

Take 3 Thinning Timber Sale

Final Decision, Decision Rationale and Finding of No Significant Impact (DR)

Environmental Assessment (EA) Number DOI-BLM-OR-S040-2011-0004-EA

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

Willamette Meridian,
T. 3 S., R.5 E., Sections 11 and 13

North Eagle Creek and Upper Eagle Creek 6th field Watersheds
Clackamas County Oregon

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BLM/OR/WA/AE-13/031+1792.

1.0 Introduction

The Bureau of Land Management (BLM) has conducted an environmental analysis for the Take 3 Thinning project, which is documented in the *Take 3 Thinning Environmental Assessment (EA) and Finding of No Significant Impact (FONSI)*. This EA is incorporated here by reference in this Decision Record, Decision Rationale, and Finding of No Significant Impact (DR). The preliminary Finding of No Significant Impact was signed on October 29, 2012 and the EA was made available for public review from November 12th, 2012 to December 19th, 2012. Substantive comments received during the public review period are addressed in DR Section 10.

2.0 Decision

I have decided to implement the Take 3 Thinning as a Timber Sale consisting of all or part of each of the seven units of the Proposed Action described in the EA (pp. 22-36) and DR section 3.0. The units I will implement in the Take 3 Thinning Timber Sale are T. 3. S., R.5 E., units 11A, 11D, 11G; 13A, 13B, 13C and 13D (DR Table 2)¹. The following is a summary of the decision, hereafter referred to as the “selected action” in this Decision Rationale (DR). The selected action will:

2.1 Timber Harvest

Harvest approximately 330 acres (DR Table 2, DR section 8.0) and provide approximately 7.070 MMbf² of timber. This harvest includes:

- o Thinning 330 acres within the following 1995 RMP Land Use Allocations (LUA).
 - 298 acres within the General Forest Management Area (GFMA) portion of the Matrix LUA,
 - 29 acres within the Riparian Reserve (RR) LUA.
- o Thinning 3 acres to a density of 10-12 trees per acre (TPA) within the GFMA LUA (EA p. 19, DR Table 3, DR section 9.0 – maps). There will be 3 low density patches (3 patches of 1 acre). See DR Table 2.
- o Clearing 4 acres of vegetation within the road rights-of-way accessing units in the Timber Sale (DR Table 2).

2.2 Logging Systems

Approximately 82 percent (271 acres) of the area, including clearing for road construction, will be logged using ground based yarding systems. The remaining 18 percent (59 acres) will be logged with a skyline yarding system.

¹ DR Table 2 (*DR section 8.0*) shows the selected action by section and the crossover between EA and Timber Sale units. The maps (*DR section 9.0*) show the selected action by section.

² MMbf = Million board feet

2.3 Road Work Associated with Logging and Hauling

Road Work to Facilitate Logging:

- o Construct approximately 0.88 miles of new temporary, natural surface road to access thinning units and accommodate logging equipment and log transport.
- o Construct 0.12 miles of new permanent road to access thinning units and accommodate logging equipment and log transport.
- o Renovate approximately 1.55 miles of existing road to the minimum standard necessary for hauling, including blading, spot rocking, brushing, curve alignment, and tree removal.
- o Maintain approximately 6.06 miles of existing, usable road. Renovation and maintenance 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.
- o Replace 3 cross drain culverts. They will be installed during the dry season. No culverts will be replaced on live stream crossings.
- o Install one gate in Section 13 (DR 2.6, 9.0).

Road Work to be Done After Logging Operations are Completed:

- o Decommission all natural surface roads (newly constructed temporary). Decommissioning entails installing water-bars or other shaping of roads for drainage, placing woody debris, and/or seeding with native species. Earth and debris berms, large boulders, or other methods determined to be effective for each site will be used to block these roads.
- o Seed approximately 4 acres of disturbed soil associated with roads in and adjacent to harvest units with native species.

2.4 Road Work Not Associated with Logging and Hauling

Road Closure/Stabilization: The decision is to stabilize and block vehicular access on 0.26 miles of the 3-5E-13.4 road from the junction of the 13.4 and 13.0 roads in the SE ¼ of Section 13. Install water bars and block the road with large boulders.

Decommissioning of 13.0 road: Decommission and block vehicular access on 0.47 miles of the 3-5E-13.0 road from the junction of the 13.4 and 13.0 roads in the SE ¼ of section 13.

