

Snake Creek Thinning Timber Sale

Final Decision and Decision Rationale
January 2007

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

T.10 S., R. 2 E. section 1; T. 10 S., R.3 E., sections 3, 5; WM.
Environmental Assessment Number (EA) # OR080-04-20 (2006 Thinning EA)
Snake Creek, south of the North Santiam River, Snakehouse Project Area
Middle North Santiam 5th field Watershed.
Linn County, Oregon

T.10 S., R. 2 E. section 11, 15; WM.
EA # OR080-04-08 (Ag47 Projects EA)
Project 3: Thomas Creek Late Successional Enhancement Project
Thomas Creek 5th field Watershed.
Linn County, Oregon

Responsible Agency: USDI - Bureau of Land Management

Responsible Official: Cindy Enstrom, Field Manager
Cascades Resource Area
1717 Fabry Road SE
Salem, OR 97306
(503) 375-5969

For further information, contact: Carolyn Sands
Cascades Resource Area
1717 Fabry Road SE
Salem, OR 97306
(503) 315-5973



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.

Table of Contents

I. Introduction..... 3
 II. Decision 3
 III. Alternatives Considered..... 6
 IV. Decision Rationale..... 9
 V. Compliance with Direction..... 10
 VI. Public Involvement/ Consultation/Coordination 13
 VII. Conclusion 15
 VIII. Units by Land Use Allocation 18
 IX. Maps 18
 X. Project Design Features 24
 XI. Compliance with Survey and Manage Direction..... 25
 XII. Response to EA Comments 33

Table 1: Summary of the Selected Action..... 5
 Table 2: Comparison of the Alternatives with Regard to the Purpose of and Need for Action 7
 Table 3: Unit by Land Use Allocation..... 18

BLM/OR/WA/PT-07/022+1792

I. Introduction

The Bureau of Land Management (BLM) has conducted environmental analyses for the Snake House Project and the Thomas Creek LSR Enhancement Project. These analyses are documented in the following Environmental Assessments (EA) and associated project files:

- The Snake House Project is documented in the *FY 2006 Timber Sale Thinning Environmental Assessment* (2006 Thinning EA, # OR080-04-20).
- The Thomas Creek LSR Enhancement Project is documented as Project 3 of the *Ag47 Projects Environmental Assessment* (Ag47 EA, # OR080-04-08).

The portions of the Snake House Project that are located in T. 10 S., R. 2 E., Sections 1, and T. 10S. R3E. Sections 3 and 5 have been combined with the Thomas Creek LSR Enhancement Thinning Project in T. 10 S., R. 2 E., Sections 11 and 15 to form the Snake Creek Timber Sale. This timber sale is a proposal to thin approximately 261 acres of 40-80 year old mixed conifer stands within the General Forest Management Area (GFMA) and Connectivity portions of the Matrix Land Use Allocation (LUA), the Late Successional Reserve (LSR) LUA, and the Riparian Reserve (RR) LUA. See Table 3 in section **VIII.** of this Decision Rationale (DR).

A Finding of No Significant Impact (FONSI) for EA # OR080-04-08 was signed on August 10, 2004; and a FONSI for EA # OR080-04-20 was signed on July 19, 2005. The EA and FONSI documents were then made available for public review.

II. Decision

I have decided to implement a timber sale consisting of units SH1A-SH1C, SH3A, SH5B-SH5F of the Snake House Project Area proposed action as described in the FY 2006 Timber Sale Thinning Environmental Assessment (EA # OR080-04-20) (EA pp. 11-51, 82-91); and the proposed action from Project 3, Thomas Creek LSR Enhancement Project as described in the Ag47 Projects Environmental Assessment (EA # OR080-04-08) (EA pp. 38-51) with modifications described in this Decision Rationale. The timber sale will be called **Snake Creek Thinning**.

This decision is based on site-specific analyses in the EAs described above, the supporting project record, public comment, and management recommendations contained in the Middle North Santiam and Thomas Creek watershed analyses, as well as the management direction contained in the Salem District Resource Management Plan (May 1995), which are incorporated by reference in the EAs. The following is a summary of the decision, hereafter referred to as the “selected action”. DR Table 3 displays the crossover between units in the proposed actions and the selected action. The BLM proposes to:

Timber Harvest

Harvest approximately 262 acres (DR Table 3) within T. 10 S. R.2 E. Sections 1, 11, and 15 and T. 10 S. R 3 E. Sections 3, 5, WM. that includes:

- Thinning 261 acres within the following Land Use Allocations (LUAs)
 - 113 acres within the General Forest Management Area (GFMA) portion of the Matrix LUA (Upland Thinning in DR Table 3),
 - 31 acres within the Connectivity portions of the Matrix LUA (Upland Thinning),

- 44 acres within the Late Successional Reserve LUA (Upland Thinning),
- 73 acres within the Riparian Reserve LUA (Riparian Thinning in DR Table 3);
- Clearing 1 acre of vegetation within the road right-of-way accessing unit 3.

Logging Systems

- Harvest approximately 261 acres (Units 1-13) using ground-based yarding.
- Harvest approximately 1 acres (Unit 8) using a cable winching system.

Units

On Units 10-13, (10S-R2E-Sec.11 and 10S-R2E-Sec.15) EA proposed thinning actions were reduced by approximately 26% to the current acreage within the selected action.

Road Work and Haul:

- Construct approximately 0.3 miles of new road to accommodate ground-based logging equipment and log transport for unit 3 (section 1). New construction will be blocked and stabilized after logging operations.
- Renovate and maintain approximately 16 miles of existing road. Renovation may include blading and shaping of roadway and ditches, small slide/slump repairs, clearing brush from cut and fill slopes, cleaning or replacing culverts, and applying rock surfacing material to depleted surfaces.
- Renovate up to 0.7 mile of BLM Road 9-3E-31 (T.10S. R.2E. Section 1) to the minimum standard necessary for hauling, including minimal spot rocking, blading, and brushing, curve alignment, and tree removal. After thinning and hauling is completed, this section of road will be obliterated. Obliteration consists of scarifying the road surface, re-establishing the natural slopes and drainage patterns, scattering logging debris, and re-seeding and fertilizing the disturbed area.
- Decommission and/or storm proof and block up to 1.5 miles of road. Decommissioning includes removal of culverts, re-establishment of natural drainage patterns, ripping and seeding of the road bed and blocking vehicle access. Most of the decommissioning and storm proofing will take place in T.10S. R.2E. Section 1. Storm proofing entails installing water-bars on roads.
- Construct 5 trench and berm road blocks, after logging, blocking 1.7 miles of road
- Seed and Fertilize 3.5 acres of natural surface roads and disturbed areas.

New gates

- Install 2 gates at the following locations:
 - At the start of segment D of the 10-3E-02.01 road, blocking 1 mile of road.
 - At the start of the 10-3E-04.01, blocking 2.5 miles of road.

Culverts

- Remove one 18” culvert on the 10-2E-11.01 mile post 0.06 after the completion of logging operations to restore the natural drainage.
- Install 254 linear feet of culvert material to improve drainage in road ditches
- Install 60 linear feet of culvert material after removing a log fill on an old man-made pond.
- Replace 300 linear feet of culvert material at intermittent stream crossings

Fuels Treatments

- A total of 70 acres in units 1, 4, 5, 6, 7, 8 and 9 would have fuel treatment. The areas to be treated are located along roads within the unit area and along property lines.
 - Within 30 feet of the edge of each landing all tops, broken pieces, limbs and debris over 1 inch and longer than 3 feet will be piled and covered with a 20 foot minimum distance from residual trees. Piles will be burned after thinning has occurred and fall rains have begun.
 - Within the upland areas of units 1, 4, 5, 6, 7, 8, and 9 fuels will be mechanically treated to reduce the fuels without burning. The work will consist of mechanically grinding branches and wood debris, and leaving ground material on forest floor. All fuels 1 to 6 inches in diameter and longer than 6 inches will be treated. A layer of debris no deeper than 10 inches will be created.

Other

After logging operations have been completed, access to skid trails would be blocked by leaving logging debris to prevent Off Highway Vehicles (OHVs) from driving on skid trails.

Design Features

Project Design Features to be implemented are described in section X. of this Decision Rationale, and will be included in the timber sale contract. These design features are first described in sections 2.2.2 (pp. 17-21) and 7.1.2.2 (pp. 83-84) of the 2006 Thinning EA (EA#OR080-04-20) and in sections 2.2.2.2 (p. 8-11) 4.2.2.2 (p. 40) of the Ag47 EA – Project 3 (EA#OR080-04-08).

Table 1: Summary of the Selected Action

Action		Units 1-9 ¹	Units 10-13 ²	Total	
Timber Harvest (Acres)	Commercial Thinning (See DR Table 3)	General Forest Management Area (GFMA) LUA (Matrix) 10S 2E Sec. 1: Units 1-3	113	0	113
		Connectivity (CON) LUA (Matrix) 10S 3E Sec. 5: Units 5-8	31	0	31
		LSR LUA 10S 3E Sec. 5: Unit 4; 10S 3E Sec. 3: Unit 9; 10S 2E Sec. 11-Units 10-12; 10S 2E Sec. 15- Unit 13	12	32	44
		Riparian Reserve Land Use Allocation	53	20	73
	Road Right of way clearing	1		1	
	Total	210	52	262	
Logging System (Acres)	Ground-Based	209	52	261	
	Cable Winch	1	0	1	
Road Work	Road Access	New road construction ³ (miles)	0.3	0	0.3
		Road Improvement (miles)	0.7		0.7
		Road Renovation/ Road Maintenance ⁴ (miles)	12	4	16
		Culverts - Installation (Linear feet)	254	60	314
		Culverts - Replacement (Linear feet)	156	144	300
		Gates Install (#)	2		2

Action		Units 1-9 ¹	Units 10-13 ²	Total	
	Road Decommissioning	Road Obliteration (miles)	0.2	0	0.2
		Decommissioning/storm proofing (miles)	1	0.5	1.5
		Culvert Removal (#)		1	1
		Trench and berm road blocks (#)	4	1	5
		Seed and Fertilize (acres)		3.5	3.5
Fuels Treatments (acres)	Pile Burning	1	0	1	
	Mechanical Treatments	69	0	69	
Tree Topping/Girdling (trees per acre)		Per Acre ⁵	2	2	4

¹ 2006 Thinning EA (EA # OR080-04-20)

² Ag47 EA ((EA # OR080-04-20)

³ These roads would be left in place, barricaded and seeded after use.

⁴ Roadside brushing, blading, minor repairs, culvert replacement, spot rocking as needed, and ditch and culvert cleaning

⁵ 25% girdled 75% Topped Units 5, 9, 10-12

III. Alternatives Considered

1. No Action - No commercial thinning would take place. No habitat improvement treatments on approximately 67 acres of 40-50 year old plantations within the Late Successional Reserve (LSR) land use allocation would take place.
2. The Proposed Action:
 - The Snake House Project in the 2006 thinning EA (EA#OR080-04-20) is a proposal to thin approximately 834 acres of mixed-conifer stands with an average age ranging from 40 to 80 years. Within the General Forest Management (GFMA) portion of the Matrix LUA, units would be thinned by removing suppressed, co-dominant, and occasional dominant trees (thinning from below), leaving residual overstory trees at a uniform stocking level. Generally, the largest trees would be left. Within units in the Connectivity/ Diversity portion of the Matrix, Late-Successional Reserve, and Riparian Reserve LUAs, up to ten percent of the treatment area would be left in unthinned patches, small gaps (up to one acre in size, retaining up to 20 trees per acre) would be created in 5 – 15 percent of the treatment area, and the remaining area would be thinned to a variable residual tree density, generally leaving the largest trees.
 - The Thomas Creek LSR Enhancement, documented in the Ag47 projects EA (EA#OR080-04-08) - Project 3, is a proposal to implement density management and habitat improvement treatments on approximately 67 acres of 40-50 year old plantations within the LSR land use allocation. Generally, the smaller and less healthy trees would be cut and removed, but a full range of thinning across diameter classes with variable-density marking guidelines designed to maximize horizontal structural diversity in the stand after treatment would be implemented to achieve the desired diameter and spatial distribution. Creating designated patch openings with small clearcuts is not proposed, however, the variable density thinning described above is expected to result in some small (less than ¼ acre) canopy gaps.

3. Selected Action: The portions of the Snake House Project that are located in T. 10 S., R. 2 E., Sections 1, and T. 10S. R3E. Sections 3 and 5 have been combined with the Thomas Creek LSR Enhancement Thinning Project in T. 10 S., R. 2 E., Sections 11 and 15 to form the Snake Creek Timber Sale. This timber sale is a proposal to thin approximately 261 acres of 40-80 year old mixed conifer stands. Thinning methods would remain as described in the proposed action paragraphs, above.

Table 2 of this Decision Rationale (DR Table 2) shows how the Selected Action meets the purpose and need of the project as compared to the no action and EA action alternatives. This table is a summary of the table found in section 9.1 (Table 27) of the 2006 Thinning EA and in section 4.4.7 (Table 14) of the Ag47 EA.

Table 2: Comparison of the Alternatives with Regard to the Purpose of and Need for Action

<i>Purpose and Need</i>	<i>No Action</i>	<i>Action Alternatives: Proposed Action (in the EA) Selected Action (Modified Proposed Action)</i>
2006 Thinning EA OR080-04-20– Snake House Project Area (EA Section 1.3)		
Develop timber sales that can be successfully offered to the market place.	Does not fulfill.	Action Alternatives: Fulfills.
Achieve a desirable balance between wood volume production, quality of wood, and timber value at harvest (RMP p. D-3).	Partially fulfills. Partially meets wood volume production over course of rotation. Logs at end of rotation would be smaller diameter which generally reduces quality and value compared to thinned stands.	Action Alternatives: Fulfills. Maintains volume production over the course of the rotation. Lengthens the rotation and promotes faster diameter growth so that logs at end of rotation would be larger diameter.
Maintain the health and growth of developing stands.	Does not fulfill. Stand health and tree growth rates would begin to decline if stands are not thinned. Competition would result in mortality of smaller trees and some co-dominant trees in the stands.	Action Alternatives: Fulfills. Stand health and tree growth rates would be maintained as trees are released from competition.
Retain elements that provide ecosystem diversity (snags, old growth trees, etc.) so that a healthy forest ecosystem can be maintained with habitat to support plant and animal populations (RMP p. 1, 20)	Partially fulfills. Retains existing elements, but does not enhance conditions to provide these elements for the future stand.	Action Alternatives: Fulfills. Retains the elements described under “no action” on untreated areas of the stands in the project areas and encourages development of larger diameter trees and more open stand conditions in treated areas. This adds an element of diversity to the landscape not provided on BLM lands as soon under the No Action alternative.
Increase height and diameter to develop future large coarse woody debris, snag habitat, in-stream large wood and other elements of late-successional forest habitat. (RMP p.1)	Fulfills. (EA section 3.2.1.2). Average tree size would continue to increase, but at a slower rate as competition for light and nutrients increases.	Action Alternatives: Fulfills. Would meet the Purpose and Need sooner (10-30 years) by concentrating stand growth on fewer stems.
Provide for structural and spatial stand diversity on a landscape level in the long term.	Fulfills by maintaining current trends that would develop diversity slowly.	Action Alternatives: Fulfills. by accelerating changes in some parts of some stands to develop more elements of diversity faster.

