when looked at from a watershed scale, the removal of a portion of blow down trees on approximately 180 acres of forest habitat would slightly reduce the long-term (5 years or more) potential of the area to carry a ground or crown fire within the treated area. The reduction of fuel loadings would result in a lower intensity and slower rate of spread if a fire did start.

Air Quality

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. Burning of slash would always be coordinated with the Oregon State Smoke Management Plan which serves to coordinate all forest burning activities on a regional scale to prevent negative impacts to local and regional airsheds. Based on this control of smoke production there are no expected cumulative effects from the planned fuels treatment under this proposal.

3.2.3 Wildlife

(IDT Reports incorporated by reference: Fiscal Year 2007 Programmatic Timber Salvage Project Biological Evaluation [Wildlife Report])

Affected Environment

Numerous wildlife species make use of down logs and snags of various sizes and decay classes. Large size snags and logs are known to provide the highest quality habitat for the most wildlife species, but logs and snags of all sizes contribute to important ecological processes and meet at least some wildlife needs (Hagar 2007; Mellen et al. 2006, O'Neill, et al. 2001, Rose, et al. 2001). Forest canopy disturbance agents (e.g. wind, fire, bugs) contribute a constant but variable amount of down logs and snags into forest stands on an annual basis.

Forest remnants and coarse woody debris that survived early logging are now greatly reduced, due to natural attrition and salvage logging efforts in the 1960s (North Fork Alsea Watershed Analysis pg. 113).

The currently proposed salvage areas represent a very small but unknown percentage of the seasonal blow down that has occurred on BLM lands within the Resource Area.

Most of the proposed salvage areas are scattered trees or blow down groups (small patches 0.5 to 8 acres) within mid-seral (30-70 years old) conifer stands. Only two salvage areas (Buttermilk and Finley Hill) would remove blow down trees at the edge of late-seral forest patches (80-120 years old). The proposed salvage of scattered individual trees is mostly along roadsides or adjacent to previous harvest units. A few of the proposed salvage areas form a cluster of small patches within a block of LSR lands in the Luckiamute River Watershed.

No special habitat types (e.g. wetlands, seeps, dry meadows, etc.) occur within the proposed salvage areas.

Threatened, Endangered, and Special Status Species or Habitats

The northern spotted owl and marbled murrelet are two federally threatened wildlife species that are known to occur in the vicinity of proposed units.

There are no known sites of Special Status Species within the proposed salvage areas. Five current salvage project areas (Table 1) lie within designated critical habitat for the northern spotted owl. There are two active spotted owl sites within 1.0 mile of Teal Creek and Savorski units. These two units along with the Cold Springs unit lie within a RPA (Reserve Pair Area) that has been designated to protect and restore suitable habitat for these spotted owl sites.

The Old Blue unit has an active marbled murrelet site within one mile. None of the proposed salvage areas are currently suitable habitat for spotted owls or marbled murrelets. Coarse woody debris is an important structural component of dispersal habitat for spotted owls, but is not a component of murrelet habitat. Just two of the salvage project areas (Hull Park and Roberts Road) lie adjacent to unsurveyed suitable murrelet habitat.

Environmental Effects

3.2.3.1 Alternative 1 (No Action)

This alternative would not remove blow down trees in proposed salvage areas. However, down logs that are blocking road access would be moved so as to not block road access but the logs would not be removed from the site. All of this recent pulse of fresh hard snags and down logs would remain in place, and existing ecological processes and wildlife habitat conditions would continue unchanged. This CWD represents a very small but unknown percentage of the total amount of blow down that has occurred in the resource area over the past year.

Retention of this material would provide a substantial but localized boost to woodpecker populations and secondary cavity nesting species. Also small vertebrate species (e.g. rodents, salamanders, some song birds) and forest floor invertebrates would benefit in the short-term (next

decade or two) from the retention of large amounts of CWD. However, the majority of the blow down trees are from mid-seral forest stands having small diameters (less than 20 inches, averaging closer to 12 inch diameter) which are likely to decay relatively rapidly (10-30 years) and are not expected to contribute substantially to future forest structure as the surrounding stands age toward late-successional forest conditions. These mid-seral blow-down areas do have a small percentage of larger diameter trees (more than 20 inches) that would likely persist long enough to contribute to future forest habitat conditions.

Two spotted owl critical habitat units (CHU OR-45 and OR-47) have proposed salvage areas within mid-seral conifer stands that currently function as dispersal habitat for owls. Retention of all blow-down logs and snags would likely provide a localized boost to the small mammal prey base in the affected stands, which could benefit owls. But such effects would be negligible in context to the large area covered by CHUs and within a background of other CWD input that has not been identified for potential salvage.

For example, CHU-45 (within LSR lands in the Luckiamute Watershed) has about 4,860 acres of BLM forest stands. A recent inspection of aerial photographs along with field review has found that forest canopy disturbance events amounted to about 1.14% of this landscape over the past decade (a total of 55 acres in patch sizes ranging from 0.25 to 6.0 acres; BLM unpublished data). The amount of proposed salvage in CHU-45 which would be reserved under this alternative amounts to about 17 acres, which is about 1/3 of one percent and this does not include all the scattered tree loss (single trees or group loss less than 0.25 acre) which has gone uncounted and is not subject to salvage. This alternative would also forgo the potential disturbance to wildlife species in the vicinity of the proposed salvage areas.

3.2.3.2 Alternative 2 (Proposed Action)

Effects to Wildlife Habitats

This alternative would result in a short-term localized loss of fresh hard down logs and some snags. Yet, the structure and function of CWD within treated units would largely be maintained by design features that would retain moderate to high levels of hard CWD (6 to 16 trees per acres in LSR, RR, and AMA allocations), target retention of high quality CWD (diameters approaching 20 inches or larger), and reserve all existing soft snags and existing (prior to 2006 windthrow event) CWD.

Effects to Wildlife Species of Concern

Populations of wildlife species that are closely associated with CWD conditions would experience a localized boost, but this response would likely be somewhat less than if all CWD material were left in place. At the watershed scale, the short-term reduction of CWD within dense mid-seral stands would have a negligible effect on wildlife habitat conditions, since the proposed units are scattered across the resource area, they represent only a small portion of BLM lands in the vicinity, and future blowdown events can be expected to contribute additional CWD within these watersheds (most of which goes undetected and is not subject to salvage).

For the same reasons as outlined in the previous paragraph, the proposed salvage in CHU OR-45 (17 acres in 4 units) and OR-47 (3 acres in two previously thinned units) would have a negligible effect on the structure and function of CWD within these dispersal habitat stands. The proposed

action would not alter any currently suitable habitat stands. All of the proposed salvage units in CHUs are adjacent to roads and are less than one mile from currently suitable spotted owl habitat patches, whereby the proposed action might benefit these CHUs by reducing the risk of stand damage from wildfire and bark beetles (see Fuels and Vegetation reports). This proposed action is considered no effect to spotted owls, but timber salvage in spotted owl dispersal habitat inside CHUs is considered a may affect, but not likely adverse affect. Also, salvage harvest activities at two locations would generate noise levels that have the potential to disturb marbled murrelets if these actions occurred during the critical breeding season for murrelets (April 1 to September 15).