Decommissioning of this road will include: water bars constructed where appropriate to reestablish natural drainage patterns, existing road surface pulled back where appropriate to a stable location, while retaining at least ½ of the existing road surface for foot and equestrian traffic. An earth and debris barricade and large boulders will be placed at the junction of the 13.0 and 13.4 road to prevent vehicle access. Exposed and disturbed soil will be seeded with native grass species.

2.5 Fuels Treatments

On up to 8 acres within the proposed thinning units, slash will be treated after harvest operations. The planned treatment is to pile slash mechanically in the low density thinning areas (DR 2.1), cover the piles to keep them dry, and burn the piles. After the fuels in the slash piles have cured, the piles will be burned in compliance with the Oregon Smoke Management Plan after the fall rains begin, when fire danger is low and soils are moist (EA pp. 28, 33, 95-97). Slash which accumulates at logging landings will be piled, covered and burned as described above.

2.6 Public Access

Public vehicle access to some units will change as a result of this Timber Sale. One gate will be installed in Section 13 (DR 9.0) to prevent future unauthorized motorized access to adjacent private timber land. This will restrict motorized vehicle access on approximately 1.0 mile of BLM road in Section 13. Foot and horseback access will not be closed.

The road work described in Section 2.4 and 5.2 of this Decision may temporarily disrupt foot and horseback access to the Salmon-Huckleberry Wilderness trailheads currently available from the 3-5-13.0 BLM road in section 13, specifically the Douglas and Eagle Creek trail systems (DR 10.8). Motorized vehicle access from the 13.0 and 13.4 road junction to the USFS boundary and the 13.4 road will be restricted after roads are blocked and/or decommissioned (DR 2.4).

Natural surface roads (new construction) that access the thinning units will be decommissioned to prevent erosion and blocked to prevent vehicle access (DR 2.3).

2.7 Special Forest Products

The BLM will make permits available for collecting Special Forest Products (SFP) (1995 RMP p. 49) from the harvest units if there is a demand for the products and collection would not interfere with proposed project operations. Special Forest Products are salable natural products that can be found in the forest and may include: edible mushrooms, firewood, posts and poles.

Transplants of native plants from road rights-of-way, skid trail locations and landings will be available for permit. Access to the area will be controlled through the Special Forest Products permit requirements.

2.8 Design Features

Project Design Features as described in EA section 2.2.3 will be implemented in the Timber Sale contract.

3.0 Alternatives Considered

3.1 No Action (EA section 2.3):

No commercial timber management actions would occur. Only normal administrative activities and other uses (e.g. road use, programmed road maintenance, harvest of special forest products on public land) would continue on BLM land within the project area.

3.2 Proposed Action (EA section 2.2):

Actions Associated with the Timber Sale:

Commercial thinning and road work: The proposed action analyzed in the EA is to thin approximately 342 acres of 30-96 year old forest stands. Approximately 304 acres are in General Forest Management Area (GFMA) LUA and 38 acres are in the Riparian Reserve (RR) LUA. The proposed action includes 278 acres of ground based yarding and 64 acres of skyline yarding. Connected Actions include constructing 1.10 miles of new temporary natural surface road, and 0.15 miles of permanent rocked road to provide access to the proposed thinning units for logging and hauling. New construction includes clearing vegetation within the road right-of-way (ROW) using ground based logging equipment. All temporary roads would be decommissioned after use (EA 2.2.2.1). Connected actions also include renovating approximately 1.55 miles of existing roads, maintaining 7.92 miles of existing road, replacing 3 cross-drain culverts, and reducing forest fuel accumulations on approximately 8 acres. One gate would be installed in Section 13.

Actions Not Associated with the Timber Sale:

Road Closure/Stabilization: The proposed action analyzed in the EA is to stabilize and block vehicular access on 0.26 miles of the 3-5E-13.4 road from the junction of the 13.4 and 13.0 roads in the SE ¼ of Section 13. Water bars would be installed and the road would be blocked with large boulders.