<i>Purpose and Need</i>	<i>No Action</i>	<i>Action Alternatives: Proposed Action (in the EA) Selected Action (Modified Proposed Action)</i>
Provide appropriate access for timber harvest, silvicultural practices, and fire protection vehicles.	Partially fulfills. Roads would not be renovated or maintained for fire protection vehicles.	Action Alternatives: Fulfills. Would implement maintenance of feeder roads, allowing improved access for management activities. Would renovate and maintain roads.
Reduce potential human sources of wildfire ignition by controlling access;	Does not fulfill. Existing gates and berms do not adequately control public motorized access.	Action Alternatives: Fulfills. New gates would be installed that would provide opportunities to control public motorized access.
Reduce adverse environmental effects associated with identified existing roads within the project areas (RMP p. 11).	Does not fulfill. Roads not currently meeting ACS objectives would not be improved, decommissioned or closed and stabilized at this time.	Action Alternatives: Fulfills. Identified roads would be renovated or improved and maintained, closed and stabilized, or obliterated.
<i>EA OR080-04-08- Ag47 Project 3 (EA Section 4.1)</i>		
To increase structural complexity of selected forest stands with silvicultural practices designed to speed the development of older forest characteristics such as large diameter trees, snags, and other forest structures in late-successional forest designations (Public Law 106-393 Title II Project Application number (not assigned), 6/3/02, and Mid-Willamette LSR Assessment). The Mid-Willamette LSR Assessment identified the need to enhance wildlife habitat and help create diversity in young plantations within the LSR designation.	Does Not fulfill. Stand development would continue on its present trajectory, unless modified by unusual events such as wind, fire or disease. Crowns would continue to recede and crown ratios would continue to decline, reducing the overall growth and vigor of most of the individual trees. Suppression mortality would continue and accelerate, creating large quantities of relatively small diameter snags that would become small diameter CWD, then litter/duff in just a few years. Low crown ratios and declining vigor would also make the stands more susceptible to disease and storm damage, with unpredictable effects on future stand and habitat conditions.	Action Alternatives: Fulfills. This is the design criteria of the project.
To benefit local communities by providing jobs for local contractors. The Salem District Resource Advisory Committee and the IDT identified the need for a project design and contract(s) that could be successfully offered to local contractors and that would not have significant impacts as defined by NEPA.	Does Not fulfill.	Action Alternatives: Fulfills. Project would be accomplished with a contract(s).

IV. Decision Rationale

Considering public comment, the content of the 2006 Thinning EA, the Ag47 EA and supporting project record, the management recommendations contained in the Middle Santiam and Thomas Creek Watershed Analyses, and the management direction contained in the RMP, I have decided to implement the selected action as described in section **II.** of this Decision Rationale. The following is my rationale for this decision.

1. No Action: This alternative was not selected because it does not meet the Purpose and Need directly, or delays the achievement of the Purpose and Need (2006 Thinning EA section 1.3, Ag47 EA section 4.1), as shown in Table 2 of this Decision Rationale.
2. The Proposed Action:
 - 2006 Thinning EA – Snake House Project Area: Units within the Little North Santiam 5th field watershed (2006 Thinning EA p. 11) were not selected because we plan to sell them in the House Mountain timber sale, which will be documented in the House Mountain Decision Rationale.
 - Ag47 – Project 3 Late Successional Enhancement Project: All units proposed in Project 3 have been incorporated into the selected action (Ag47 EA p. 39). Vegetative treatments have remained the same. However after further field work, acres have changed. (DR Table 3, p. 18).
3. Selected Action: The selected action combines portions of the Snake House Thinning (EA# OR080-04-20) and the Thomas Creek Late Successional Reserve Enhancement (EA# OR 080-04-08). These projects are within the same geographic area and both contain stands within the Late Successional Reserve Land Use Allocation. In addition the Selected Action:
 - Meets the purpose and need of the project (2006 Thinning EA section 1.3, Ag47 Projects EA section 4.1), as shown in DR Table 2 (DR p.7).
 - Complies 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 (2006 Thinning EA pp. 13, Ag47 EA p. 2-3 as modified by DR section **V.** p 10-13).
 - Is responsive to concerns for an economically efficient project.
 - Is responsive to public input (e.g. variable thinning prescriptions in LSR and Riparian Reserve LUAs, thinning 45-50 year old plantations within the LSR LUA).
 - Decreases potential for human caused fire starts and improves fire suppression opportunities by treating slash along open roads and within Wildland Urban Interface boundaries.
 - Incorporates new information on northern spotted owl (DR p.12).
 - Would not contribute to the expansion of invasive/nonnative weed populations.
 - Would not have significant impact on the affected elements of the environment (2006 Thinning EA FONSI pp. 2-6, Ag47 EA FONSI pp. iii-v) beyond those already anticipated and addressed in the RMP EIS.
 - Uses the minimum transportation system to facilitate implementation of the project.
 - Would have no effects on ESA listed fish in Snake Creek, the North Santiam River or Thomas Creek.

V. Compliance with Direction

The analyses documented in the 2006 Thinning EA (Snake House Project Area) and the Ag47 Projects EA (Project 3) are site-specific and supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS). This project has been designed to conform to the *Salem District Record of Decision and Resource Management Plan*, May 1995 (RMP) and related documents which direct and provide the legal framework for management of BLM lands within the Salem District (2006 Thinning EA pp. 13, Ag47 EA p. 2-3 as modified by DR section V. p 10-13). All of these documents may be reviewed at the Cascades Resource Area office.

Survey and Manage Species Review

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

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

The 2006 Thinning EA and the Ag47 EA were completed prior to the Judge Marsh Pechman's January 2006 ruling on the 2004 Record of Decision for Survey and Manage Standards and Guidelines. The Snake Creek project was brought in full compliance with:

- Judge Marsha Pechman's January, 2006 ruling on the 2004 Record of Decision for Survey and Manage Standards and Guidelines, as stated in Point (3) on page 14 of the January 9, 2006, Court order in Northwest Ecosystem Alliance et al. v. Rey et al. (Snake Creek DR section **XI**. – Compliance with Survey and Manage Direction) in full and complete compliance with the 2001 FSEIS and ROD, as modified by the 2003 Annual Species Review (ASR).

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

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

The Cascades Resource Area will reexamine individual project level NEPA documents (environmental assessments) in light of any pertinent court ordered remedy and will make revisions to such documents as necessary following issuance of the court's judgment. We have provided advance notice to potential purchasers informing them that the court's ruling may result in delays in award of the sale to the high bidder or suspensions of operations. Appropriate processes are in place to provide us the ability to delay award of timber sales or issue suspensions should they become necessary.

Units 4 and 9 (80 years old) are marginally suitable for red tree voles and were surveyed to protocol. In addition, Units 1, 3, 6, and 10-12 were surveyed for red tree voles. A total of 33 trees were climbed and no active red tree vole nests were found. Information regarding effects of the project on the red tree vole has been incorporated in the following paragraph.

Effects to Red Tree Voles: In the short-term, it is possible that undetected nests could be disturbed during thinning. In the long term, habitat conditions for red tree voles would gradually become more suitable after thinning as canopies close and stands continue to mature and develop older forest characteristics. Impacts of the selected action to canopy dwelling species such as the red tree vole would be lower than the proposed action. The selected action includes 262 acres of mid seral stands, which is 47 acres less (15%) than the proposed action of 309 acres. No adverse cumulative effects to red tree vole habitat are expected because no optimal habitat (as described in the *Management Recommendations for the Oregon Red Tree Vole*, Version 2.0 p. 7) will be lost or altered; thinned stands will attain older forest conditions sooner as a result of thinning; and undisturbed habitat in the same or similar age class with connectivity to the thinning units exists within the project area. Implementation of the selected action would not eliminate connectivity between project units and adjacent untreated stands under BLM management.

No red tree vole surveys were required on Units 1-3, 5-8, 10-13 due to lack of suitable habitat in these young (<80 years of age) stands. In Northwest Ecosystem Alliance et al. v. Rey et al the U.S. District Court modified its order on October 11, 2006, amending paragraph three of the January 9, 2006 injunction. This most recent order directs:

"Defendants shall not authorize, allow, or permit to continue any logging or other ground-disturbing activities on projects to which the 2004 ROD applied unless such activities are in compliance with the 2001 ROD (as the 2001 ROD was amended or modified as of March 21, 2004), except that this order will not apply to:

- a. Thinning projects in stands younger than 80 years old;
- b. Replacing culverts on roads that are in use and part of the road system, and removing culverts if the road is temporary or to be decommissioned;
- c. Riparian and stream improvement projects where the riparian work is riparian planting, obtaining material for placing in-stream, and road or trail decommissioning; and where the stream improvement work is the placement large wood, channel and floodplain reconstruction, or removal of channel diversions; and

- d. The portions of project involving hazardous fuel treatments where prescribed fire is applied. Any portion of a hazardous fuel treatment project involving commercial logging will remain subject to the survey and management requirements except for thinning of stands younger than 80 years old under subparagraph a. of this paragraph.”

BLM has reexamined the objectives of Snake Creek timber sale as described in the *FY 2006 Timber Sale Thinning Environmental Assessment* (2006 Thinning EA, # OR080-04-20 p. 14) *Ag47 Projects Environmental Assessment* (p. 38) and in this Decision Rationale (p. 6). The selected action in Units 1, 2, 3, 5, 6, 7, 8, 10, 11, 12, and 13 meet Criterion a: Thinning projects in stands younger than 80 years old (DR Table 3).

No surveys for mollusk species are required for the Snake Creek Project due to project location and lack of suitable habitat for Survey and Manage mollusk species (2001 ROD Compliance Review: Survey & Manage Wildlife Species for Snake Creek). Although no mollusk surveys were required, some were conducted in Units 1-4, 6-13. No Survey and Manage Species were found.

Northern Spotted Owl (NSO) Status Review:

The following information was considered in this decision: a/ *Scientific Evaluation of the Status of the Northern Spotted Owl* (Sustainable Ecosystems Institute, Courtney *et al.* 2004); b/ *Status and Trends in Demography of Northern Spotted Owls, 1985-2003* (Anthony *et al.* 2004); c/ *Northern Spotted Owl Five Year Review: Summary and Evaluation* (USFWS, November 2004); and *Northwest Forest Plan – The First Ten Years (1994-2003)*; d/ *Status and trend of northern spotted owl populations and habitat, PNW Station Edit Draft* (Lint, Technical Coordinator, 2005). Although the agencies anticipated a decline of NSO populations under land and resource management plans during the past decade, the reports identified greater than expected NSO population declines in Washington and northern portions of Oregon, and more stationary populations in southern Oregon and northern California.

The reports did not find a direct correlation between habitat conditions and changes in NSO populations, and they were inconclusive as to the cause of the declines. Lag effects from prior harvest of suitable habitat, competition with Barred Owls, and habitat loss due to wildfire were identified as current threats; West Nile Virus and Sudden Oak Death were identified as potential new threats. Complex interactions are likely among the various factors. This information has not been found to be in conflict with the NWFP or the RMP (*Evaluation of the Salem District Resource Management Plan Relative to Four Northern Spotted Owl Reports, September 6, 2005*).

Aquatic Conservation Strategy Update

The Salem District is also aware of ongoing litigation Pacific Coast Federation of Fishermen’s Associations *et al. v. National Marine Fisheries Service et al.* (W.D. Wash.) related to the 2004 supplemental environmental impact statement for the Aquatic Conservation Strategy (ACS). The Magistrate Judge issued findings and recommendations to the court on March 29, 2006. The court has not found this amendment to be “illegal,” nor did the Magistrate recommend such a finding. Given the court has not yet adopted the findings and recommendations; we will appropriately continue to follow the current direction in the 2004 ROD, until ordered otherwise.

The 2006 Thinning and the Ag47 environmental analyses tier to this document as the clarification of how to address the ACS. Since it was only a clarification, and did not alter any of the on-the-ground components of the standards and guidelines designed for achieving the ACS objectives, whether the court upholds the amendment or not should have little practical effect at the project level.

VI. Public Involvement/ Consultation/Coordination

Scoping:

A description of the proposal was included in the Salem Bureau of Land Management Project Update which was mailed to more than 1070 individuals and organizations. A letter asking for scoping input on the proposal was mailed on September 7, 2004 to adjacent landowners, and individuals who expressed an interest in management activities in the resource area as a whole or in this area. Letters were also sent to the Confederated Tribes of Grande Ronde; Confederated Tribes of the Warm Springs Reservation of Oregon; Federal, State, County and local government organizations; Clackamas River Water Providers and Special Interest groups.

Comment Period and Comments:

The 2006 Thinning and Ag47 EAs were mailed to agencies, individuals and organizations. Legal notices were placed in the Stayton Mail newspaper, soliciting public input on the actions, from August 11 to September 10, 2004 (Ag47 EA) and from July 20 to August 19, 2005 (2006 Thinning EA). Responses to public comments can be found in section **XII.** of this Decision Rationale.

ESA Section 7 Consultation

The timber sale was submitted for Formal Consultation with U.S. Fish and Wildlife Service (USFWS) as provided in Section 7 of the Endangered Species Act (ESA) of 1973 (16U.S.C. 1536 (a)(2) and (a)(4) as amended).