Due to potential effects to spotted owl CHUs and potential disturbance to marbled murrelets, Section 7(a) of the ESA requires that this action receive consultation with the U.S. Fish and Wildlife Service. Consultation has been completed as described in Section 6.1 of the EA.

No other Special Status Species or habitats are anticipated to be affected by the proposed action.

Implementation of the proposed action would not result in direct, indirect, or cumulative impacts to wildlife habitats or species, beyond those anticipated to occur within the existing planning documents (RMP and NWFP). The proposed action would not contribute to the need to list any special status species. The CWD habitat conditions in the affected units would incur a minor short-term reduction that would be negligible at the watershed scale. Site specific concerns for CWD habitat conditions and associated wildlife species would be minimized by design features that are incorporated within the proposed action.

3.2.3.3 Cumulative Effects

In general, it is recognized that intensive forest management (mainly timber harvest, salvage logging, and prescribed fire) on both private and public lands over the past several decades has drastically reduced the quality and quantity of CWD in western Oregon forests (Hagar 2007). The CWD conditions of greatest importance to several wildlife species are large snags and down logs within a forested environment, particularly in late-seral forest habitats. Recent forest management actions by BLM in the vicinity of the proposed salvage harvest areas have largely focused on commercial thinning and density management in mid-seral conifer stands. Both of these timber harvest activities retain existing CWD conditions and incorporate low to moderate levels of CWD creation. Over the past ten years BLM has salvaged between 0 and 10 acres annually within the Marys Peak RA and almost all of this salvage has been adjacent to roads.

All proposed group blow down areas are in mid seral stands with only scattered large trees salvaged near roads at the edge of two late-seral forest stands. The cumulative effects of this proposed action would not be discernable at the watershed scale, since not all of the CWD is removed (moderate to high levels of CWD would be retained), some isolated groups and numerous scattered blow down trees would not be harvested, and future blow down events would continue to provide input of CWD (with some portion left unharvested).

3.2.4 Soils

(IDT Reports incorporated by reference: Fiscal Year 2007 Timber Salvage Fuels and Soils Report)

Affected Environment

The predominant soils in the project area generally are well drained gravelly loams and clay loams. They are medium to fine textured and moderately deep to deep soils on slopes up to 75%. The majority of area is comprised of slopes under 50%. Bedrock is found at a depth of 20 to 40 inches or more on the majority of sites.

The major management concern with the soils is the sensitivity to compaction when moist or wet and the subsequent reduction in infiltration rate when compacted. On steeper sites (greater than 25%) run off rates and hazard of erosion can be moderate to high for bare soil.

Environmental Effects

3.2.4.1 Alternative 1 (No Action)

This alternative would result in no change to the affected environment. Short-term impacts to soils would be avoided.

3.2.4.2 Alternative 2 (Proposed Action)

<u>Compaction and disturbance/displacement of soil:</u>

Timber Harvest and Fuel Treatment:

Following completion of salvage operations, expected additional amounts of surface soil displacement, surface erosion and soil compaction resulting from timber harvest and fuels treatment operations should be minimal and dispersed. Some additional soil compaction can be expected to result from this project, but the aerial extent and degree would remain well below the established district guidelines (10% or less).

During yarding operations, care would be taken to minimize soil compaction and to preserve the integrity of the soil surface horizon / litter layer as much as possible by implementing project design features (EA Sec. 2.2.2). Implementation of design features would sustain long-term site productivity and stability by maintaining the infiltration capacity, minimizing surface water flow and erosion and maintaining nutrient storage and cycling.

Landings:

At landings used for cable yarding, nearly all of the disturbance would occur on the surface of the existing road or immediately adjacent to the road. Some additional ground adjacent to the road surface is used to turn equipment around on and to sort and deck logs until transport. The degree of soil disturbance and compaction in areas where logs are sorted or decked is expected to be low. Areas where equipment turns or backs around on, multiple times would experience moderate to heavy compaction and disturbance to the top soil layer. Much of this disturbance would occur on existing road surfaces.

The total (new and existing) area of impacted ground from all yarding activity under this project proposal is expected to be well below the 10% district guideline for aerial extent of soil impacts listed in the RMP.

Site Productivity

Fuels Treatment:
Observations over 3 decades of burning piled slash in this area of the Coast Range has shown no reduction in site productivity and in some cases an increase in tree growth on areas where piled slash has been burned. Based on this local experience, no reduction in site productivity is expected from this proposed activity.

Soil Displacement and Compaction:
The estimated reduction in growth rate for trees on moderate to severely impacted areas is 15-30% during the first 10-20 years of growth (P. Adams and H. Froehlich 1984, W. Power 1974, 1986). As trees age and become established, the negative effect on growth from soil compaction and displacement becomes less pronounced and growth rates may approach that of trees on similar, undisturbed sites. This is especially true where the area of compaction/displacement tends to be in narrow strips as is the case with yarding roads and small landings.

Skyline Yarding Corridors:
For skyline yarding systems, by implementing the design features (ie. minimum one end log suspension), soil impacts in yarding roads are expected to result in light compaction in a narrow strips less than 4 feet in width. The affect on overall site productivity from light compaction on less than 1% of the total area is expected to be none or very low (no measurable reduction in overall yield for the project area).

Ground-Based Skid Trails:
For ground based yarding, by implementing the design features [(ie. equipment operates when soils are dry (less than 25% moisture content) and equipment operates on some slash], soil impacts are expected to result in moderate to heavy, fairly continuous compaction within the landing areas. Impacts would be light to moderate and less continuous on the skid roads. Worst case expected reduction in productivity for the landings and skid roads is a 10%-20% reduction in yield on those very limited areas (most of the landing areas would be on existing roads). When impacts are averaged out over the project areas, the effect is expected to be well under a 1% reduction in productivity over the next rotation.

These estimates in reductions of overall yield are based on studies and observations done in Western Oregon and Washington and are by no means conclusive. Observation and study results vary widely due to the variation in soil types, conditions and treatments. Studies recently being done by Weyerhaeuser Company indicate that negative effects from compacted soil on growth of young trees become negligible within 8-12 years of planting.

Effects from top soil loss or displacement may have more long-term significance than the associated compaction (W. Power 1974, 1986).

Soil Erosion:

Fuels Treatment:
Experience over 3 decades of burning piled slash in this area of the coast range has resulted in no evidence of surface erosion from areas where piled slash has been burned. Based on this local experience, no increase in surface erosion is expected from this proposed activity.