Decommissioning of 13.0 road: The proposed action analyzed in the EA is to decommission and block vehicular access on 0.47 miles of the 3-5E-13.0 road from the junction of the 13.4 and 13.0 roads in the SE ¼ of section 13. Decommissioning of this road would include: water bars constructed where appropriate to reestablish natural drainage patterns, existing road surface pulled back where appropriate to a stable location, while retaining at least ½ of the existing road surface for foot and equestrian traffic. An earth and debris barricade and large boulders would be placed at the junction of the 13.0 and 13.4 road to prevent vehicle access. Exposed and disturbed soil would be seeded with native grass species.

3.3 Alternatives considered but not analyzed in detail (EA pp. 36-37):

Alternatives were considered for:

- o Treatment of other forest stands within the Riparian Reserve LUA – no additional stands were identified that met the criteria for treatment of Riparian Reserve stands;
- o Treatment of other forest stands in the General Forest Management Area LUA – Approximately 10 additional acres were considered for thinning in section 11 and eliminated from the proposal due to lower stand densities. Currently, treating these areas will not meet the purpose and need of this project.
- o Alternative transportation systems, Haul Route: An alternative route to access some of the units in section 13 was considered, but not analyzed because the BLM does not have rights to use or haul on the road in question.
- o Subgrade removal on decommissioned portion of 13.0 road: Removal of the subgrade along the section of the 13.0 road to be decommissioned was considered, not analyzed due to the high percentage of bedrock.

3.4 Selected Action (DR sections 2.0, 8.0, DR Table 2):

The selected action is described in DR sections 2.0 and 8.0, DR Tables 2, 3 and 4.

4.0 Decision Rationale

I used the following factors in selecting the alternative that best meets the purpose and need and decision factors described in EA sections 1.1. Table 1 compares the alternatives with regard to the Decision Factors described in EA section 1.1.4 and the project objectives in EA section 1.1.2.

Table 1: Comparison of the Alternatives by Decision Factors and Project Objectives

Decision Factors and Project Objectives	Comparison of Alternatives
<p>a) Provide timber resources and revenue to the government from the sale of those resources (objectives 1 and 2);</p> <p>b) Reduce the costs both short-term and long-term of managing the lands in the project area (objectives 1 and 2); and</p> <p>c) Provides safe, cost-effective access for logging operations, fuels management and fire suppression (objectives 2, and 8).</p>	<p>The no action alternative would not meet this factor, since no timber sale would take place.</p> <p>The proposed action and selected action would provide timber resources to the market, meeting this factor.</p>
<p>d) Reduce competition-related mortality and wildfire risk, and increase tree vigor and growth (objectives 1 and 6).</p>	<p>The no action alternative would continue current trends, slowing growth rates and increased tree mortality, and not meet this decision factor.</p> <p>The proposed action and selected action would meet this decision factor by managing stand density, increasing growth rates, increasing average tree size over time and creating a healthier forest condition. See f. and g. below. (EA pp. 22-24, 28, 47-52, 85-88, 91-92, 95-97, 105-108, 108-110)</p>
<p>e) Reduce erosion and subsequent sedimentation from roads (objective 8).</p>	<p>The no action alternative, proposed action alternatives and selected action meet this decision factor.</p> <p>Under the proposed action and selected action, roads would be maintained, reducing the long term risk of erosion and sedimentation associated with the existing road system. New road construction and renovation will not lead to measurable long-term alteration in sediment delivered to the streams, stream turbidity, stream substrate composition, or sediment transport regime because BMP's and project design features would eliminate and/or limit acceleration of sediment delivery to streams in the project area. (EA pp. 6, 17-18, 31-35, 56, 61-67, 75-77, 105-108, 109)</p>

Decision Factors and Project Objectives	Comparison of Alternatives
<p>f) Provide for the establishment and growth of conifer species while retaining structural and habitat components, such as large trees, snags, and coarse woody debris (objectives 1, 3, 4 and 6);</p> <p>g) Promote the development of healthy late-successional characteristics in the Riparian Reserve LUA (objective 6).</p> <p>h) Provide habitat for special status, SEIS special attention and other terrestrial species (objective 4)</p> <p>i) Provide habitat for a variety of organisms associated with both late-successional and younger forest (objective 3).</p>	<p>The no action alternative retains existing structural and habitat components, but does not provide conditions to enhance these elements for the future stand. Overall stand health and tree growth rates would decline if stands are not thinned. Competition would result in mortality of smaller trees and some co-dominant trees in the stands. Trees would continue to grow slowly until reaching suitable size for coarse woody debris, snags and late successional habitat, thus delaying, or preventing the development of these desirable components compared to the selected action.</p> <p>The proposed action and selected action would meet these decision factors. Stand health and tree growth rates would increase as trees are released from competition. These alternatives retain the elements described under “no action” on untreated areas of the stands in the project area, and create more open stand conditions in treated areas that would encourage development of larger diameter trees. These conditions add an element of diversity to the landscape not provided on BLM lands under the no action alternative.</p> <p>(EA pp. 6, 12-13, 17-18, 22-24, 36, 42-53, 78-82, 85-88, 91-94, 107, 108-110)</p>