1. U.S. Fish and Wildlife Service

Originally, the Snake Creek Thinnings were two separate proposals, one was referred to as Snake Creek (Units 1-9), and the other was referred to as LSR Thomas Crab (Units 10-13) in the ESA Consultation process. They were scheduled for sale during FY2006 and were submitted for ESA Section 7 Consultation during the programmatic consultation process on FY 2005 and 2006 habitat modification projects in the Willamette Province. The Biological Opinion (2005/2006 BO) associated with these thinnings was issued in March 2005 (reference # 1-7-05-F-0228) and this BO expired Dec. 31, 2006. The 2005/2006 BO concluded that these thinnings would not jeopardize the continued survival of the spotted owl (2005/2006 BO p. 75).

Snake Creek and Thomas Crab have since been combined and have been rescheduled for sale in 2007. They were resubmitted during the FY2007/2008 consultation process. *The Batched Biological Assessment for Projects with the Potential to Modify the Habitat of the Northern Spotted Owl, Willamette Province, FY 2007-2008 (BA)*, was submitted in July 2006. Using effect determination guidelines, the BA concluded that overall, the Snake Creek Thinnings may affect, but are not likely to adversely affect the northern spotted owl due to the modification of dispersal habitat (BA, pp. 40-41, 44-45).

The Biological Opinion (BO) associated with these thinnings was issued in September 2006 (reference # 1-7-06-F-0179). The BO concluded that these thinnings would not jeopardize the continued survival of the spotted owl (p. 95). None of the proposed units are located in Critical Habitat for the northern spotted owl.

The proposed thinnings and connected actions described in this EA have incorporated the applicable Management Standards that were described in the BA (p. 10) and BO (Section 1.2, pp. 18-19). In addition, this project would be in compliance with the general standards set forth in the BA (p. 6) and the BO (pp. 17-18), including monitoring and reporting on the implementation of this project and any adverse effects. The BO concluded that there would be no proposed Reasonable and Prudent Measures, and Terms and Conditions would not be applicable since Management Standards common to all activities were developed which included measures to reduce incidental take (p. 97). In addition, as a design feature of this project, the discretionary Conservation Measure set forth in the BO (p. 97) would be implemented. This includes a seasonal restriction on Units 3, 4, 9, 10-13 during the critical nesting season to delay disturbance activities later into the nesting season.

2. NOAA Fisheries (NMFS)

For action alternatives that would have “no effect” on UWR steelhead trout or UWR chinook salmon, consultation with NOAA Fisheries on the potential effects of the project on those species would not be required. Potential effects of the thinning and connected actions on the listed fish species are related to sediment inputs associated with road construction/ decommissioning and culvert replacement/removal, and temperature increases associated with removal of riparian vegetation. The selected action incorporates very little road construction (0.6 mile, none with hydrologic connectivity) or decommissioning and no culvert repair or replacement. The 60’ stream protection zones on perennial streams are expected to prevent any decrease in stream shade that could result in an increase in stream temperature. The determination of “no effect” is based on the distances from proposed project units to ESA listed fish habitat and on the factors stated above that would prevent increases in sediment input, stream turbidity or temperature to Snake Creek, the North Santiam River and Thomas Creek (2006 Thinning EA Sections 5.2.3.2 and 14.1.1, Ag47 EA sections 4.4.5.1 and 8.1).

Since the release of the original EA, Critical Habitat has been designated for both of the ESA listed fish species mentioned above. The project would have no effect on designated Critical Habitat for the same reasons stated in the EA that the project would have no effect on the ESA listed fish species.

VII. Conclusion

Review of Finding of No Significant Impact

I have determined that change to the Findings of No Significant Impact (EA #OR080-04-08 FONSI – August 2004, EA #OR080-04-20 FONSI – July 2005) covering the Snake Creek Timber Sale is not necessary because I've considered and concur with information in the EAs and FONSI and this Decision Rationale. The comments on the EA were reviewed and no new information was provided in the comments that lead me to believe the analysis, data or conclusions are in error or that the selected action needs to be altered. The selected action would not have effects beyond those already anticipated and addressed in the RMP EIS.

Supplemental or additional information to the analysis in the RMP/FEIS in the form of a new environmental impact statement is not needed for the reasons described in the Findings of No Significant Impact (2006 Thinning EA FONSI pp. 2-6, Ag47 EA FONSI pp. iii-v) and in the following paragraphs. Effects of the selected action are similar or less than the effects described in the EA. The following describes the changes in effects between the EA proposed actions and the selected action.

a. Special Status/ Survey and Manage Species – Wildlife

Impacts of the selected action to Special Status Species, including the Oregon slender salamander, would be less under the selected action than the proposed action due to fewer acres that would be impacted. The selected action includes 262 acres of mid seral stands, which is 47 acres less (15%) than the proposed action of 309 acres. As a result, ground disturbance, impacts to CWD, snags and mid seral stands would be less overall than that described under the proposed action in the respective EAs.

Red Tree Vole: See p. 11 of this Decision Rationale.

b. Soils

If a crawler tractor system is used for all the proposed ground-based units (262 acres), the percentage of total tractor unit area impacted by surface disturbance and soil compaction as a result of skid roads would be approximately 6%-8% (between 15.6 to 20.8 acres). On the soils disturbed by crawler tractor skid trails, a moderate amount of top soil displacement and moderate to heavy soil compaction with the implementation of design features described in the EAs and in this Decision Rationale.

If a harvester/forwarder system is used for the entire proposed ground-based area (262 acres), the percentage of total ground based unit area impacted by surface disturbance and soil compaction as a result of skid roads would be approximately 2%-5% (between 5.2-13 acres). In mechanical harvester systems operating between skid trails, soil displacement would be minor and soil compaction would be light to moderate (not likely to measurably effect the reestablishment or growth of vegetation) with the implementation of design features described in the EAs and in this Decision Rationale.

Some of the potentially impacted acreage listed above for ground-based yarding systems includes existing skid roads from previous logging. Where practical, portions of these existing skid roads would be used for skid roads for this project. As a result, the amount of acreage for new or additional harvest impacts would be less than the totals listed above. For the proposed project, the total (new and existing) area of impacted ground would not be expected to exceed the Salem District RMP guideline to not compact more than 10% of ground-based logging units.

The new road construction in this proposal will result in an increase of 0.86 acres of disturbed/compacted surfaces. The single acre proposed for cable winching is unlikely to result in discernible compaction of the soil because material being yarded is small diameter and low weight and will be skidded over a slash mat that will protect the soil surface.

c. *Hydrology and Aquatic Habitat (Including T/E Fisheries)*

Overall, impacts to hydrology and aquatic habitat and species would be similar under the selected action as that described under the proposed action in the EA. Pile burning along roads and on landings may produce small patches of soil with altered properties that restrict infiltration. However, these surfaces would be surrounded by large areas that would absorb any runoff or sediment that may reach them. In addition, pile burning would occur away from surface water or streams and outside of Riparian Reserves. Therefore, pile burning is unlikely to result in surface erosion with delivery of sediment to local streams.

Fish and Aquatic Habitat: The effects to fish and aquatic habitat would be similar to those described in EA section 3.2.3, 7.2.3 of the 2006 thinning EA and sections 2.4.5.1 and 4.4.5 of the Ag47 EA. The addition of Units 10-13 (from the Ag47 Projects EA) would not result in increased effects to aquatic habitat or ESA listed fish species. Units 10-12 are adjacent to headwater tributaries to Thomas Creek, but all have the associated Stream Protection Zones (SPZs), and all are located approximately three miles upstream of Thomas Creek, the nearest stream that supports ESA listed fish. Unit 13 contains only 3 acres of Riparian Reserve near the head of an intermittent stream, and is located on flat ground approximately 500 feet from Thomas Creek. The new road construction is located where it does not have the potential to intersect stream channels or cause stream sedimentation.

d. *Invasive Species*

Impacts of the selected action on providing opportunities for invasive species would be less under the selected action than the proposed action due to fewer acres that would be impacted.

e. *Northern Spotted Owl*

Impacts of the selected action to spotted owls and dispersal habitat would be less under the selected action than the proposed action due to fewer acres that would be impacted. The selected action includes 262 acres of dispersal habitat, which is 47 acres less (15%) than the proposed action of 309 acres. The habitat would remain dispersal habitat after thinning.

Administrative Review Opportunities

The decision described in this document is a forest management decision and is subject to protest by the public. In accordance with Forest Management Regulations at 43 CFR 5003, protests of this decision may be made within 15 days of the publication of a notice of decision in a newspaper of general circulation. This notice of decision will be published in the Stayton Mail newspaper on January 31, 2007. To protest this decision a person must submit a written protest to Cindy Enstrom, Cascade Field Manager, 1717 Fabry Rd SE, Salem, Oregon 97306 by the close of business (4:00 p.m.) on February 15, 2007. The planned sale date is February 28, 2007.

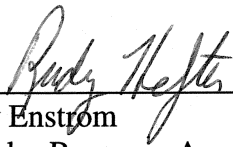
The protest must clearly and concisely state the reasons why the decision is believed to be in error. Any objection to the project design or my decision to go forward with this project must be filed at this time in accordance with the protest process outlined above. If a timely protest is received, this decision will be reconsidered in light of the statements of reasons for the protest and other pertinent information available and shall serve a decision in writing on the protesting party (43 CFR 5003.3).

Implementation Date

If no protest is received within 15 days after publication of this Decision Record (Snake Creek DR) this decision will become final.

Agency contact: For additional information, contact Carolyn Sands (503) 315-5973, Randy Herrin (503) 315-5924 or Rudy Hefter (503) 315-5671, Cascades Resource Area, Salem BLM, 1717 Fabry Road SE, Salem, Oregon 97306.

Approved by:



Cindy Enstrom
Cascades Resource Area Field Manager

1/31/07
Date

VIII. Units by Land Use Allocation

Table 3: Unit by Land Use Allocation

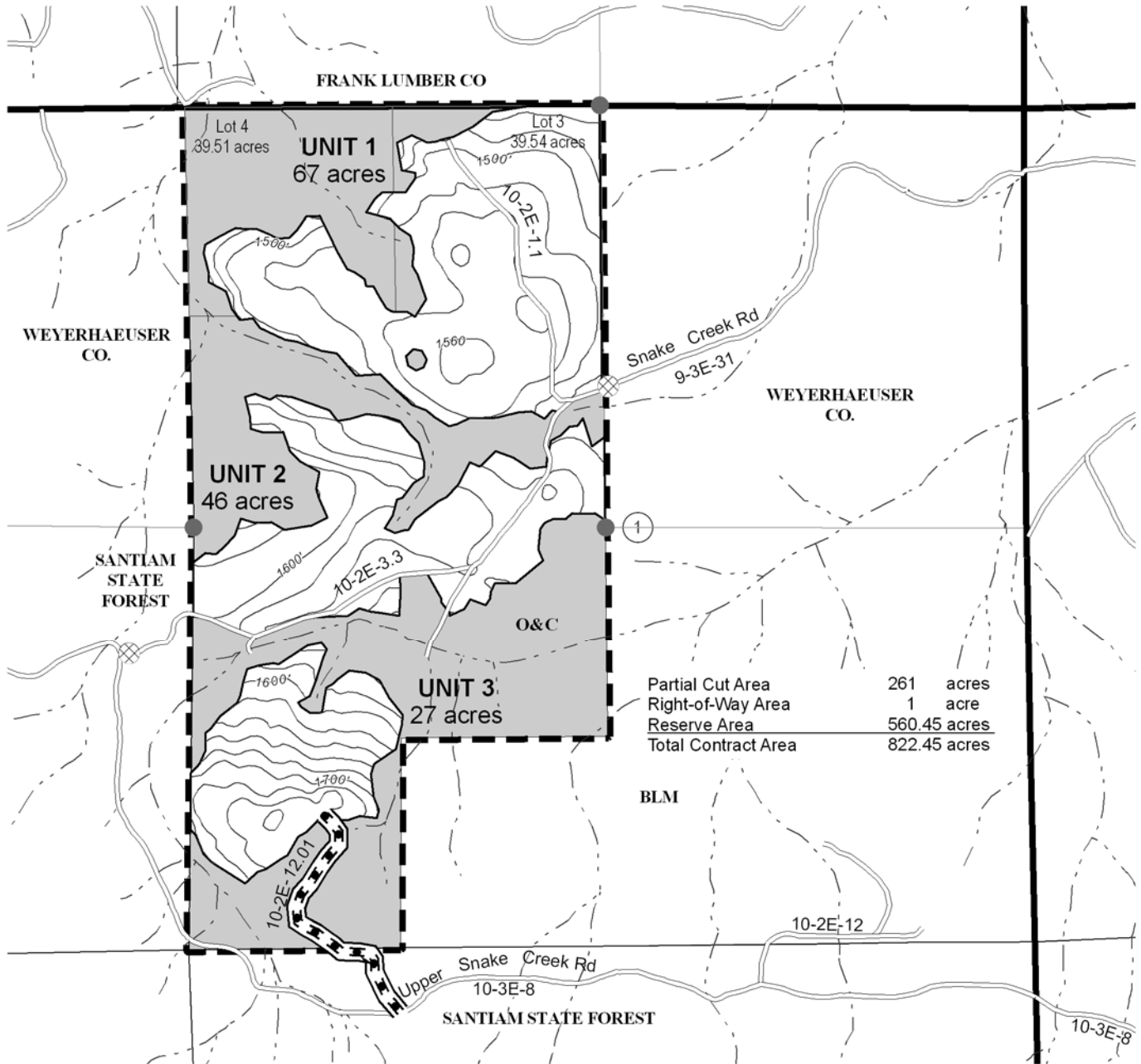
EA	T.R.S	Stand Age	Total Thinning Acres				Selected Action (Acres)				Land Use Allocation
			Ea Proposed Action		Selected Action		Upland Thinning	Riparian Thinning	Right-of-Way (R/W) Clearing	Total	
			Unit #	Acres	Unit #	Acres					
#OR080-04-20	10S 2E Sec. 1	50	SH1A	68	1	67	113	27		140	General Forest Management Area (GFMA) / Riparian Reserve (RR)
		40/50	SH1B	49	2	46					
		50	SH1C	30	3	27					
					R/W	1			1	1	
#OR080-04-20	10S 3E Sec. 5	30	SH5D	17	5	14	31	24		55	Connectivity (CON) / RR
		50	SH5E	6	6	4					
		30	SH5F	44	7	10					
					8	27					
#OR080-04-20	10S 3E Sec. 3	80	SH3A	15	9	9	44	22		66	Late Successional Reserve (LSR) /RR
#OR080-04-08	10S 2E Sec. 11	49	10-2-11	57	10	8					
					11	22					
					12	12					
#OR080-04-08	10S 2E Sec. 15	43	10-2-15	10	13	10					
Total Acres – Snake Creek Timber Sale				309		262	188	73	1	262	

IX. Maps

Maps of the selected action are shown on the following 5 pages.