Skid Trail Blocking:
Water-barring and blocking skid roads would promote out-slope drainage and prevent water from accumulating in large quantities, running down the skid road surfaces and causing erosion severe enough that it could reach streams. A small amount of localized erosion can be expected on some of the tractor skid roads the first year or two following yarding. Eroded soil is not expected to move very far from its source and would be diverted by the water bars or out sloping and would spread out in the vegetated areas adjacent to the skid trails and infiltrate into the ground. After several seasons, the accumulated litter fall on the skid roads would reduce the impact of rain fall droplets on the soil surface further reducing the potential for erosion of the skid roads.

With some slash and most of the existing undergrowth being left on nearly all of the area, no measurable amounts of surface erosion is expected from the forested lands treated under this proposed alternative.

3.2.4.3 Cumulative Effects

The effects of the proposed action on soils are expected to be short-term and localized. The greatest cumulative effect on the sites would likely be a reduction in overall site productivity from top soil displacement and compaction. Although Power (1987) concluded that compaction and productivity impacts to soils tend to become more severe when harvest areas are less than 20 acres, that statement dealt with areas that had not seen previous harvest activities. Because these areas are all located along existing harvest units and roads, the expected amount of cumulative disturbance would be "low to moderate" over the longer term (with some soil recovery) and local to the project site. There are no other known actions, aside from those described above, which would be enhanced or diminished by the proposed action.

3.2.5 Water

(IDT Reports incorporated by reference: Programmatic Salvage 2007 Hydrology)

Affected Environment

Project Area Hydrology & Climate

Elevations within the area range from sea level to approximately 3,500 feet. The climate is characterized by mild temperatures, wet winters and relatively dry summer. The Marys Peak Resource Area receives on average 90 inches of precipitation annually. Most surface runoff is associated with winter storm events that result from low pressure fronts moving inland from the southwest off the Pacific Ocean. Peak stream flow events are concentrated in the months of November through March when Pacific storm fronts are strongest.

Streams

There are approximately 1410 miles of stream on BLM land within the MPRA. As BLM managed land tends to be at higher elevations in the watersheds, the majority of the streams are small first through third order streams.

Project Area Water Quality

Fine sediment and turbidity
Past land management activities such as timber harvest and road construction have disturbed soils and removed riparian vegetation which has had an adverse effect on water quality in parts of the project area. Sedimentation and turbidity are a concern in some areas, as is a lack of LWD in stream channels. Despite this, water quality is generally high within the RA. Most streams are currently in proper functioning condition. Small, intermittent, headwater tributaries dominate the hydrology of the RA and streams are generally cold and clear.

Oregon Department of Environmental Quality (ODEQ) Standards
A few streams are 303d listed as water quality limited by the ODEQ, primarily for elevated summer temperatures. Some of the larger streams are also identified by the ODEQs 319 report for nonpoint source pollution concerns.

Beneficial Uses
According to the RMP, the beneficial uses within the RA are resident and anadromous fish, municipal water, domestic water, irrigation use, and water contact recreation. The predominant non-consumptive use of the water on BLM lands is propagation of salmonids and other cold water fish and aquatic life. Best management practices, as described below under Environmental Effects, would be implemented to help eliminate and/or minimize any potential impacts to beneficial uses of the project watersheds.

Other Water Quality Parameters
There are several municipal watersheds within the RA. There are currently no Oregon requirements for BLM to meet certain standards for protecting municipal water sources. However, the proposed action is designed to ensure that management activities do not create the need for additional water treatment beyond that required by the inherent character of the watershed or aquifer.

Environmental Effects

3.2.5.1 Alternative 1 (No Action)

Under this alternative, the existing blow down trees and snags would be left in place, and natural processes would proceed without intervention of any management action, except as needed to clear road right-of-ways to permit access. The Marys Peak RA FY2006/2007 Road Maintenance DNA (Documentation of Land Use Plan Conformance and NEPA Adequacy) allows for trees to be moved away from culverts but left on sites.

Where a large number of dead trees are left in place, there is higher risk of build up of bark beetles and potential infestation of adjacent healthy trees including those in the Riparian Reserve. The risk from fire are also higher in a blow down area where high surface loading increases the likelihood of fire spreading into canopy and increases the difficulty of controlling a wildfire. The risk of fire remains higher for 5 to 10 years, especially in areas that receive more use by humans.

3.2.5.2 Alternative 2 (Proposed Action)

Stream Flow
Alterations in the capture, infiltration and routing of precipitation may occur as a consequence of the removal of live trees. Removing more than 20% of the live vegetation in a watershed has shown to increase mean annual water yield (Bosh and Hewlett 1982). However, this project proposes to salvage small patches and individual blow down trees, not harvest live trees. Therefore, the impact to stream flow would only be from small changes in routing, not from a change in evapotranspiration.

The areas of blow down to be salvaged vary in size ranging from an 8 acre patch to individual trees. In some patches many trees remain standing while in other patches the majority of trees blew down. There would be a negligible effect at any specific site and there would be no change in water yield from actions associated with this project.

Water Quality-Temperature, Fine Sediment, Turbidity
Increase in stream temperature as a result of the removal of blow down is unlikely. Stream protection zones along all surface waters would maintain adequate shading, where it exists. No trees would be removed within 50 feet of streams. In high human use areas trees within 50 feet of roads would be removed to minimize risk from fire and theft.

The SPZ's are heavily vegetated and have a high surface roughness. This roughness functions to trap any overland flow and sediment before it reaches streams. Stream protection zones would eliminate disturbance of streamside vegetation and no trees would be removed. In this case as in the No Action Alternative, the trees within the SPZs would be moved away from the roads and left on site. If large wood is needed for watershed restoration, this wood could be used to add large wood (increasing channel complexity) to streams.

Skyline yarding corridors and ground-based skid trails, if sufficiently compacted, could route surface water and sediment into streams. However, the following factors would limit the potential for this to occur.

Ground based yarding occurs during periods of low soil moisture to minimize compaction.
In addition, high levels of residual slash left on yarding corridors (both ground based and skyline), could reduce runoff by deflecting and redistributing overland flow laterally to areas where it would infiltrate into the soil.

Since the proposed action would occur away from stream channels and be 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 aeration, it is unlikely that it would have any measurable effect on dissolved oxygen or nutrient levels.

Channel Stability and Function
This project is unlikely to impact stream channel stability and function as the areas would be protected with a SPZ of at least 50 feet.

This project is unlikely to alter current conditions of channels except in areas where large wood from blow down is used in watershed restoration projects to add structure to streams. These logs would improve stream function by adding complexity to the streams, storing sediment and potentially improving water quality.

Timber Haul:
Timber haul could impact water quality by introducing fine sediments into streams, particularly at stream crossings. Sediments could be dislodged during hauling from natural surfaced road prisms, eroding cutbanks, or scoured ditchlines. To minimize erosion and sediment movement from hauling in watersheds with listed ESA fish, hauling on non-paved roads would occur during periods of low precipitation. At any site, if rainfall occurs to where water is flowing off of road surfaces, the contract administrator can restrict log hauling to minimize water quality impacts, and/or require the Purchaser to install silt fences, bark bags, apply additional road surface rock, or perform other mitigation measures as needed to minimize addition of sediment to streams.