Considering public comment, the content of the Take 3 Thinning EA, the supporting project record, and the management direction contained in the 1995 RMP, I have decided to implement the selected action as described in DR section 2.0. The following is my rationale for this decision:

4.1 No Action Alternative:

This alternative was not selected because it either does not meet the project objectives described in EA section 1.1.2 (EA pp.12-13) and DR Table 1 or, delays the achievement of those project objectives, or meets the project objectives similarly to the proposed action alternatives and the selected action.

4.2 Selected Action:

The selected action implements the Take 3 Thinning Timber Sale described in the DR section 2.0. The Selected Action:

- o Meets the purpose and need of the project as described in the Take 3 Thinning EA section 1.1 (EA pp. 12-13), and all decision factors (EA p. 14) as shown in DR Table 1 (DR section 4.0);
- o Is consistent with the Salem District Record of Decision and Resource Management Plan and related documents which direct and provide the legal framework for management of BLM lands within the Salem District (EA pp. 15-17, DR 5.0);
- o Would not contribute to the long term expansion of invasive/nonnative weed populations (EA pp. 6, 35, 49, 53); not included in the DR (Table 1).
- o Would not have a significant impact on the affected elements of the environment beyond those already anticipated and addressed in the RMP/EIS (DR pp. 13-16, DR section 7.1);
- o Uses existing roads and the minimum length of new roads for the transportation system to facilitate implementation of the project (DR section 2.3);
- o Would not impact ESA listed fish or their occupied habitat (EA pp. 8, 69-72, 110-111; DR section 6.3); and
- o Would not impact suitable habitat within the provincial home range (1.2 mile radius) of any known or historic Northern Spotted Owl (NSO) and would not impact any stands in LSR or Critical Habitat for NSO. (EA pp. 8, 88-89, 92; DR section 6.3, 7.1, 10.0).

5.0 Compliance with Direction and Planning updates

The analysis documented in the Take 3 Thinning EA is site-specific and supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS). The Take 3 Thinning project, which includes the Take 3 Thinning Timber Sale, was designed under the *Salem District Record of Decision and Resource Management Plan*, May 1995 (1995 RMP) and related documents which direct and provide the legal framework for management of BLM lands within the Salem District (EA pp. 12, 15-16). These documents may be reviewed at the Cascades Resource Area office and the 1995 RMP can be reviewed online at <http://www.blm.gov/or/districts/salem>. The project also complies with authorities described in EA sections 1.1.2, and 3.3.9.

The Take 3 Thinning project conforms to the Salem District Resource Management Plan/Forest Land and Resource Management Plan as amended by the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (2001 ROD), as modified by the 2011 Settlement Agreement (*Conservation Northwest, et al. v. Rey, et al.*, No. 08-1067 (W.D. Wash.) July 2011, IM-OR-2011-063).

5.1 Land Use Plan Update

A final judgment was issued on 5/16/2012 concerning the Pacific Rivers Council v. Shepard litigation. The court vacated the Western Oregon Plan Revision (WOPR) Record of Decision, returning the management of the federal lands to the Northwest Forest plan, i.e. 1995 Resource Management Plans that were in place prior to December 30, 2008, as modified (i.e. Salem District RMP). The Northwest Forest Plan was incorporated into the 1995 Salem District RMP.

5.2 Right-of-Way request

Subsequent to the release of the EA, the BLM received a request from an adjacent private land owner, under a reciprocal Right-of-Way (ROW) agreement, to utilize road 3-5E-13 and to construct 755 feet of road off of 3-5E-13 near road 3-5E-13.4 to access their land. Associated with the road proposal, the applicant plans to harvest timber in the NE ¼ of their ownership in section 24. As proposed in the EA and selected in this decision, 0.47 miles of road 3-5E-13 will be decommissioned. Both the grantee of the ROW and BLM remain committed to decommissioning the road following project implementation.