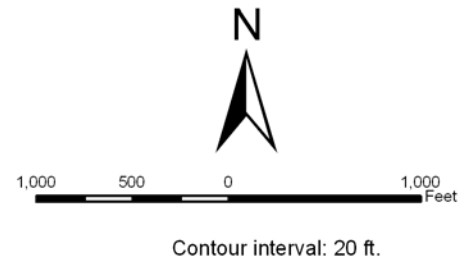
TIMBER SALE CONTRACT MAP - CONTRACT NO. OR-084-TS07-501

T. 10 S., R.2 E., Section 1, W. M. - SALEM DISTRICT - OREGON



Legend

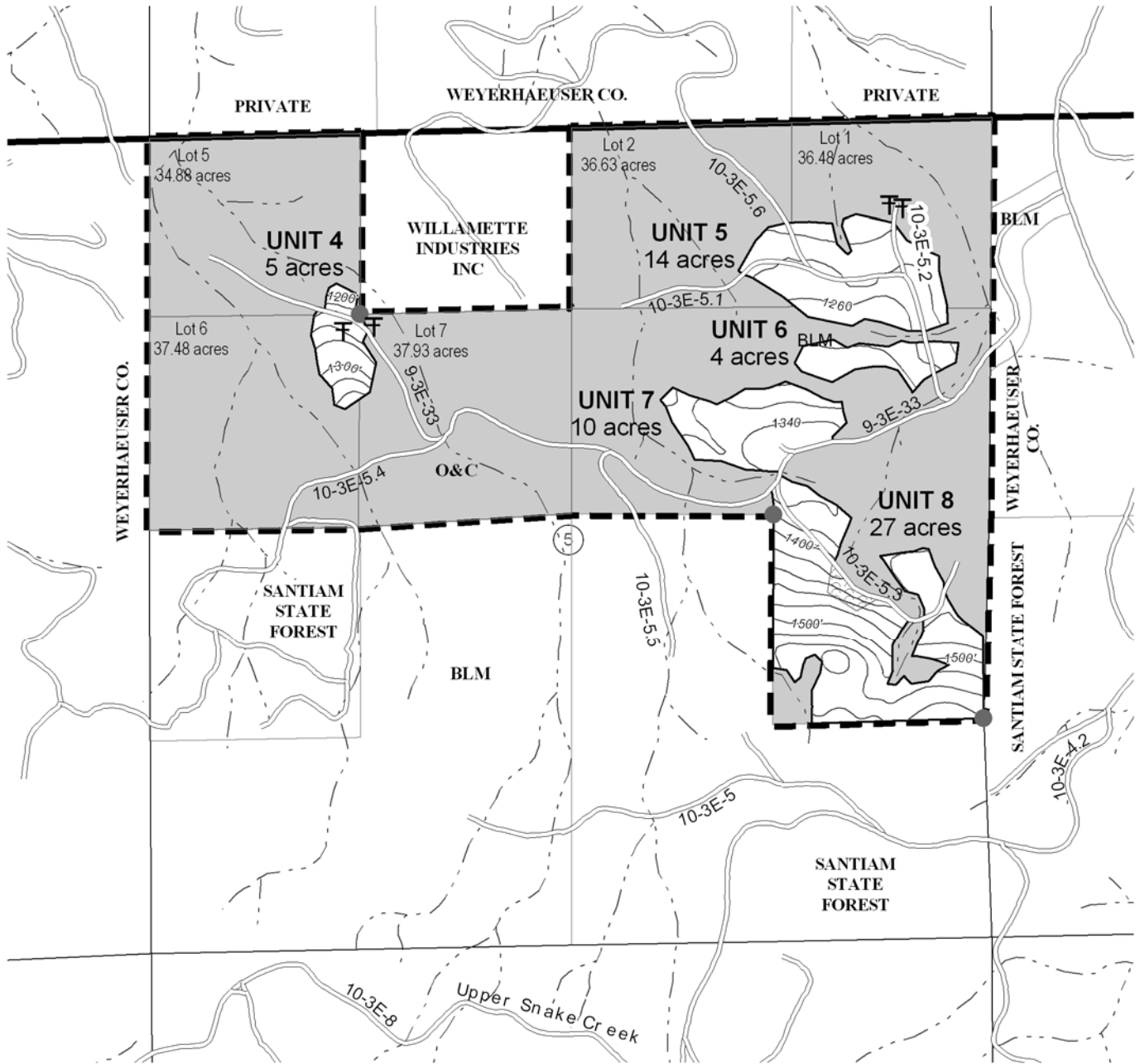
- ☐ Seed trees
- Corners
- Streams
- ⊗ Road blocked
- ▬▬▬ Road to be constructed
- ▬ Existing road
- ▬▬▬ Unit Area - Cable Winching
- ▭ Unit Area - Skidding
- ▭ Reserve Area
- ▬ Boundary - Cutting Area
- ▬▬▬ Boundary - Contract Area



NOTES: Boundary of partial cut areas and rights of way of roads to be constructed, reconstructed and renovated are painted orange and posted. Unit acres do not include existing or new roads. Acres shown on Exhibit A have been computed using a Trimble Pro XL Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

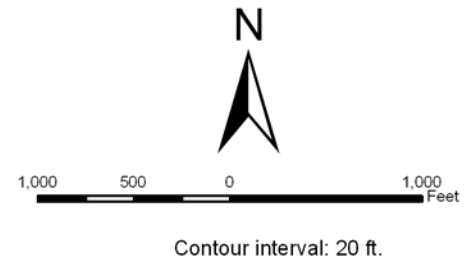
TIMBER SALE CONTRACT MAP - CONTRACT NO. OR-084-TS07-501

T. 10 S., R 3 E., Section 5, W. M. - SALEM DISTRICT - OREGON



Legend

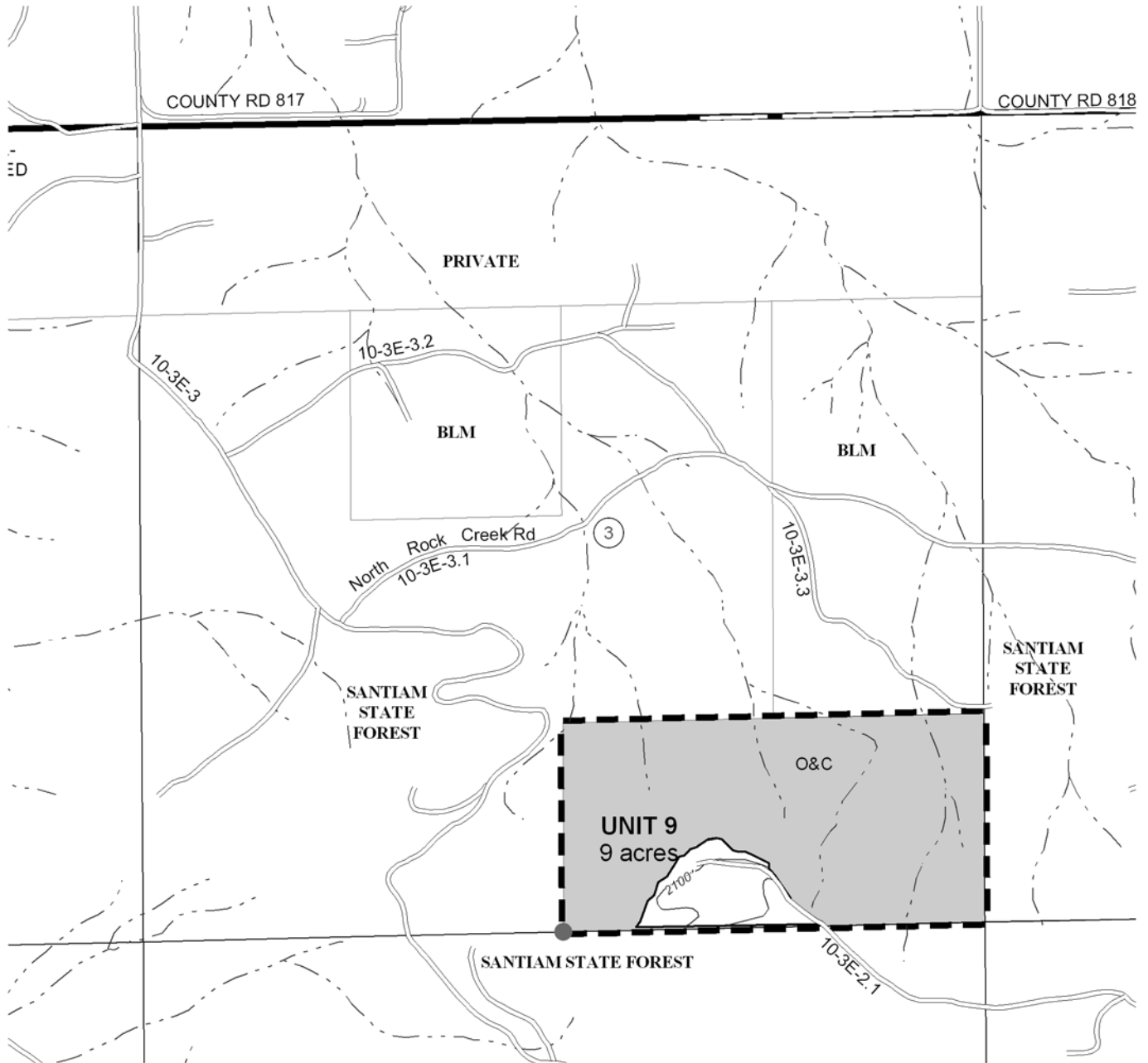
- ⌘ Seed trees
- Corners
- Streams
- ⊗ Road blocked
- ⚓ Road to be constructed
- Existing road
- ▨ Unit Area - Cable Winching
- Unit Area - Skidding
- Reserve Area
- Boundary - Cutting Area
- ▬ Boundary - Contract Area














NOTES: Boundary of partial cut areas and rights of way of roads to be constructed, reconstructed and renovated are painted orange and posted. Unit acres do not include existing or new roads. Acres shown on Exhibit A have been computed using a Trimble Pro XL Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

TIMBER SALE CONTRACT MAP - CONTRACT NO. OR-084-TS07-501

T. 10 S., R.3 E., Section 3, W. M. - SALEM DISTRICT - OREGON



Legend

-  Seed trees
-  Corners
-  Streams
-  Road blocked
-  Road to be constructed
-  Existing road
-  Unit Area - Cable Winching
-  Unit Area - Skidding
-  Reserve Area
-  Boundary - Cutting Area
-  Boundary - Contract Area



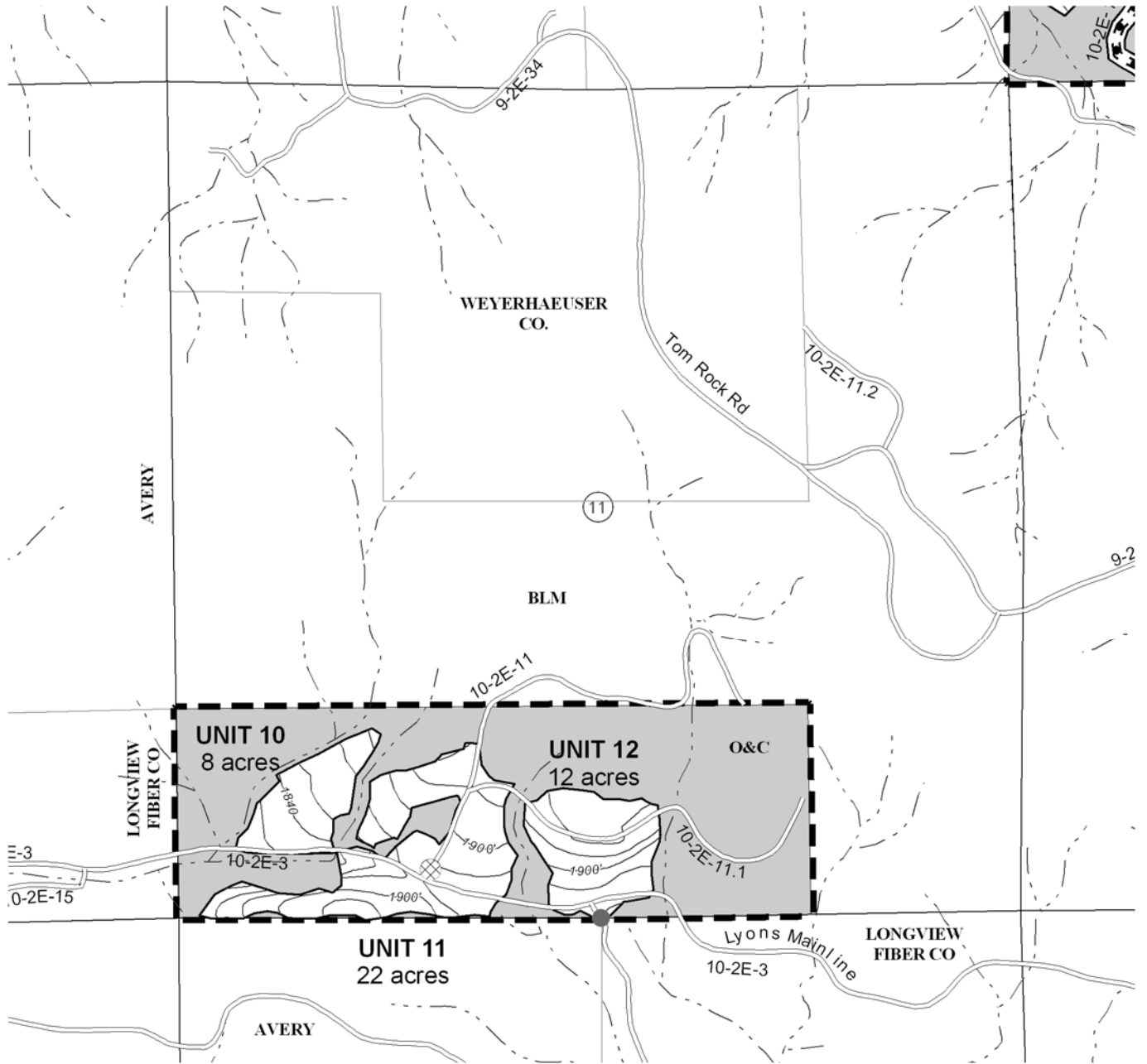
1,000 500 0 1,000
Feet

Contour interval: 20 ft.