Fuels Treatments:
Fuels treatments are not likely to measurably impact water resources. In general, the fuels would be treated using lop and scatter method that would add more ground protection from erosion. For larger areas, machine and/or hand piling and burning could be used. Burning piles could produce patches of soil with altered surface properties that restrict infiltration. However, these surfaces would be surrounded by larger areas that could absorb runoff or sediment that reach them. In addition, piles would be burned outside of SPZs and away from standing or running surface water.

Summary
Given the project design features designed to minimize movement of sediment to streams, it is unlikely that the proposed project would lead to measurable increases in sediment delivery to streams, stream turbidity, and alteration of stream substrate composition, channel morphology, or sediment transport regime. Salvaged trees would be selected from outside the SPZ and their removal would not likely impact stream shade, bank stability, or channel structure. Design features such as seasonal restrictions, implementation of SPZs and use of erosion control measures (as needed) have been designed to minimize effects at any site.

3.2.5.3 Cumulative Effects

The methodology of the Salem District Watershed Cumulative Effects analysis looks at watershed sensitivity to increases in runoff, and consequently peak flows at a 6th or 7th field watershed level. This method looks at changes in vegetation type and age class associated with timber removal and road building. As only blow down would be removed, there is no change in vegetation age class

from this project. Therefore, no change in cumulative effects to flows would occur with this project.

The scale of the project is very small with less than 90 acres proposed for treatment and scattered across the resource area in any given year. As the proposed project is unlikely to substantially contribute to direct and indirect effects to water quality or channel stability it would not contribute to cumulative effects.

While no single restoration project would contribute substantially to cumulative effects at a watershed scale, over time, as more large wood is made available for restoration projects, the small improvements in stream functioning could contribute to an improvement to cumulative effects at a 6th or 7th field watershed scale.

Other activities affecting cumulative effects would continue to occur within the watersheds. These activities include the following: Most of the watersheds have a large portion of the land base in privately owned industrial timberland. Harvest would continue on both BLM and private timberland. Road building, maintenance and decommissioning would also continue to occur.

3.2.6 Fisheries/Aquatic Habitat

(IDT Reports incorporated by reference: 2007 Programmatic Timber Salvage Fisheries/Aquatic Report)

Affected Environment

Habitat

While there has been substantial fresh water habitat degradation across all land ownerships, including Federal lands, habitat in many headwater stream segments is generally in better condition than in the largely non-Federal lower portions of tributaries (Lee *et al.* 1997). Because Federal lands are generally forested and situated in upstream portions of watersheds, Forest Service and BLM lands within the RA now contain much of the remaining highest quality salmon and steelhead habitat.

Large Woody Debris in Streams

Large woody debris conditions were addressed in various Watershed Analyses covering many of the 5th field watersheds that would be affected by project activities.

A partial review of the Watershed Assessment documents for the project area generally noted the stream channels were deficient in LWD in-stream. The *Rowell Creek/Mill Creek/Rickreall Creek/Luckiamute River WA* (BLM 1998) documented conditions as At Risk or Non-functional for LWD in the 5 subwatersheds assessed in the report (R&CC – 49). The *Upper Siletz WA* (BLM 1996) documented 53% of the riparian land based as in low potential for LWD recruitment leading to the conclusion that delivery rates are reduced and size and quantity of organic debris has also been reduced (p. 125). The *Lobster/Five River WA* (BLM/USFS 1997b) noted that current LWD levels are low resulting in Not Properly Functioning conditions in most deposition and deposition-flat segments in the watershed (p. 70). The *North Fork Alsea WA* (BLM 1996) documented 48% of the riparian land base as in low potential for LWD recruitment (p. 69). The report also noted that habitat surveys conducted in the WA showed a lack of LWD throughout the drainage (p. 80). The *South Fork Alsea WA* (BLM 1995) documented 33% of the fish bearing streams as having low

LWD recruitment potential (p. 63). The analysis did note that several drainages in the watershed were adequately stocked with LWD (pp. 61-63). The *Benton Foothill WA* (BLM 1997a) documented conditions as Non-functional for LWD in the 4 subwatersheds assessed in the report (p. 96). The *Lower Alsea WA* (BLM 1999) noted that almost all habitat surveys conducted in the watershed showed a low abundance of LWD (p. 66). Over 90% of the stream miles surveyed had less than 40 pieces per mile.

While this review is not exhaustive it does indicate that many streams and drainages are at under stocked with in-stream LWD and many of the adjacent riparians have low recruitment potential. Applicability of these Watershed Analysis to current sight specific conditions are likely limited, as most assessments were written over 10 years ago and many of the stream surveys relied upon to support these analysis are now nearing 20 years old. Implementation of the RMP was anticipated to result in improving LWD recruitment potential over much of the federally administered lands (USDA & USDI 1994) including those RR in the Marys Peak RA.

Fish Species Description

Due to the scope of the project area the following species accounts were developed in order to describe the biological considerations for the commercially and recreationally important native species known to be present within the project areas. The various ESA listed species, described at the DPS (distinct population segments) level, are also presented within the project area species account and presented in Table 9.

Table 9: Native fish species including distinct populations segments (DPS) within the project area, including federal status and distribution within the analysis area.

DPS Name	Scientific Name	Status	Distribution within Project Area
UWR[1] Spring Chinook salmon	*Oncorhynchus tshawytscha*	Threatened[3]	Willamette Basin – above Willamette Falls
OC[2] Chinook salmon		None	Oregon Coast
OC coho salmon	*Oncorhynchus kisutch*	Bureau Sensitive[3]	Oregon Coast
Coho salmon		Introduced	Willamette Basin – above Willamette Falls
UWR steelhead	*Oncorhynchus mykiss*	Threatened[3]	Willamette Basin - above Willamette Falls up to Calapooia River
OC steelhead		Bureau Sensitive[3]	Oregon Coast
Rainbow Trout		None[4]	Local lakes & ponds
OC coastal cutthroat trout	*Oncorhynchus clarki*	Bureau Tracking[3]	Oregon Coast
UWR coastal cutthroat trout		Bureau Tracking[3]	Willamette Basin – Above Willamette Falls
Oregon chub	*Oregonichthys crameri*	Endangered[3]	Historically present thru much of Willamette Basin lowlands.
Largescale sucker	*Catostomus macrocheilus*	None	Widely distributed
Northern Pike Minnow	*Ptychocheilus oregonensis*	None	Columbia and Willamette Basin
Speckled dace	*Rhinichthys osculous*	None	Widely distributed
Redside shiner	*Richardsonius balteatus*	None	Columbia and Willamette Basins
Threespine stickleback	*Gasterosteus aculeatus*	None	Columbia and Willamette Basins
Whitefish	*Prosopium williamsoni*	None	Columbia and Willamette Basin
Sandroller	*Percopsis transmontana*	None	Columbia and Willamette Basin
Chiselmouth	*Acrocheilus alutaceus*	None	Columbia and Willamette Basin
Peamouth	*Mylochilius caurinus*	None	Columbia and Willamette Basin
Sculpin species	*Cottus ssp.*	None	Widely distributed
Pacific lamprey	*Lampetra tridentata.*	Bureau Tracking[3]	Widely distributed
Western brook lamprey	*Lampetra richardsoni*	None	Widely distributed

1 – UWR = Upper Willamette River,
2 – OC = Oregon Coastal
3 – BLM Special Status Species List (2005)
4 – Hatchery stock reared by ODFW and placed in lakes & ponds for angling

Oregon Chub – The Oregon chub is a small minnow endemic to the Willamette River drainage of western Oregon (Markle *et al.* 1991). The project area includes all streams, rivers, ponds, reservoirs, and other bodies of water within the Western half of the Willamette River Basin. At present, Oregon chub occur at approximately 29 locations, including 21 naturally occurring populations and eight introduced populations (Scheerer *et al.* 2004). No chub populations are currently known to occur on BLM or Forest Service lands within the Willamette Basin portions of the project area. The proposed action includes treatments occurring on cooperative partner properties which may include water bodies which may contain suitable chub habitat.

Chinook Salmon – Upper Willamette River (UWR) spring Chinook salmon migrate through and rear in the Willamette River within the project area for all populations above Willamette Falls. The project area, covering the Western half of the Willamette Basin, contains little if any spawning habitat for UWR spring Chinook.

Coho Salmon – Coho salmon are widespread in small, low gradient streams of the coast and lower Columbia (ODFW 2005). Oregon coho generally range along the Oregon coast where survival is closely related to upwelling of cool, nutrient-rich waters.

The coho salmon present above the Willamette Falls are part of an introduction effort which occurred during the 1900's (ODFW 1992 Coast Range Subbasin). Currently naturally produced coho are returning to tributaries of the western side of the Willamette River including the Rickreall Creek, Luckiamute River, and Yamhill River basins in the project area.

Steelhead – Steelhead trout are rainbow trout that migrate to the ocean. Two races of steelhead are found: summer and winter steelhead. Natural production in the proposed project area is largely dominated by winter steelhead runs, only the Upper Siletz River is known to contain native runs of summer steelhead in the project area (BLM 1995 Upper Siletz WA). Winter steelhead are widely distributed in small to moderate sized coastal, Willamette, and Columbia streams (ODFW 2005).

The UWR winter steelhead ESU (Evolutionary Significant Unit) occupies the Willamette River and tributaries upstream from Willamette Falls, extending to and including the Calapooia River. Rivers that contain naturally-spawning, winter-run steelhead include the Calapooia, Rickreall, Luckiamute, and Mary's Rivers. Native winter steelhead within this ESU have been declining since 1971, and have exhibited large fluctuations in abundance.

The Oregon Coast steelhead has more distinct populations (23) than any other ESU and all historical populations are still present (ODFW 2005). There is limited data available to describe overall abundance and productivity for this population.

Coastal Cutthroat Trout – Basins along the Oregon Coast and the Upper Willamette within the project area support multiple life history types of coastal cutthroat trout (ODFW 2005). Anadromous cutthroat migration is known to occur within the coastal populations. Quantitative data on cutthroat trout populations within the project area are limited. Coastal cutthroat trout are distributed widely throughout the affected basins and abundance is thought to be relatively high. The populations appear to be very resilient and able to respond to events that reduce abundance. The sustainability of the cutthroat trout in the project areas are not considered at risk.

Pacific and Western Brook Lamprey – These species are widely distributed throughout the project area, but both distribution and abundance have likely decreased in recent years (ODFW 2005).

Other Species – Other native fish species reside in the Resource Area (see Table 9). Sculpins and cutthroat trout are the most widely distributed fish species across the resource area. Speckled dace also occupy a substantial portion of the fish bearing streams in the resource area. Largescale suckers would be present in most of the larger tributaries and rivers of the RA.

<u>Threatened, Endangered, and Special Status Species</u>
The NOAA NMFS listed the UWR ESU winter steelhead as a threatened species under the ESA on March 25, 1999. Critical habitats were designated for UWR steelhead on September 2, 2005.

The NOAA NMFS has listed spring Chinook salmon in the UWR ESU as threatened under the ESA. Critical habitats were designated for UWR Chinook salmon on September 2, 2005.

The U S Fish and Wildlife Service listed Oregon chub as endangered under the ESA. Critical habitat for Oregon chub has not been designated.

The NOAA NMFS determined that Oregon Coastal (OC) Coho Salmon were not warranted for listing under the ESA on January 19, 2006. No consultation with NOAA NMFS would be necessary for this species at this time.

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended, an assessment of proposed actions effects to EFH and consultation with NOAA NMFS is necessary for projects which may adversely affect EFH. Stream reaches with known populations of Chinook and/or coho salmon present, or considered highly likely to be present, are considered EFH.

Environmental Effects

3.2.6.1 Alternative 1 (No Action)

Under this alternative, human induced impacts related to sedimentation and temperature would not occur. LWD debris recruited to riparian reserves would be left on site, except for minor site level yarding associated with clearing the road prism of timber.

Additional trees within the riparian reserves may be subject to CWD/LWD recruitment as a result of subsequent wind events or as a result of beetle kill mortality due to elevated rearing habitat associated with blow down events. The increased beetle kill risk is expected to be of short duration (up to one year). Recruitment due to wind throw may occur over the next several years, weather dependant, and the risk would decrease with time as the remaining exposed trees become wind firm.

Stream Enhancement – No in-stream enhancements would occur associated with this alternative. Habitat conditions would continue as described in the Affected Environment discussion. Stream reaches and drainages noted as being deficient in LWD would continue under existing conditions. Logs in riparian reserves but away from stream channels would remain on site, slowly degrade and would contribute to local woody debris values. These logs would not directly benefit fish habitat. On federal lands, LWD conditions would be expected to move toward recovered condition but at a protracted rate compared to the proposed action.

3.2.6.2 Alternative 2 (Proposed Action)

Falling/Yarding – Proposed falling would be limited to leaning trees, root sprung trees, or trees otherwise designated hazard trees. These standing trees would be dispersed over the salvage area primarily comprising very small clumps or individual trees overhanging work areas or road prisms. Due to the dispersed nature of the proposed falling, there would be no effects anticipated to stream temperatures, sediment regimes, or peak and base flows which could in turn affect aquatic habitat.

Loss of CWD and LWD due to yarding of salvage from the project area stands could affect the stability and quality of aquatic habitat. Salvage is not proposed in unstable locations or areas noted as being at high risk for landslide in any of the Watershed Analyses (BLM 1995; 1996a; 1996b;

1997a; 1997b; 1998; 1999). The proposed salvage would retain trees of larger diameters, per the SPZ leave tree design features in riparian reserves. In the short-term, the smaller woody debris would continue to fall from within the untreated SPZs. Thus, wood with a larger range of sizes would continue to be available for recruitment to streams over the long-term in affected stands. As short-term recruitment of the existing CWD is expected to be maintained with the existing SPZ, the proposed action is not expected to cause short-term effects to fish habitat at the site or downstream.