NOTES: Boundary of partial cut areas and rights of way of roads to be constructed, reconstructed and renovated are painted orange and posted. Unit acres do not include existing or new roads. Acres shown on Exhibit A have been computed using a Trimble Pro XL Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

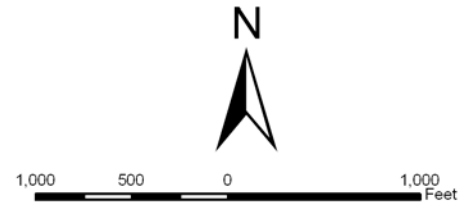
TIMBER SALE CONTRACT MAP - CONTRACT NO. OR-084-TS07-501

T. 10 S., R.2 E., Section 11, W. M. - SALEM DISTRICT - OREGON



Legend

- ☐ Seed trees
- Corners
- - - Streams
- ⊗ Road blocked
- ▬▬▬ Road to be constructed
- ▬ Existing road
- ▬▬▬ Unit Area - Cable Winching
- ▭ Unit Area - Skidding
- ▭ Reserve Area
- ▬ Boundary - Cutting Area
- ▬▬▬ Boundary - Contract Area

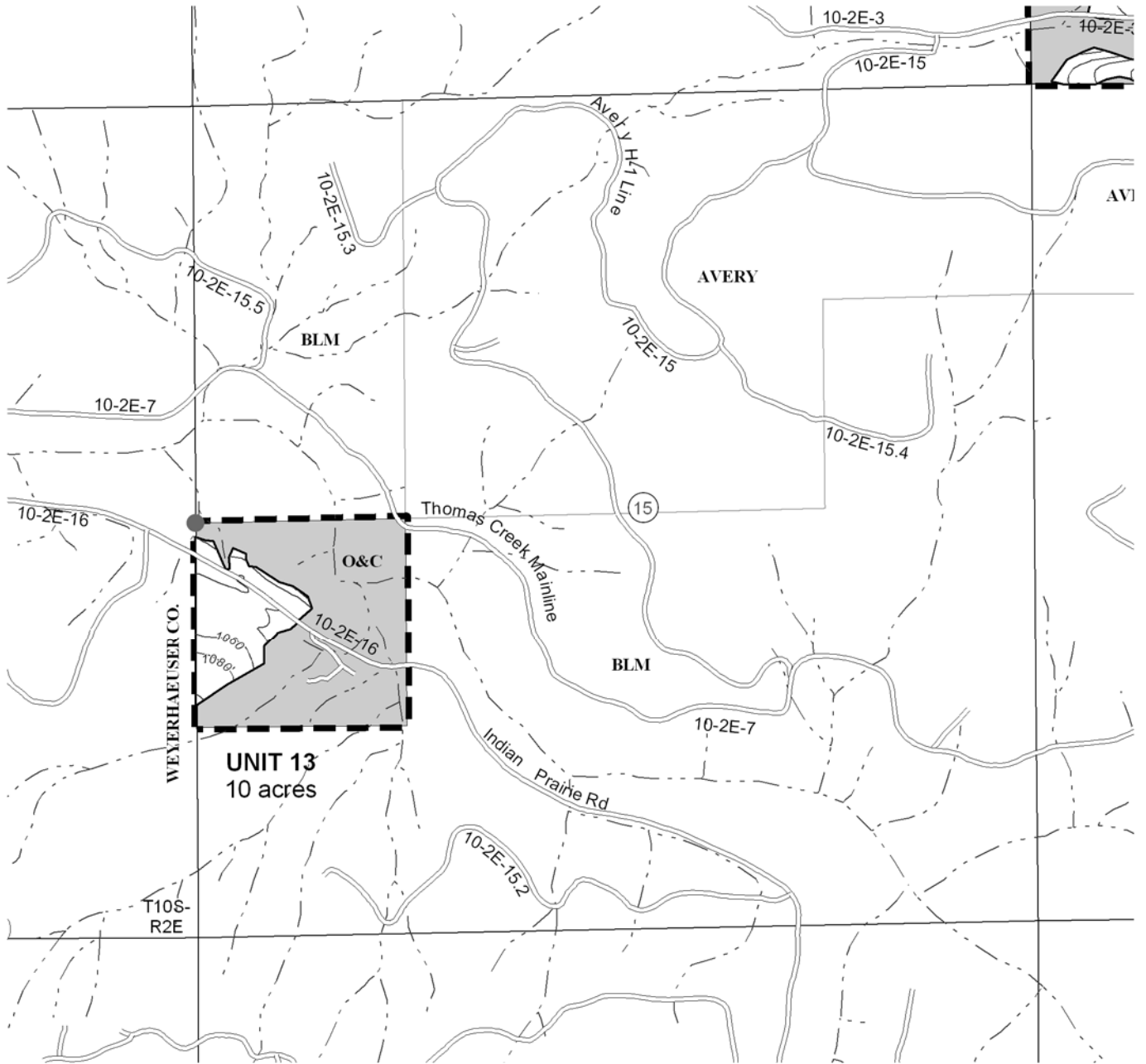


Contour interval: 20 ft.

NOTES: Boundary of partial cut areas and rights of way of roads to be constructed, reconstructed and renovated are painted orange and posted. Unit acres do not include existing or new roads. Acres shown on Exhibit A have been computed using a Trimble Pro XL Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

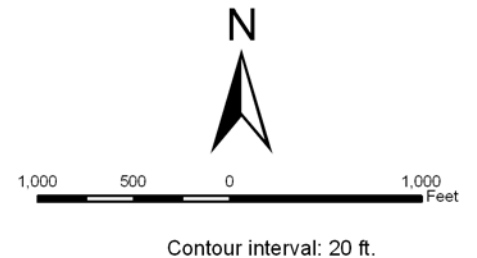
TIMBER SALE CONTRACT MAP - CONTRACT NO. OR-084-TS07-501

T. 10 S., R.2 E., Section 15, W. M. - SALEM DISTRICT - OREGON



Legend

- ☞ Seed trees
- Corners
- Streams
- ⊗ Road blocked
- ▬▬▬ Road to be constructed
- Existing road
- ▨ Unit Area - Cable Winching
- Unit Area - Skidding
- Reserve Area
- Boundary - Cutting Area
- ▬▬▬ Boundary - Contract Area



NOTES: Boundary of partial cut areas and rights of way of roads to be constructed, reconstructed and renovated are painted orange and posted. Unit acres do not include existing or new roads. Acres shown on Exhibit A have been computed using a Trimble Pro XL Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

X. Project Design Features

This section describes the project design features that apply to the Selected Action. Where the design feature is identical to the design feature prescribed in the EAs, the EA reference is provided. Project design features for the EA proposed actions and alternatives are described in 2006 Thinning EA sections 2.2.2 and 7.1.2, and in Ag47 EA sections 2.2.2.2 and 4.2.2.2. Design features are organized by resource management objectives.

1. **Multiple Objectives:** Design features described in the EAs (2006 Thinning EA p.18, Ag47 EA pp. 8-10) would be applied to the Selected Action. Examples include: a) following Best Management Practices (BMPs) as described in the EA; b) designating skid trails prior to operations; c) designing skid trail patterns to avoid concentrating water flows; d) retaining coarse woody debris (CWD).
2. **To minimize soil productivity loss:** Design features described in the EAs (2006 Thinning EA p.18, Ag47 EA p.11) would be applied to the Selected Action. Examples include:
 - Ground-based logging operations: a) limiting soil compaction and disturbance; b) limiting tractor skidding operations when soil moisture is high; c) placing organic debris on skid trails; d) locating slash piles to reduce heat damage; e) limiting slopes to 35 percent for equipment using one-end suspension and 45 percent on log transport equipment using full suspension; f) using existing skid trails; g) In *Riparian Reserve* LUA (RR), limiting ground-based harvesting to slopes under 30 percent.
3. **To protect other components of Hydrologic Functions (Channels, Flows, Water Quality) and Aquatic Habitat:**
 - Design features described in the EAs (2006 Thinning EA p.19, Ag47 EA pp. 8-11) would be applied to the Selected Action. Examples include: a) establishing stream protection zones on perennial and intermittent streams that would exclude ground-based equipment and tree removal; b) replacing live stream culverts during the in-stream work period (2006 Thinning EA section 10.2); c) constructing and decommissioning roads during dry conditions; d) stabilizing, decommissioning, and/or blocking all new roads upon project completion; e) placing erosion control measures on roads left open over the winter.
 - Hauling would be restricted to dry road conditions in order to minimize road generated sediment from entering stream channels as a result of hauling. (2006 Thinning EA section 3.2.3.1)
4. **To protect and enhance stand diversity and wildlife habitat components:** Design features described in the EAs (2006 Thinning EA p.19, Ag47 EA pp. 8-10) would be applied to the Selected Action. Examples include: retaining old growth, snags, minor conifer tree species, hardwoods, and most cull and deformed trees.
5. **To protect against expansion of invasive and non-native plant species:** Design features described in the EAs (2006 Thinning EA p.19, Ag47 EA p. 10) would be applied to the Selected Action. Examples include: cleaning ground disturbing equipment prior to entering the project area.

6. To protect the residual stand: Design features described in the EAs (2006 Thinning EA p.20, Ag47 EA pp. 8-11) would be applied to the Selected Action. Examples include: restricting operations during the spring growing season, using directional falling; locating slash piles to minimize heat damage to tree crowns or tree boles.

7. To minimize disturbance to BLM Special Status Species and other Species of Concern:

Northern Spotted owl

- A seasonal restriction would be in place from March 1 through July 15 for Units 3, 4, 9, 10, 11, 12 and 13 on habitat modification activities (felling, yarding, and road building) to minimize the risk of disturbance to northern spotted owls. The seasonal restriction could be waived if surveys indicate no presence of nesting spotted owls within a disturbance range (0.25 to 0.5 miles) of the units (2007/2008 BA p. 10; 2007/2008 BO pp.17-19, 97)

Other: Design features described under Bullet 7 on page 20 of the 2006 Thinning EA would be applied to the Selected Action. Examples include: shutting down or restricting operations after finding plant or animal populations that require protection.

8. To reduce fire hazard risk and protect air quality: Design features described in the EAs (2006 Thinning EA p.20) would be applied to the Selected Action. Examples include: a) treating activity fuels (woody debris that could contribute to fire spread) resulting from road construction and logging debris; burning in compliance with the state Smoke Management Plan; closing or gating roads to reduce fire risk on a site-specific basis. Mechanically grinding slash within units 1, 4, 5, 6, 7, 8 and 9. Fuels 1 to 6 inches in diameter and longer than 6 inches will be treated. A layer of debris no deeper than 10 inches will be created.

9. To protect cultural resources: Design features described under Bullet 10 on page 20 of the 2006 Thinning EA would be applied to the Selected Action. Examples include: shutting down or restricting operations after finding cultural resources that require protection.

10. Summary of seasonal restrictions and permitted operational periods: Seasonal restrictions described in the EAs (2006 Thinning EA p.20, Ag47 EA pp. 8-9) would be applied to the Selected Action. Examples include: restricting most logging operations and road work during owl nesting, restricting falling and yarding during bark slippage, restricting tractor operations to avoid soil damage; restricting road Construction and Decommissioning as an erosion control measure and to avoid soil damage, restricting work in streams (e.g. live stream culvert replacement) to in-water work periods to protect fish species. Seasonal restrictions are also described in this Decision Rationale, bullet 7.

XI. Compliance with Survey and Manage Direction

2001 ROD Compliance Review: Survey & Manage Wildlife Species

Environmental Analysis File
Salem District BLM – Cascades Resource Area

Project Name: Snake Creek
Project Type: Commercial Thinning

Prepared By: Jim England

Date: January 23, 2007

Location: T.10S, R.2E, Secs. 1, 11 and 15; T.10S, R.3E, Secs. 3 and 5 **List Date:** December 19, 2003

Willamette Meridian.

Table A. Survey & Manage Wildlife Species. Species listed below include those vertebrate species whose known range includes the Salem District according to *Survey Protocols for Amphibians under the Survey & Manage Provision of the Northwest Forest Plan v3.0* (1999), *Survey Protocol for the Great Gray Owl within the Range of the Northwest Forest Plan v3.0* (Jan. 2004), *Survey Protocol for the Red Tree Vole v2.1* (Oct. 2002) and those mollusk species that are known or suspected within the District according to the *Survey Protocol for S&M Terrestrial Mollusk Species v3.0* (Feb. 2003).

SPECIES	S&M CATEGORY	SURVEY TRIGGERS			SURVEY RESULTS			SITE MANAGEMENT?
		Within range of the species?	Project contains suitable habitat?	Project may negatively affect species/habitat?	Surveys Required?	Survey Date (month/year)	Sites Known or Found?	
Vertebrates								
Larch Mountain Salamander ¹ (<i>Plethodon larselli</i>)	A	N	N	NA	N	NA	NA	NA
Great Gray Owl ² (<i>Strix nebulosa</i>)	A	Y	N	NA	N	NA	NA	NA
Oregon Red Tree Vole ³ (<i>Arborimus longicaudus</i>)	C	Y	Y	Y	Y	Spring 2006	N	NA
Mollusks								
Puget Oregonian ⁴ (<i>Cryptomasix devia</i>)	A	N	N	NA	N	NA	NA	NA
Crater Lake Tightcoil ⁵ (<i>Pristiloma arcticum crateris</i>)	A	Y	N	NA	N	NA	NA	NA
Evening Fieldslug ⁶ (<i>Deroceras hesperium</i>)	B	Y	N	NA	N	NA	NA	NA
Columbia Dusksnail ⁷ (<i>Lyogyrus</i> n. sp. 1)	A	N	N	NA	N	NA	NA	NA
Basalt Juga ⁸ (<i>Juga [Oreobasis]</i> n. sp. 2)	A	N	N	NA	N	NA	NA	NA

NA = Not Applicable

- ¹ In the Salem District, the range of the Larch Mountain salamander is only in the very northern portion of the Cascades Resource Area, within 14 miles of the Columbia River, east of the confluence with the Sandy River according to *Survey Protocols for Amphibians under the Survey & Manage Provision of the Northwest Forest Plan v3.0* (1999) pages 262 and 269. The project area is not within this range.
- ² Pre-disturbance surveys for great gray owls are not required within the project area due to lack of suitable habitat. The required habitat characteristics of suitable habitat in Oregon Western Cascades Physiographic Province includes: (1) large diameter nest trees, (2) forest for roosting cover, and (3) proximity [within 200m] to openings that could be used as foraging areas (*Survey Protocol for the Great Gray Owl within the range of the Northwest Forest Plan v3.0*, January 12, 2004 pg 13). It is not necessary to survey suitable nesting habitat adjacent to natural openings smaller than 10 acres (page 5) and pre-disturbance surveys are not suggested in suitable nesting habitat adjacent to man-made openings at this time (pg. 14).
- ³ In general, the red tree vole was removed from the Survey and Manage program in the mesic zone as a result of the 2003 Annual Species Review process. In the Salem District, predisturbance surveys for red tree voles are required to be conducted only in suitable habitat of the North Mesic Zone of their range, and the project area falls within this zone. According to the survey triggers for the Red Tree Vole (Version 2.1, Revision, October 2002), the only stands where red tree vole surveys were conducted was in units 4 and 9 (SH3A and SH5B), which are at or near 80 years of age and contain marginally suitable habitat. All of the other units in Snake Creek are younger than 80 years of age, lack structure and/or do not meet the diameter requirements. However, all of the units were surveyed for red tree voles, with the exception of units 2, 5, 7, 8, and 13 (SH1B, SH5D, SH5E, SH5F, and the Thomas Creek LSR Unit in 10S-2E-15). No active red tree vole nests were found, thus no protection is required (*Management Recommendations for the Oregon Red Tree Vole*, Version 2.0, September 27, 2000).
- ⁴ In the Salem District, the range of *Cryptomastix devia* is limited to the Tillamook Resource Area, extreme northern Clackamas County in the Sandy River Basin, and Multnomah County in the Cascades Resource Area. The project area is not within this range.
- ⁵ In the Salem District, *Pristiloma articum crateris* is suspected to occur above 2,000 feet elevation in the Cascades Resource Area only. This species is "limited to perennially wet situations in mature conifer forests, among rushes, mosses and other surface vegetation or under rocks and woody debris within 10 m of open water in wetlands, springs, seeps and riparian areas, generally in areas which remain under snow for long periods in the winter." Unless these specific habitats will be disturbed, no surveys are necessary. The described habitats are not present within the project area and will not be disturbed.
- ⁶ In the Salem District, *Derocerus hesperium* has the potential to occur in all three resource areas however it is "limited to moist surface vegetation and cover objects within 30 m (98 ft.) of perennial wetlands, springs seeps and riparian areas." Unless these specific habitats will be disturbed, no surveys are necessary. Where habitat is present, equivalent-effort pre-disturbance surveys are required for this species. The described habitats are not present within the project area and will not be disturbed.
- ⁸ *Lyogyrus* n. sp. 1 is a Columbia Gorge endemic, found on both sides from east and south of Portland to Hood River, Oregon. Most sites are in Gorge tributaries; a few other sites occur in drainages originating from near Mount Hood, Oregon, to Mount St. Helens, Washington. In the Salem District, it is likely to be found only in the Cascades Resource Area, and only in cold, pure, well-oxygenated springs within a few miles of the Columbia River in Multnomah County. This project is not tributary to the Columbia Gorge. The described habitats are not present within the project area.
- ⁹ *Juga* n. sp. 1 is a Columbia Gorge endemic, and is found sporadically in springs in the central and eastern portions of the Columbia Gorge on the Oregon side only in Hood River and Wasco counties, Oregon, including sites in Mount Hood National Forest and sites in Columbia Gorge National Scenic Area. In the Salem District, it is likely to be found only in the Cascades Resource Area, and only in cold, pure, well-oxygenated springs within a few miles of the Columbia River in Multnomah County. The project is not located in Multnomah County and is not tributary to the Columbia Gorge. The described habitats are not present within the project area.

Statement of Compliance. Pre-disturbance surveys and management of known sites required by protocol standards to comply with the *2001 Record of Decision and Standard and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (as the 2001 ROD was amended or modified as of March 21, 2004) were completed for the Snake Creek Thinning project. There are no known Category B, C, D, E, and F species within the Snake Creek Thinning project area.

Therefore, based on the preceding information (refer to Table A above) regarding the status of surveys and site management for Survey & Manage wildlife species, it is my determination that the Snake Creek Thinning project complies with the provisions of the *2001 Record of Decision and Standard and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (as the 2001 ROD was amended or modified as of March 21, 2004). For the foregoing reasons, this project is in compliance with the 2001 ROD as stated in Point (3) on page 14 of the January 9, 2006, Court order in Northwest Ecosystem Alliance et al. v. Rey et al.

Signature: James S. England

Date: 1/29/07

Cindy Enstrom, Randy H. H. Acting Cascades Resource Area Manager

2001 ROD Compliance Review: Survey & Manage Botany Species

Environmental Analysis File

Salem District Bureau of Land Management – Cascade Resource Area

Project Name: Snake Creek Timber Sale

Prepared By: Terry Fennell

Project Type: Commercial Thinning

Date: 03/29/2006

Location: Areas of Proposed Action in T10S-R2E-Sec.1, 11, 15 & T10S-R3E-Sec.3, 5

S&M List Date: December 2003

Table A. Survey & Manage Species Known and Suspected in the Salem District. Species listed below were compiled from the 2003 Annual Species Review (IM-OR-2004-034) and includes all species in which pre-disturbance surveys may be needed (Category A, C and non-fungi Category B species if the project occurs in old-growth as defined on page 79-80 of the 2001 ROD) and lists known sites of other survey and manage species that are known to occur within the project area. In addition, the table indicates whether or not a survey was required, survey results and site management.

The following survey protocols and literature were used in determining species known range, habitat and survey methodology. All field surveys were conducted using the intuitive controlled method.

Fungi:

Survey Protocols for *Bridgeoporus* (= *Oxyporus*) *nobilissimus* (Version 2.0, May 1998)

Handbook to Strategy 1 Fungal Species in the Northwest Forest Plan (Oct. 1999)

Handbook to Additional Fungal Species of Concern in the Northwest Forest plan (Jan. 2003)

Lichens:

Survey Protocols for Component 2 Lichens (Version 2.0, March 1998)

Management Recommendations for Survey and Manage Lichens (Version 2.0, March 2, 2000)

Survey Protocols for Survey and Manage Category A & C Lichens in the Northwest Forest Plan Area (Version 2.1 (2003)

2003 Amendment to the Survey Protocol for Survey and Manage Category A & C Lichens. (Version 2.1 Amendment, September 2003)

Survey Protocol Guidance For Conducting Equivalent Effort Surveys Under the Northwest Forest Plan Survey and Manage Standard and Guidelines. (March 2006).

Pseudocyphellaria perpetua Supplemental Guidance for Pre-Disturbance Surveys Under the Northwest Forest Plan Survey and Manage Standard and Guidelines (March 2006).

Bryophytes:

Survey Protocols for Protection Buffer Bryophytes (Version 2.0)

Vascular Plants:

Survey Protocols for Survey and Manage Strategy 2 Vascular Plants (Version 2.0, December 1998).

All species:

Rare, Threatened and Endangered Species of Oregon; Oregon Natural Heritage Information Center (May 2004).

Species	S&M Category	Survey Triggers			Survey Results			Site Management
		Within Range of the Species?	Project Contains Suitable habitat?	Project may negatively affect species/habitat?	Surveys Required?	Survey Completion Date	Sites Known or Found?	
Fungi								
<i>Bridgeoporus nobilissimus</i>	A	Yes	No	No	No ^{1,4}	N/A	No	No
Lichens								
<i>Bryoria pseudocapillaris</i>	A	No	No	No	No ²	N/A	No	No
<i>Bryoria spiralifera</i>	A	No	No	No	No ²	N/A	No	No
<i>Dendroscocaulon intricatum</i>	A	Yes	Yes	Yes	Yes	Various ⁹	No	No
<i>Hypogymnia duplicata</i>	C	Yes	Yes	Yes	Yes ⁴	Various ⁹	No	No
<i>Leptogium cyanescens</i>	A	Yes	Yes	Yes	Yes	Various ⁹	No	No
<i>Lobaria linita</i> var. <i>tenuoir</i>	A	Yes	Yes	Yes	Yes	Various ⁹	No	No
<i>Nephroma occultum</i>	C	Yes	Yes	Yes	Yes ⁴	Various ⁹	No	No
<i>Niebla cephalota</i>	A	No	No	No	No ²	N/A	No	No
<i>Pseudocyphellaria perpetua</i>	A	No	No	No	No ³	N/A	No	No
<i>Pseudocyphellaria rainierensis</i>	A	Yes	Yes	Yes	Yes ⁴	Various ⁹	No	No
<i>Teloschistes flavicans</i>	A	No	No	No	No ²	N/A	No	No
Bryophytes								
<i>Schistostega pennata</i>	A	Yes	Yes	Yes	Yes ⁵	Various ⁹	No	No
<i>Tetraphis geniculata</i>	A	Yes	Yes	Yes	Yes ⁵	Various ⁹	No	No
Vascular Plants								
<i>Botrychium minganense</i>	A	No	No	No	No ⁷	N/A	No	No
<i>Botrychium montanum</i>	A	No	No	No	No ⁷	N/A	No	No
<i>Coptis asplenifolia</i>	A	No	No	No	No ⁶	N/A	No	No
<i>Coptis trifolia</i>	A	No	No	No	No ⁷	N/A	No	No
<i>Corydalis aquae-gelidae</i>	A	Yes	Yes	Yes	Yes ⁴	Various ⁹	No	No
<i>Cyripedium fasciculatum</i>	C	No	No	No	No ⁷	N/A	No	No
<i>Cyripedium montanum</i>	C	Yes	Yes	Yes	Yes ⁷	Various ⁹	No	No
<i>Eucephalis vialis</i>	A	No	No	No	No ⁷	N/A	No	No
<i>Galium kamtschaticum</i>	A	No	No	No	No ⁶	N/A	No	No
<i>Plantanthera orbiculata</i> var. <i>orbiculata</i>	C	No	No	No	No ⁶	N/A	No	No
Category B Species (equivalent effort surveys needed if project area includes old-growth as defined in 2001 ROD glossary, p. 79-80)								
None			Yes	N/A	No ⁸	Various ⁹	No	
Additional Category B, D, E & F known sites located within the proposed project Area								
<i>Cetrelia cetrarioides</i>	E	Yes	Yes	Yes	No ⁸	08/2004	Yes	Yes
<i>Nephroma bellum</i>	E	Yes	Yes	Yes	No ⁸	08/2004	Yes	Yes

- 1 This species is only associated with large diameter true fir (above 2500' in Oregon). There is no suitable habitat within or adjacent to the project area.
- 2 This species known range within the NW Forest Plan is along the immediate coast or within the coastal fog zone within sight or sound of the Pacific Ocean. This project is not within the known range.
- 3 This species is only known from Cape Perpetua on the Oregon coast. This project is not within the known range.
- 4 This species is known to occur on Bureau of Land Management lands within the Cascades Resource Area.
- 5 This species is known to occur on Forest Service lands adjacent to the Cascade Resource Area.
- 6 This species is only known from western Washington. There are no known sites in Oregon.
- 7 This species is not known to occur on Bureau of Land Management lands within the Salem District.
- 8 Although surveys are not required for Category B, D, E, and F species, if suitable habitat is present in the proposed project area these species are addressed while conducting required botanical surveys.
- 9 Survey Dates: **April 8th**, 2003, **June 9th**, **July 26th**, **27th**, **28th**, **Aug. 2nd**, 2004

SUMMARY OF SURVEY RESULTS :

Cetrelia cetrarioides was identified in one location within the original proposed project area. This lichen is generally found in riparian areas, as was the case in the proposed project area (see Statement of Compliance for location and management actions taken).

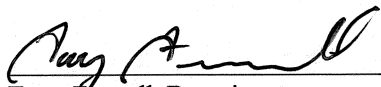
Nephorma bellum was identified in one location within the original proposed project area. This lichen is generally found in riparian areas, as was the case in the proposed project area (see Statement of Compliance for location and management actions taken).

STATEMENT OF COMPLIANCE: Pre-disturbance surveys and management of known sites required by protocol standards to comply with the 2001 Record of Decision and Standard and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines (as the 2001 ROD was amended or modified as of March 21, 2004) were completed for **Snake Creek Timber Sale**. The **Snake Creek Timber Sale** also complies with site management for any Category B, D, and E species as identified in the 2001 ROD (as modified).

The following site management actions were taken to protect both *Nephorma bellum* and *Cetrelia cetrarioides* lichen sites.

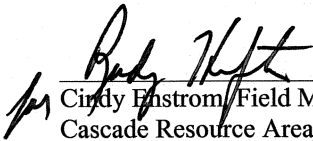
- *Cetrelia cetrarioides* was identified in the NW ¼ of the NE ¼ of Section 5, T10S,R3E, WM. During project development (Prior to 30 day EA comment period) the entire riparian area that contained this lichen was removed from the proposed project. Therefore the **Snake Creek Timber Sale** will have no impact to this lichen site, its substrate, or the microclimate surrounding it.
- *Nephorma bellum* was identified in the SE ¼ of the NW ¼ of Section 3, T10S,R3E, WM. This area is within a TPCC out and (Prior to 30 day EA comment period) this area was removed from the proposed project area. Therefore the **Snake Creek Timber Sale** will have no impact to this lichen site, its substrate, or the microclimate surrounding it.

Based on the preceding information (refer to Table A above) regarding the status of surveys and site management for Survey & Manage botanical species, it is my determination that the **Snake Creek Timber Sale** complies with the provisions of the *2001 Record of Decision and Standard and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (as the 2001 ROD was amended or modified as of March 21, 2004). For the foregoing reasons, the **Snake Creek Timber Sale** is in compliance with the 2001 ROD as stated in Point (3) on page 14 of the January 9, 2006, Court order in Northwest Ecosystem Alliance et al. v. Rey et al.