Long-term beneficial growth in the size of trees in RR could occur with increased sun light reaching deeper into the riparian canopy as a result of the windthrow event. Increased tree vigor could enhance the size of LWD recruitment to the stream channel, thus potentially improving the quality/complexity of aquatic habitat adjacent to the treatment areas in the future. Proposed salvage would not be expected to affect this long-term growth effect to the remaining timber.

Skidding can compact soil and displace soil thus allowing sediment to be transported down slope and potentially to the stream channel. Skyline corridors can also displace soil thus allowing sediment to be transported down slope and potentially to the stream channel negatively affecting stream channel bedload. The proposed project is unlikely to result in any measurable changes in sediment delivery to the surrounding stream network which could affect the turbidity, substrate composition, or the sediment transport regimes (Thorton 2007). Buffers, residual slash, and use of existing skid trails should keep sediment movement to a minimum. The proposed project is unlikely to measurably alter dissolved oxygen or nutrient levels. As the proposed actions are not likely to measurably alter water quality characteristics at the treatment sites, it would be unlikely to affect aquatic habitat adjacent to or downstream from the project area.

Fuels Treatments – In general, most fuels generated due to salvage activities would be lop and scattered. Machine piling may occur at landing sites associated with group blow down areas or where excessive slash buildup occurs due to ground based activities. Hand piling may occur for fuels concentrations adjacent to roads in high human use areas. No piling would occur within the SPZ. Burning may create exposed soil patches that restrict infiltration (Thorton 2007). Experience over 3 decades of burning piled slash in this area of the coast range has resulted in no evidence of surface erosion from areas where piled slash has been burned (Tomczyk). Thus, no effects to aquatic habitat are anticipated.

Hauling – Road surfaces with drainage features (cross drains and ditchlines) connecting to stream channels can result in hauling activities contributing sediment to aquatic habitat. Excessive amounts of sediment can negatively affect aquatic habitat. Implementation of design features, restricting haul during heavy rainfall or when sediment is visibly reaching aquatic habitat, would aid in minimizing affects to fish habitat.

In general, most sediment transport to non-fish bearing intermittent stream channels would be quickly assimilated and redistributed back into the bedload (Duncan et al 1987) and unlikely to reach fish habitat. Fine sediment would not be expected to travel more than a ½ mile downstream from a stream crossing during the wet season (Foltz and Yanosek 2005). Implementing of project design features and avoiding wet season hauling on roads less than ½ mile from fish habitat would minimize any risk of impacts. Wet season hauling on roads less than a ½ mile from occupied fish habitat may result in some negative affects to sediment and turbidity. Based on the nature of the

proposed actions the period of elevated turbidity would be of a short duration, from days to a couple of weeks depending on the number of log trucks.

The response of salmonids to turbidity is highly dependent on the magnitude, from avoidance behavior to impairment of respiration and feeding activities (Bjornn and Reiser 1991). Due to the short duration anticipated, the primary response would likely be avoidance of stream crossings adjacent to fish habitat. Fish responses would diminish for crossings further away from occupied habitat. Fish would be expected to quickly return to displaced habitat as turbidity subsides.

Seasonally restricting road use and designating haul routes to roads with stream crossing more than 1000 feet from habitat occupied by listed fish or EFH would minimize the risk of impacts to ESA listed species or MSA EFH.

In-Stream Habitat Restoration – Logs would be removed from salvage areas and transported to off-site storage areas. Effects of salvage activities to aquatic habitat would be the same as described under falling, yarding, and hauling. No other adverse effects are anticipated from the proposed action.

Potential beneficial affects would be realized, increased habitat complexity and improvement of LWD conditions, upon placement of the logs in-stream. Effects to fish habitat would be assessed under future NEPA.

3.2.6.3 Cumulative Effects

The hydrology report indicated that the proposed salvage project scale was very small, less than 90 acres per year, and scattered over the resource area (Thornton 2007). Based on past salvage activities, as well as the known treatment areas proposed in 2007, the majority of timber to be removed for salvage would be located within uplands. The very limited removal of individual trees associated with the proposed actions is not anticipated to measurably alter canopy closure at a local scale, therefore no cumulative effects to peak/base flows would occur. Most actions would occur outside the riparian reserve and all treatment areas near streams would designate SPZs. These design features are expected to prevent sediment from reaching stream channels thereby preventing negative cumulative effects to water quality or stream channels. Since water quality and stream channels are protected, no cumulative effects to fish habitat would be anticipated due to salvage treatments.

There are no changes in road density or location anticipated which may contribute to cumulative effects to peak/base flow or sediment regimes which in turn may result in cumulative effects to fish habitat.

Based on review of the multiple Watershed Analyses covering the project area, substantial disturbance to riparian stands occurred due to human activities and likely continues to impair aquatic habitat function in many of the watersheds. The proposed action protects existing LWD in stream channels and maintains future recruitment with SPZ designation and retention of trees in the riparian reserves away from road prisms. Only a small number of clumps and individual trees (ie: root sprung, leaning, danger trees) may be fallen, most trees to be felled would be outside the riparian reserve. The proposed actions would result in a negligible increase in disturbance at the

site scale, (90 acres per year spread out over 128,000 acres) and in some locations would eventually lead toward a negligible improvement of the LWD conditions as in-stream restoration projects are implemented.

ESA/EFH Determination

Given the programmatic nature of the salvage activities, and extensive geographic coverage, it is difficult to make an encompassing ESA determination. Conditions may arise where timber removal may occur in close proximity to perennial, intermittent, or ephemeral channels tributary to streams with ESA-listed fish and their designated critical habitat. Under these circumstances a "may affect" determination may be appropriate and consultation with NOAA NOAA NMFS would be necessary.

The salvage projects identified and proposed for sale in FY 2007 have been reviewed and assessed for effects. Based on the site level analysis, considering proximity to listed fish to proposed actions and probability of effects, a No Effect determination has been made to ESA listed fish. Implementation of project design features within watersheds containing listed fish and critical habitat would be expected to avoid effects to listed species.

Pursuant to the MSA, as amended, an assessment of proposed actions effects to EFH and consultation with NOAA NMFS is necessary for projects which may adversely affect EFH. For purposes of this analysis stream reaches with known populations of Chinook, coho, chum, or sockeye salmon present, or considered highly likely to be present, are considered EFH. Based on proposed project locations, and design features, no adverse effects have been identified for EFH.