Terry Pennell, Botanist
Cascade Resource Area
Salem Bureau of Land Management

1/30/07
Date



Cindy Enstrom, Field Manager
Cascade Resource Area
Salem Bureau of Land Management

1/30/07
Date

XII. Response to EA Comments

The 2006 Thinning and Ag47 EAs were mailed to agencies, individuals and organizations. Legal notices were placed in the Stayton Mail newspaper, soliciting public input on the actions, from August 11 to September 10, 2004 (Ag47 EA) and from July 20 to August 19, 2005 (2006 Thinning EA). Several comment letters were received from individuals and organizations. The major concerns raised in the comments have been consolidated and summarized.

1.0 Substantive Comments to *EA¹ Sections 1.0-4.0, 9.0-14.0 and the Finding of No Significant Impact (FONSI) (EA#OR080-04-20)

1.1.1 Aquatic Systems, Hydrology, Riparian Reserves, Fisheries

1. Riparian/ACS Objectives: *The EA p 14 description of the purpose of riparian reserves fails to account of the need to maintain the current functionality of riparian and aquatic systems. One of your evaluation criteria should be whether any short-term degradation of ACS objectives is off-set by long-term benefits brought about by the proposed action.*

Response to #1: *EA Section 3.2.2.1 describes measurable effects expected to occur to watershed hydrology, channel morphology, and water quality as a result of the Proposed Action. In addition *Section 14.2.1 describes ACS objectives and how thinning in Riparian Reserves will increase diversity within the Reserves. This is expected to increase structural and plant diversity which would ensure protection of aquatic systems by maintaining and restoring the distribution, diversity and complexity of watershed and landscape features.

2. Landslides/Steep Slopes/Erosion: *Some fear thinning will increase the risk of premature landsliding while the trees are still small, and end up delivering fewer and smaller trees than if left unthinned. Others think the increase risk of slides from partial removal is minimal and these are an area where thinning should be targeted. Please discuss this question in the NEPA analysis. (ONRC). The impacts of this (sedimentation, mass wasting, habitat for an array of species, including Special Status Species) were not fully disclosed (in RR treatments). (Bark) Steep slope area(s) should be deferred because they are “potentially unstable” and should be included in the riparian reserve system. (ONRC)*

Response to #2: Thinning near or adjacent to perennial streams is not expected to have adverse effects on the water quality and aquatic habitat within those streams. All perennial streams have Stream Protection Zones (SPZ) of a minimum of 60’ width, generally wider, to ecological or slope breaks. Near-stream ground disturbance would be at such a minor level that the undisturbed vegetation in the SPZ is expected to absorb any sediment generated. Based on the location of new roads proposed for construction, none have the potential to intersect stream channels or cause stream sedimentation.

¹ * = 2006 Thinning EA

In addition, *EA Section 14.2.1 discusses that dry season hauling would minimize sediment entering streams. Therefore it is unlikely that this proposal would lead to a measurable change in sediment regime, including increases in sediment delivery to streams, stream turbidity, or the alteration of stream substrate composition or sediment transport regime.

*EA 3.2.2 states that tree removal, and road renovation and construction would not occur on steep unstable slopes where the potential for mass wasting adjacent to stream reaches is high. Therefore, increases in sediment delivery to streams due to mass wasting are unlikely to result from these actions.

3. Design Features: *The agency cannot assume that the implementation of BMPs will sufficiently mitigate any problems that the proposed project will have on aquatic systems...Despite the lengthy praise given to BMPs in the EA, there is no proof of “demonstrated ability” of BMPs to be successful in diminishing harm. (Bark) In order to mitigate potential fire hazards, the EA/FONSI requires that pile burning take place during the wet season only. This stipulation is in direct opposition to BMPs insisting that any sediment-causing activities occur during dry months only. How do you plan to uphold both stipulations simultaneously? (Bark)*

Response to #3: Best management practices (BMPs) applied to timber harvest operations and related forest management activities are the primary means of achieving state water quality standards on forestlands. To review an example, the reader can see the following EPA web site: <http://www.epa.gov/owow/nps/forestrygmt/>. BMPs are continually being evaluated both for implementation and effectiveness by federal and state agencies, researchers and private land owners. There are numerous examples in the scientific literature of studies in which BMPs have been evaluated for effectiveness at controlling non-point pollution; several of these articles were cited in the specialist report to the EAs.

For a recent example of BMP effectiveness at controlling sediment related water quality impacts the reader is directed to Effectiveness of Timber Harvest Practices for Controlling Sediment Related Water Quality Impacts (Rashin et al., Journal of the American Water Resources Association 42(5):1307-1327. “Stream buffers were effective at preventing chronic sediment delivery to streams and physical disturbance of stream channels.” (from the abstract).

Pile burning does not cause sediment. Pile burning may result in exposed soil surfaces (see Soil Specialist report for the *EA). Exposed soil surfaces following pile burning are unlikely to result in sediment delivery to local streams, even during the rainy season (see section VII. of the Decision Record Conclusion f. Hydrology and Aquatic Habitat). Pile burning takes place after an adequate amount of rain has fallen in order to prevent the fire in the pile from spreading. Piles are not located on steep slopes. On Snake Creek, piles are only located at landing sites which are hardened areas near roadways. In our numerous years of burning piles in the Cascades we have not seen any areas where erosion occurred because a pile was burned. There is generally unburned or charred debris (10-20% of the original pile) left on site that helps to contain any movement of ash or soil.

4. Fish: *Threatened anadromous fish populations must consider the impervious surface areas outside of project units and factor in sedimentation from this surrounding land. Sedimentation from surrounding development must be factored into the effects determination. Until this is accounted for, project activities cannot proceed.* (Bark)

Response to #4: The main impervious surface areas in the vicinity of the Snake Creek units, outside of the project units are the roads. Since timber hauling is limited to periods of dry road conditions, road related sediment inputs to streams are expected to be negligible. Cumulative effects of the project are described in *EA Section 3.2.2.2. The project is expected to have no effect on Upper Willamette River (UWR) steelhead trout that may be present in Snake Creek 1-2 miles downstream of Unit 2 or on UWR chinook salmon in the North Santiam River approximately two miles downstream of Unit 1 or on UWR steelhead or chinook in Thomas Creek downstream of Units 10-13.

1.1.2 Soil Productivity/ Fuels Treatments

5. Organic soil components: *There are specific problems with the EA/FONSI's total lack of information on organic soil components....*

Response to #5: Organic soil components and soil organisms are included in the effects to soils, *EA section 3.2.4. *EA Section 3.2.4.2 addresses the cumulative effects of the proposed action on soil. Effort to minimize any soil disturbance or compaction is outlined in *EA Section 2.2.2.

6. Ground based yarding: *Our observation of serious soil damage in other ground-based logging operations raises our concerns about this logging method.. ... Machine piling of fuels and pile burning can have serious adverse impacts on soils.*(ONRC)

Response to #6: *EA section 2.2.2 discusses design features to minimize soil productivity loss by ground based logging. Effects to soils are described in *EA section 3.2.4.

Machine piling will only occur at landing sites. By burning slash piles during the cool, wet fall weather the amount of heat that is produced is reduced. The mechanical grinding of fuels is also ground-based but it will not employ heavy equipment and will not grind fuels into the soil. This treatment will not exceed soil compaction or disturbance guidelines that are a part of BMPs.

7. Soil mycorrhizae: *Without a discussion of the impacts to soil mycorrhizae, both Bark and the decision maker are precluded from making an informed decision regarding the proposed project, and the USFS cannot assert that there will be no permanent impairment of the soil.* (Bark) *The EA/FONSI fails to address how past logging has affected mycorrhizae in areas within the analysis area.* (Bark)

Response to #7: Mycorrhiza is considered a component of soil and is addressed in the EA as soil. The EA addresses soil numerous times, mitigation methods have been taken into account to reduce impact such as, compaction, and erosion (*EA Section 2.2.2).

In addition, Mycorrhiza fungi are not listed as a Special Status Species or a Special Attention Species therefore does not require additional survey or management. If a species of Mycorrhiza is on the Special Status Species or a Special Attention Species, thinning may have an effect on Special Status Species that are not practical to survey for (*EA p. 29), mainly hypogeous (underground fruiting) fungi species.

1.1.3 Late Seral Habitat, Northern Spotted Owl, Snags and Coarse Woody Debris (CWD)

8. Owl Habitat: *The project will result in 1,882 acres of (northern spotted owl) Dispersal Habitat downgraded, including the loss of 171 acres of NRF suitable habitat, which will no longer support nesting, roosting, and/or foraging behavior. (Bark) All stands that are late Successional old growth; in other words 80 years or older, should be excluded entirely from this project, staying completely out of LSOG stands.*

Response to #8: There are no late-successional old growth stands proposed for treatment in the Snake Creek timber sale. There would be no loss of NRF suitable spotted owl habitat and no habitat would be downgraded as a result of the Snake Creek Thinning Project. No NRF suitable habitat is affected by the Snake Creek Thinning Project. Unit 4 (5 acres) and Unit 9 (9 acres) are late mid seral stands near 80 years of age. Stand exams data shows these stands lack the structure necessary to support nesting, foraging and roosting habitat for spotted owls. These stands lack large standing dead material and down logs, are overstocked, and average 17 to 20 inches in diameter dbh. Such treatments can have long-term benefits to spotted owls by encouraging late-successional characteristics to occur more rapidly. In addition, tree topping and girdling is planned for these units.

9. *New information on the Threatened northern spotted owl indicates that there are significant new uncertainties for the owl that have not been fully considered at the regional or local scale. (ONRC)*

Response to #9: New information on the northern spotted owl has been reviewed. The conclusions of this review are described on page 12 of this Decision Rationale.

10. Design Features: *The Proposed Action fails to adhere to conservation stipulations enacted for the protection of the northern spotted owl and therefore should be withdrawn. ..Furthermore, this project very poorly adheres to BMPs concerning spotted owl protection. During the critical nesting period, While there might not be a nest located at the time of the survey, allowing logging and hauling could assure that there would not be nests there in the near future due to disturbance. (Bark) Just because FWS does not require surveys for Threatened spotted owls, NEPA has an independent mandate to become well-informed of the actual consequences of major federal actions. Before deciding to log suitable habitat the agency must conduct protocol surveys for spotted owls and their prey major species. (ONRC) Further, we understand that the agency took advantage of its new authority to reach an effects determination without consulting the US Fish and Wildlife Service.*

Response to #10: (See section IX. Public Involvement/Consultation/Coordination, ESA Section 7 Consultation).

Consultation with US Fish and Wildlife Service was completed, and the effect determinations were agreed upon by the Level I Consultation Team, which includes representatives from the US Fish and Wildlife Service. The effects determinations are described in the Biological Assessment (BA, pp. 40-41, 44-45). The Snake Creek Thinnings are in complete compliance with the *Biological Opinion for the FY 2007 and 2008 Habitat Modification Projects in the Willamette Province* (reference # 1-7-06-F-0179). The Biological Opinion (BO) concluded that these thinnings would not jeopardize the continued survival of the spotted owl (p. 95). The Snake Creek thinnings have incorporated the applicable general and Management Standards that were described in the BA (p. 6, 10) and BO (Section 1.2, pp. 17-19).

The Management Standard which describes when seasonal restrictions are required states “Except for hauling and the removal of hazard trees to protect public safety, no activity shall take place within the disruption distance of a known activity center during the March 1 to July 15 critical nesting period, unless the habitat is known to be unoccupied or there is no nesting activity, as determined by survey to protocol (BO Section 1.2.2, p. 18).”

Historic known spotted owl activity centers within disturbance distance of Units 4, 9, 10, 11, and 12 have been surveyed to protocol, and are known to be unoccupied. However, as a design feature of this project, the discretionary Conservation Measure set forth in the BO (p. 97) would be implemented, which includes a seasonal restriction on units 3, 4, 9, 10, 11, 12, and 13 during the critical nesting season (March 1 to July 15) to delay disturbance activities later into the nesting season.

11. Snags: *We agree that large snags (>20” dbh) snags are the most critical to retain, but smaller snag are also ecologically valuable and efforts should be made to protect all snags >10” to the extent possible. The agency must avoid any reduction of existing or future snags and logs (including as part of this project) until the applicable management plans are rewritten to update the snag retention standards. (Bark) Snags should be carefully inventoried by species, size, decay status, quality, and location during project planning, and they should be treated as “special habitats” and given special protection during project planning and implementation (i.e. keep workers out of the vicinity of snags so that OSHA doesn’t order them cut). (Bark)*

Response to #11: Most wildlife species that utilize snags are associated with snags greater than 14.2 inches, and about a third of these species use snags >29” dbh (Rose et. al., 2001). Table 37 of the *EA summarizes the CWD and snags within the project area. Design features common to all project areas would retain existing large snags (>20” dbh) and old growth trees (*EA Section 3.2.5.1).

Any snags cut or incidentally knocked down, including those snags under 20” dbh, would be left on site as down logs and CWD, which is also valuable wildlife habitat and important for nutrient cycling. In addition, by accelerating the growth of the residual trees left after treatment, larger material would be available sooner (than without thinning) to contribute additional large snags to the future stand. The BLM is not obligated to save all snags. The project meets the standards and guidelines set forth in the RMP. Changing stand retention guidelines is outside the scope of this project.

1.1.4 Other Forest Habitat

12. *Microhabitat Drying: The EA/FONSI predicts that microhabitat drying will persist unabated for 10-20 years after thinning, at which time it would only begin to decrease. However, as explained in the EA, future harvest activities may restart as soon as the canopy closes (resulting in more microhabitat drying)...*

Response to #12: *EA Section 3.2.5.1 (p. 43) discusses microhabitat drying. In all of the units, 60 to 120+ trees per acre would be retained and 40 to 60% canopy closure would remain, which would provide shade. Some microhabitat drying could occur at the forest floor as canopies are opened-up, however, this would be minimal due to the high green tree retention after thinning.

1.1.5 Other Species of Concern/ Survey and Manage Species

13. *The EA claims to protect BLM Special Status plant and animal species and relies upon statutes and regulations listed on page 3, including the 2004 Final Supplemental Environmental Impact Statement to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines (“2004 SEIS”) Now that the survey and manage ROD has been declared illegal by Judge Pechman, the BLM should survey for red tree voles and other survey and manage species at least in all stands older than 80 years old. (ONRC)*

Response to #13: Compliance with Survey and Manage direction is described in DR section V. (DR pp. 10-12) and in DR section XI. (Compliance with Survey and Manage Direction (DR pp. 22-30).

1.1.6 Road Building And Road Renovation

14. *Management should focus on thinning stands that are accessible from existing roads. If young stand thinning requires construction of temporary roads, the agency should do an analysis that illuminates how many acres of thinning are reached by each road segment so that we can distinguish between short segments of spur that allow access to large areas (big benefit, small cost) and long spurs that access small areas (small benefit, big cost). This can help inform the decision-maker’s balancing of the costs and benefits of thinning and roading. (ONRC)*

Response to #14: *EA Section 2.2.1 and pp. 4-6 of this Decision Rationale discusses road work associated with this project. Under the selected action approximately 16 miles of road would be renovated / maintained with less than a mile of new natural surface road construction taking place.

15. *The agency assumes that temporary and semi-permanent new roads will have no effect because they are temporary. The agency has shown no scientific evidence for this assumption...The NEPA analysis must account for this (described in text) increased risk of temporary roads compared to permanent roads. (ONRC)...Temporary roads still cause serious adverse impacts to soil, water and wildlife, and spread weeds....*

Decommissioning such roads is not entirely successful and the soil compaction effects can last for decades.....The agency should consider avoiding building spurs by treating some areas non-commercially (e.g. thin lightly, create lots of snags, and leave the material on site). (ONRC)

Response to #15: New roads have been minimized to less than one mile of temporary natural surface roads. Current roads will be renovated to accommodate the project (*EA Section 2.2.1). No new permanent roads have been proposed. Old roads will be stabilized or decommissioned. Project design features such as constructing roads in dry seasons, decommissioning roads, re-seeding, and use of erosion mats to stabilize soil will reduce the risk of effects to soil. All ground disturbing machines are required to be cleaned so as not to spread off site soil, plant parts and seeds (*EA p. 19).

16. *The NEPA analysis must address the significant cumulative watershed effects caused by past, present and foreseeable future road construction. (ONRC)*

Response to #16: New road construction has been kept to a minimum (less than one mile) since existing roads can be rehabilitated and used again. *EA Section 3.2.2.2 addresses cumulative effects common to all project areas. Within this section new road construction and existing road use are reviewed for possible cumulative effects specifically pertaining to watershed hydrology, and water quality.

1.1.7 Other Comments regarding Fuels Treatments

17. *Paired with intense recreational use, increased likelihood of unauthorized access to roads, and human presence--the most common source of fire starts-- and this project will result in a more hazardous, not less hazardous, fire situation across the landscape. (Bark)*

Response to #17: *EA section 3.2.6.1 states: reduction of the thinning slash along open roads and within WUI would reduce the potential for a fire start to spread rapidly and increase the probability that the fire could be contained and controlled before property or resource damage occurs. Snake Creek is not an intense recreational use area but is generally visited by hunters and firewood gatherers. More roads are being restricted to public access by gating certain segments, which reduces the probability of a human caused fire start.

The primary purpose of a fuel treatment is not to stop fires, but to change the behavior of a fire entering a fuel-altered zone, thus lessening the impact of that fire to an area of concern. This change in fire behavior is often quantified as a reduction in flame length, intensity, or rate-of-spread, and manifested as a change in severity or growth of the fire. This is best achieved by fragmenting the fuel complex and repeatedly disrupting or locally blocking fire growth, thus increasing the likelihood that suppression will be effective or weather conditions will change. (Stratton, 2004)

18. *Where are the environmental impacts assessed for this repeated reentry in this EA on wildlife, particularly on Special Status terrestrial species? (Bark)*

Response to #18: The * EA discusses repeated reentry only in the context of maintaining a fuel break after the initial thinning treatment on 184 acres within the Annie's Cabin Project Area (*EA p. 52). We will not be maintaining a fuel break of this kind in the Snake Creek Timber sale.

1.1.8 Cumulative Effects Analysis

19. *The EA does not actually analyze the cumulative impacts of this project and other past, current, and foreseeable future projects, including timber sales, livestock grazing, herbicide use, mining projects, off-road vehicle use, and other recreation and management activities on the watershed (Bark). In order for the finding of no significant impact to meet the fifth stipulation listed in the EA/FONSI, future anticipated thinning projects must be factored in the cumulative effects determination. (Bark) The EA fails to disclose the watershed consequences at all spatial scales, as necessary for informed decision-making and as required by NEPA. Adequate cumulative effects analysis cannot be achieved with so many projects spanning such a wide range in various conditions. (Proctor)*

Response to #19: The interdisciplinary team evaluated the project areas in context of past, present and reasonably foreseeable actions [40 CFR 1508.27(b) (7)] (*EA p. 4). Cumulative effects to resources are addressed on pages 4-5, 22-25, 33-35, 39, 44, 49, 117, 119 of the *EA.

1.1.9 Invasive Weeds

20. *Thinning analysis should have included information about impacts to wildlife, particularly T&E fish populations, from its use. (Bark) referring to [EA p. 17 – False brome populations will be eradicated prior to ground-disturbing activities by using hand pulling and disposal and/or the application of herbicide designed to kill plants in place (covered under Environmental Assessment No. OR-080-02-02, Cascades Resource Area Invasive Non-Native Plant Management).]Bark cannot support the use of herbicides on false brome given the known adverse affects of pesticides to wildlife and humans. (EA, 17)*

Response to #20: Based on surveys, there is no known false brome within the Snake Creek project area. There are known sites nearby the project area on state and private land, but all these sites are located directly adjacent to the roadway. We will be surveying for false brome invading the project area. Herbicides are only used when they can be used safely and will have no effect on wildlife or humans. There are sites near some of the other timber sales included in the 2006 Thinning EA. Cascades Resource Area uses an Integrated Weed Management approach utilizing the most effective known treatments. See the Environmental Assessment Number OR-080-02-02, *Cascades Resource Area Invasive Non-Native Plant Management*.

21. *This EA provides very little in the way of mitigation, requiring only “Ground disturbing equipment would be cleaned as needed to be free of off-site soil, plant parts and seed (e.g. noxious weeds) prior to entering the project area” (EA, 19). (Bark)*

Response to #21: Requiring ground disturbing equipment to be cleaned is an effective way to prevent the spread of invaders from one area to another. Most of our noxious weeds are spread along roadways, but we cannot require all private vehicles to be washed before they enter BLM lands. Part of an integrated weed management program is outreach and education. The BLM works with local counties, state, SWCDs, watershed councils, and other agencies and is a member of local CWMA (Cooperative Weed Management Area) that all work together to provide information to the public about invasive weeds. BLM conducts weed inventories every 5 years.

1.1.10 Mitigation Measures

22. *Where an environmental assessment relies on mitigation measures to reach a finding of no significant impact, that mitigation must be assured to occur and must “completely compensate for any possible adverse environmental impacts.” Cabinet Mountains Wilderness/Scotchman's Peak Grizzly Bears v. Peterson , 685 F.2d 678, 682 (D.C. Cir. 1982). Until the BLM is able to substantiate its proposed mitigation measures – i.e., that they are appropriate, will be implemented, and will be effective – the agency must withdraw the proposed project.*

Response to #22: For this project, mitigation measures are not being applied after significant effects have been determined. Instead, the project has been designed to meet the standards and guidelines of the Resource Management Plan. These standards and guidelines are designed to reduce the risk of effect to resources. The project design features incorporated into the development of this project tie directly to the RMP standards and guidelines and the results of ESA consultation (e.g BMPs, seasonal restrictions). Yearly RMP monitoring evaluates whether the design features have been implemented.

1.1.11 Thinning Prescription

23. *Thinning should always use variable retention techniques that create a variety of microhabitats and habitat gradients within and between stands. VDT will not conflict with matrix objectives. Matrix objectives include timber production as well as habitat and species diversity. Variable thinning will produce potentially more wood products in the short-term as well as significant wood products in the long-term. There is absolutely no requirement that the agencies MAXIMIZE timber production. The ecological benefits of variable density thinning are significant and should not be forgone.. We wish that you would use variable density thinning prescriptions in all young stand thinning projects regardless of land allocation. (ONRC)*

Response to #23: The selected action would implement a variable density prescription in the Riparian Reserve portion of Units 1-13 (73 acres); and in the upland portion of Late Successional Reserve Units 4, 9, 10-13 (44 acres) (DR Table 3). The treatments would be designed to develop structural components and to enhance understory development in stands that were previously managed for maximum timber production. This would be accomplished by retaining species diversity currently present on the site, varying thinning densities and horizontal spacing, accelerating the development of a multi-layered canopy by releasing any existing conifer regeneration and creating conditions conducive for initiating new regeneration, creating new or enhancing existing wolf trees, creating snags, creating small openings and gaps, and leaving unthinned clumps. This type of a management plan would help to restore the vertical, horizontal, and dead wood structural components now missing in these Riparian and Late Successional Reserves.

1.1.12 Multi-project EA

24. *This practice of large-scale NEPA analyses should be reserved for truly non-controversial projects, such as those in which focus exclusively on stands younger than 80 years old, minimal road construction, and using variable density thinning prescriptions. Since this project includes some controversial aspects, we are not highly supportive of the merged analysis in this case. (ONRC) Although the proposed actions may be similar for each of the 4 projects, their geographic range precludes the likelihood of similar environmental impacts. (Bark)*

Response to #24: All stands proposed for thinning that are “older” have been previously thinned or originated as plantations, pastures, or natural regeneration after harvest. All aspects of the proposal are consistent with an existing EIS (the Salem RMP). Though the EA analysis covers four project areas scattered over a large area, any decision for individual project areas is independent of the others.

2.0 Substantive Comments to * EA Section 8.0 – Specific to Snake House Project Area (EA#OR080-04-20)

2.1.1 Soil compaction

25. *The Snakehouse project involves a total of 91 acres of soil compaction or 10.9% of the project area. This is greater than the designated 10% and must be reduced.*

Response to #25: As disclosed in the Decision Record (see section VII. of the Decision Record Conclusion e. Soils) the proposal may result in a maximum of 22 acres of compacted soil surfaces dispersed across the 262 treated acres (8% of the treatment area).

2.1.2 Cost of renovating BLM road 9-3E-31

26. *The BLM road 9-3E-31 “is in need of closure and restoration to eliminate the existing sedimentation problem and prevent further degradation of the area” ([OR080-04-20] EA/FONSI, page 85). Renovating the road to access unit 1B will be a huge cost to taxpayers and pollute fish habitat with sediment; we ask that you drop unit 1B altogether. (Bark)*

Response to #26: The proposal includes decommissioning and site restoration of the portion of Road 9-3E-31 that is producing the chronic sedimentation currently occurring in Snake Creek. Under the no action alternative, or under the proposed action with Units 1B dropped, the decommissioning of the problem segment of road would not occur and the sedimentation currently occurring in Snake Creek from Road 9-3E-31 would not be remedied.

2.1.3 Effects to fish-bearing streams and fish from erosion

27. *Five streams adjacent or very near 6 of the thinning units are fish-bearing (7A, 13B, 1C, 1B, 5B, 5F) (EA/FONSI, page 86). Erosion and sedimentation from road building and logging is a concern of ours. We urge you to cancel these 6 units in efforts to maintain and enhance fish populations. Units 1B and 1C must be dropped because they are along Snake Creek, and “...chronic sedimentation [is] currently occurring in Snake Creek” ([OR080-04-20] EA/FONSI, page 87). A more appropriate action would be to repair road 9-3E-31, deemed culprit of the sedimentation. Unit 7A also must be dropped because fish populate the stream along the harvesting unit. (Bark)*

Response to #27: Thinning near or adjacent to fish-bearing streams is not expected to have adverse effects on the cutthroat trout populations present in those streams. All perennial streams have SPZs of a minimum of 60’ width, generally wider, to ecological or slope breaks (2006 Thinning Fisheries Report p. 1 -17).

Falling and yarding activities are excluded from the SPZs and ground-based equipment is not permitted within 75 feet of the streams, and all ground-based yarding activities would be conducted during the dry season. Near-stream ground disturbance would be at such a minor level that the undisturbed vegetation in the SPZ is expected to easily absorb any sediment generated. Based on the locations of new roads proposed for construction, none have the potential to intersect stream channels or cause stream sedimentation. The proposal includes decommissioning and site restoration of the portion of Road 9-3E-31 that is producing the chronic sedimentation currently occurring in Snake Creek. Under the no action alternative, or under the proposed action with Units 1B dropped, the decommissioning of the problem segment of road would not occur and the sedimentation currently occurring in Snake Creek from Road 9-3E-31 would not be remedied. Units 7A and 13B are not included in the Snake Creek proposal.

3.0 Substantive Comments Specific to Ag47 project 3 (Late Successional Reserve Treatments) (EA#OR080-04-08)

3.1.1 Variable Selection of Leave Trees

28. *We believe the BLM should use variable density thinning prescriptions in all young stand thinning projects ...but especially in Riparian Reserves and Late Successional Reserves. (ONRC)... Variable density thinning should result in skips and gaps, thinned areas of varying densities of every unit treated.. We encourage the agency to manage for biocomplexity In simplified forests, by developing multiple tree species including hardwoods, understory plant diversity and decaying trees that support diverse truffle species, abundant structures for nesting, denning, resting, foraging etc. ... patchwork of different forest conditions within and among forest stands. (ONRC)*

Response to #28: The selected action would implement a variable density prescription in the Riparian Reserve portion of Units 1-13 (73 acres); and in the upland portion of Late Successional Reserve Units 4, 9, 10-13 (44 acres) (DR Table 3). The treatments would be designed to develop structural components and to enhance understory development in stands that were previously managed for maximum timber production. This would be accomplished by retaining species diversity currently present on the site, varying thinning densities and horizontal spacing, accelerating the development of a multi-layered canopy by releasing any existing conifer regeneration and creating conditions conducive for initiating new regeneration, creating new or enhancing existing wolf trees, creating snags, creating small openings and gaps, and leaving unthinned clumps. This type of a management plan would help to restore the vertical, horizontal, and dead wood structural components in these Riparian and Late Successional Reserves.