The proposed placement of in-stream LWD was determined to be a May Affect – Not Likely to Adversely Affect based on proposed actions and distance to occupied UWR steelhead habitat. The removal of salvage of logs under the proposed project would meet the Project Design Criteria established in the *Endangered Species Act Section 7 Formal Programmatic Consultation and Magnuson- Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Fish Habitat Restoration Activities in Oregon and Washington, CY2007-CY2012* and *Endangered Species Act Section 7 Informal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation For Three Programmatic Categories, U.S. Forest Service and Bureau of Land Management Northwest Oregon*, February 25, 2003. Effects to ESA listed species and Essential Fish Habitat and application of design features to minimize effects is covered by the Programmatic BO and Letter of Concurrence. With adherence to design criteria established in these consultations no additional consultation would be required prior to implementing the proposed activities. Any activities not covered by the Programmatic which is determined to cause adverse effects to listed species would need to be consulted on separately.

4.0 LIST OF PREPARERS

Table 10 List of Preparers

Resource	Name	Initial	Date
Cultural Resources	Dave Calver	DAC	8/20/07
Hydrology/Water Quality/Soils	Carol Thornton		
Silviculture/Riparian Ecology	Hugh Snook	HS	8/20/07
Botany TES and Special Status Plant Species	Ron Exeter	RE	Aug 20, 2007
Wildlife TES and Special Status Animal Species	Scott Hopkins	SH	8/20/07
Fuels/Air Quality	Tom Tomczyk	TST	8/20/07
Fisheries	Scott Snedaker	SMS	8/21/07
Recreation/Rural Interface/Visuals	Traci Meredith	TMM	8/20/2007
NEPA	Gary Humbard	GLH	8/20/07

5.0 CONTACTS AND CONSULTATION

5.1 Agencies, Organizations, and Persons Consulted (ESA Section 7 Consultation)

U. S. Fish and Wildlife Service

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

NOAA NMFS

A preliminary determination has been made that the proposed Fiscal Year 2007/2008 Programmatic Timber Salvage project includes both 'No Effect' action areas and 'May Affect' action areas to ESA listed threatened Upper Willamette River steelhead trout. These determinations were primarily derived from the distance of listed fish and critical habitat from treatment areas and proposed haul routes.

Proposed actions which 'May Affect' would comply with existing programmatic consultation and relevant design criteria, or would need additional consultation coverage. Existing programmatic consultations covers log removal associated with road prism salvage and log removal for in-stream restoration projects. Road prism salvage is covered under NOAA NMFS *Endangered Species Act Section 7 Informal Consultation and Magnuson Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Three Programmatic Catagories in Northwestern Oregon*. Log removal for in-stream restoration is covered under NOAA NMFS *Endangered Species Act Section 7 Formal Programmatic Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Fish Habitat Restoration Activities in Oregon and Washington, CY2007-CY2012*. Due to the programmatic nature of this EA other salvage actions may occur which could not be specifically addressed under this assessment. Any future activities which 'may affect' listed UWR steelhead trout, and are not covered under the existing programmatic consultations, would require separate consultation in order to comply with ESA.

Protection of EFH as described by the Magnuson/Stevens Fisheries Conservation and Management Act and consultation with NOAA NMFS is required for all projects which may adversely affect EFH of Chinook and coho salmon. The proposed actions in the FY 2007/2008 Programmatic Timber Salvage EA are not anticipated to adversely affect EFH. This determination is primarily due to the distance of EFH from treatment areas and proposed haul routes. Actions determined to adversely affect EFH and are not covered under the existing programmatic consultations would be consulted on, most likely concurrently with any additional ESA consultation, with NOAA NMFS.

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

The project area occurs in the Coast Range. Survey techniques are based on those described in Appendix D of the *Protocol for Managing Cultural Resource on Lands Administered by the Bureau of Land Management in Oregon*. Post-project survey would be conducted according to standards based on slope defined in the Protocol appendix. Ground disturbing work would be suspended if cultural material is discovered during project work until an archaeologist can assess the significance of the discovery.

5.3 Public Scoping and Notification-Tribal Governments, Adjacent Landowners, General Public, and State County and local government offices

- A scoping letter, dated June 7, 2007, was sent to 16 potentially affected and/or interested individuals, groups, and agencies. Two responses were received during the scoping period.
- A description of the project was included in the June 2007 project update to solicit comments on the proposed project.

5.3.1 30-day public comment period

- The EA and FONSI will be made available for public review August 23, 2007 to September 21, 2007. The notice for public comment will be published in a legal notice by the *Polk County Itemizer-Observer* and *Gazette Times* newspapers. Comments received by the Marys Peak Resource Area of the Salem District Office, 1717 Fabry Road SE, Salem, Oregon 97306, on or before September 21, 2007 will be considered in making the final decisions for these projects.

6.0 MAJOR SOURCES

6.1 Major Sources

6.1.1 Interdisciplinary Team Reports

Exeter, R. 2007. Marys Peak Resource Area Botanical Report.. Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR. Prepared for Fiscal Year 2007/2008 Programmatic Timber Salvage NEPA File.

Hopkins, S. 2007. Biological Evaluation. Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR. Prepared for Fiscal Year 2007/2008 Programmatic Timber Salvage NEPA File.

Meredith, T 2007. Visual, Recreation and Rural Interface Input. Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR. Prepared for Fiscal Year 2007/2008 Programmatic Timber Salvage NEPA File.

Snedaker, S. 2007. Fiscal Year 2007 Programmatic Timber Salvage Late Successional and Riparian Reserve Enhancement Project Environmental Assessment Fisheries. Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR. Prepared for Fiscal Year 2007/2008 Programmatic Timber Salvage NEPA File.

Snook, H. 2007. Marys Peak Resource Area Silviculture Report.. Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR. Prepared for Fiscal Year 2007/2008 Programmatic Timber Salvage NEPA File.

Thornton, C. 2007. Programmatic Salvage 2007 H**ydrology.** Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR. Prepared for Fiscal Year 2007/2008 Programmatic Timber Salvage NEPA File.

Tomczyk, T. 2007. Timber Sale Proposal Fuels/Soils Report. Marys Peak Resource Area, Salem District, Bureau of Land Management. Salem, OR. Prepared for Fiscal Year 2007/2008 Programmatic Timber Salvage NEPA File.

6.1.2 Additional References

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. 1994. 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. Portland, OR. Note: The ROD and S&G are collectively referred to herein as the Northwest Forest Plan (NFP)

USDA Forest Service, USDI Bureau of Land Management. 1997. Late Successional Reserve Assessment, Oregon Coast Province - Southern Portion (RO267, RO268), version 1.3 June 1997. Supervisor's Office, Siuslaw National Forest, Corvallis Oregon. 86 pp.

USDA Forest Service, USDI Bureau of Land Management. 1998. Late Successional Reserve Assessment for Oregon's Northern Coast Range Adaptive Management Area (Late-Successional Reserve RO269, RO270 & RO807). January 1998. Salem District BLM Office, Salem, Oregon. Unpublished document. 117 pp.

USDA Forest Service, USDI Bureau of Land Management. 2004. Final Draft, Biological Assessment of habitat-modification project 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 would modify the critical habitats of the northern spotted owl or the marbled murrelet. Salem District BLM, Salem, Oregon. Unpublished document.

USDA. Forest Service, USDI. Bureau of Land Management. 2001. *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (January, 2001) (2001 ROD),

USDI. Bureau of Land Management. 1994. Salem District Proposed Resource Management Plan/Final Environmental Impact Statement. Salem, OR.

USDI. Bureau of Land Management. 1995. Salem District Record of Decision and Resource Management Plan (RMP). Salem District BLM, Salem, OR. 81 pp. + Appendices.

USDI. Bureau of Land Management. 1996. Upper Siletz Watershed Analysis. Salem District BLM, Salem, Oregon. Unpublished document. 141 pp. + Maps and Appendices.

USDI. Bureau of Land Management. 1997. Benton Foothills Watershed Analysis. Salem District BLM, Salem, Oregon. Unpublished document.

USDI Bureau of Land Management. 1996. North Fork Alsea Watershed Analysis. Salem District Bureau of Land Management, Salem, Oregon. Unpublished document.

USDI. Bureau of Land Management. 1998. Rowell Creek, Mill Creek, Rickreall Creek, and Luckiamute River Watershed Analysis. Salem District BLM, Salem, Oregon, September, 1998. Unpublished document. 126 pp + Maps and Appendices.

USDI Bureau of Land Management. 1995. South Fork Alsea Watershed Analysis. Salem District Bureau of Land Management, Salem, Oregon. Unpublished document

Earth Design Consultants. 2001. MidCoast Watersheds Council Sixth Field Watershed Assessment. Green Point Consulting. Corvallis, Oregon. Unpublished document

Yamhill Basin Council. 2001. Salt Creek-South Yamhill River Watershed Assessment. McMinville, Oregon. Unpublished document

USDI Fish and Wildlife Service. 1992. Endangered and threatened wildlife and plants; determination of Critical Habitat for the northern spotted owl. Federal Register, Volume 57 (10): 1796-1838. Washington, DC. January 15, 1992.

USDI Fish and Wildlife Service. 2006. Letter of Concurrence for Effects to Northern Bald Eagles, Northern Spotted Owls, and Marbled Murrelets from the North Coast Province Fiscal Year 2007-2008 activities that may affect, but are not likely to adversely affect, due to activities that modify habitat and create disturbance, U.S. Department of the Interior; Bureau of Land Management, Eugene District and Salem District, and the U.S. Department of Agriculture; Siuslaw National Forest. Oregon Fish and Wildlife Office, Portland, Oregon. Tracking Number: 1-7-2006-I-0190 (dated 10/4/2006), Unpublished Document.

7.0 - Response to Scoping Comments

A scoping letter, dated June 7, 2007, was sent to 16 potentially affected and/or interested individuals, groups, and agencies. Two responses were received during the scoping period.

7.1.1 Summary of comments and BLM responses

The following addresses comments raised in two 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.

7.1.1.1 Oregon Wild (April 2, 2007)

1. **Comment:** *"Are the salvage areas in one area or scattered within the resource area."*

Response: The salvage areas are scattered throughout the MPRA (see Maps 1).

2. **Comment:** *"Please analyze the impacts to soil, water and vegetation that harvesting and hauling incur on these resources…"*

Response: Impacts to all affected resources (vegetation, fuels/air quality, wildlife, fisheries, water and soils) were analyzed (Sec. 3.2) in the EA.

3. **Comment:** *"How much commercial product is proposed for removal and what size is proposed for removal versus would be left on the site after harvest operations. How many trees are proposed to be left for down wood? We urge to use some of the trees as down wood for in-stream restoration purposes".*

Response: The amount of commercial product is unknown, however no more than 90 acres annually would be allowed for removal. As stated in the EA (pg. 12) trees to be left on site for CWD would be approximately the stand average diameter or larger. In addition to previous existing

CWD levels (prior to the December 14, 2006 windthrow storm event), a total of 6 to 16 trees per acre would be retained in blow down group areas within LSR and RR LUAs and within the North Coast Adaptive Management Area (NCAMA). In individual tree blow down areas within LSR and RR LUA and NCAMA that are adjacent to existing roads, the portion of the tree outside the road prism would remain on site.

In individual tree blow down areas within Matrix LUA, approximately 10% of the total portion of blow down trees would remain on site. In blow down group areas within Matrix LUA and outside the North Coast Range Adaptive Management Area at least 2 trees per acre would remain on site as CWD.

4. **Comment:** *"We do not support the removal of trees in RR if there is yarding across streams or the removal violates ACS objectives*

Response: A design feature of allowing yarding across streams is not included in the EA and thus would not be allowed to occur. Project design features would not prevent ACS objectives from being met (see EA Table 12).

5. **Comment:** *"We urge you to develop an alternative that would use all (or most) of the wood for restoration purposes.*

Response: An additional purpose for the proposed salvage activities within the LSR, RR and AMA stands is to "restore the distribution, diversity, and complexity of watershed and landscape features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted;" (RMP pp. 5-6). This project would redistribute some excess CWD from project blow down areas to areas known to be CWD limited, and occupied by fish. These areas would consist of blow down group areas which are not adjacent to roads in high human use areas.

However, due to the lack of funding and the inability to immediately implement the removal of blow down trees for restoration purposes, thereby reducing the fire risk and hazard, this alternative would not meet the purpose and need of the project and thus was not developed.

7.1.1.2 American Forest Resource Council (March 8, 2007)

1. **Comment:** *The most important aspect of a salvage harvest is to harvest the timber in a timely manner*.

Response: We agree that salvaging of timber should be done in a timely manner and we are attempting to accomplish this goal. The current plan is to allow the harvesting of blow down timber to commence during the summer of 2007.

2. **Comment:** *Appropriate harvesting systems should be used and the BLM should remove all dead trees and trees likely to die utilizing patch cuts or regeneration harvest methods. This will provide early successional habitat typically not provided by thinning treatments*

Response: Ground based yarding was determined to be the appropriate harvesting system to be utilized for the project area. This was determined after considering the project area topography consisted of 0 to 30% slopes and no identified soil concerns. The objective of the NCRAMA is to manage for the restoration and maintenance of late-successional forest habitat. Snags and CWD are important components of late successional forests and would be managed. Regeneration harvest is only appropriate in the NCRAMA when a disturbance, caused by such agents as disease or insects, creates a risk high enough that action must be taken to prevent negative effects on existing and/or potential late-successional habitat. The proposed action would reduce the potential negative effects caused by bark beetles and/or wildfire, subsequently, regeneration harvest would not be appropriate.

3. **Comment:** *Due to fire and wildlife restrictions which make it difficult to complete timber sales, AFRC would like to see a option to complete this salvage sale during the winter season*.

Response: Design features would include using ground based equipment and the need to haul the timber (adjacent to listed anadromous fish) during the dry season. The proposed project would include the harvest of a portion of blow down trees within approximately 10 acres down timber, (a relatively small amount of timber) which should require a minimal amount of time to harvest and haul the timber from the site.