After consideration of the actions included in this decision record and the ROW request, the interdisciplinary team found the proposed activities do not invalidate or change the EA's conclusions regarding the direct, indirect or cumulative effects. The proposed harvest is consistent with the analysis assumptions included in both the RMP and Take 3 EA, stating that private lands would be considered for timber harvest on a rotational basis (EA p. 42). Granting the ROW would not prevent BLM from implementing the road decommissioning; thus, the analysis concluding a no net increase in road miles in the key watershed and improvement in hydrologic connectivity remain valid.

6.0 Public Involvement/Consultation/Coordination

6.1 Scoping

External scoping (seeking input from people outside of the BLM) for this project was conducted by means of a scoping letter sent out to approximately 90 federal, state and municipal government agencies, nearby landowners, tribal authorities, and interested parties on the Cascades Resource Area mailing list on June 3, 2011.

Eight (8) comment letters/emails were received during the scoping period. The scoping and EA comment letters/emails are available for review at the Salem District BLM Office, 1717 Fabry Rd. SE, Salem, Oregon 97306. EA section 1.3.2 addresses the topics raised in the comments.

The Interdisciplinary Team (IDT) of BLM resource specialists conducted internal scoping through the project planning process which includes record searches, on-site field examinations of the project area by IDT members, professional observation and judgment, literature review and IDT discussion. In the project planning process the IDT considered elements of the environment that are particular to this project as well as elements of the environment that are common to similar timber management projects.

6.2 EA Comment Periods and Comments

BLM made the Take 3 Thinning EA and Draft FONSI (Finding of No Significant Impact) available for public review from November 12th, 2012 to December 19th, 2012. Six (6) comment letters/emails were received during the EA comment period. These comments are available for review at the Salem District BLM Office, 1717 Fabry Rd. SE, Salem, Oregon. Response to substantive comments is described in DR section 10.0.

6.3 ESA Section 7 Consultation

1. *U.S. Fish and Wildlife Service (USFWS)*

EA section 5.1.1 describes consultation with USFWS. The Take 3 Thinning selected action may affect, but is not likely to adversely affect the northern spotted owl due to the modification of dispersal habitat. The Take 3 Thinning selected action will not affect spotted owl Critical Habitat or diminish the effectiveness of the conservation program due to the modification of dispersal habitat (EA p. 110-111):

- The presence of spotted owls in the vicinity of the Take 3 units is highly unlikely because there is likely not enough suitable habitat necessary for maintaining spotted owl life history functions; surveys have been conducted with no responses (EA p.82).
- No dispersal or suitable habitat would be altered or downgraded by the project within the provincial home range of any known spotted owl sites;
- None of the units are located in LSR or Critical Habitat for spotted owl;
- Current dispersal habitat conditions would be maintained after treatment on all acres in the selected action even though the stands would be altered.
- 4 acres of dispersal habitat would be converted to linear openings as road rights-of-way.

2. *National Marine Fisheries Administration (NMFS)*

Consultation with the National Marine Fisheries Service (NMFS) on effects of the Take 3 Thinning project on Lower Columbia River (LCR) Chinook salmon, LCR Coho salmon, and LCR winter steelhead trout is not required because the thinning would have no effect on these species or on essential fish habitat (EA p. 111).

No trees would be thinned within 130 to 400 feet of the North Fork Eagle Creek resulting in no impacts to listed fish habitat, water quality, and large wood (LW) in the North Fork Eagle Creek (EA p. 111).

Stream protection zones (untreated buffers) a minimum of 100 feet wide on each side of perennial 1st and 2nd order tributaries to the North Fork Eagle Creek would prevent impacts to water quality, and listed fish habitat located in the North Fork Eagle Creek (EA p. 111).

Large wood (LW) levels in North Fork Eagle Creek would not be affected by the thinning project both because of the width of the stream protection zones, and small size (capability) of tributary channels to move LW (EA p. 111).

Steelhead trout and salmon habitat would not be impacted by log hauling as log haul routes from Section 11 that cross Little Eagle Creek or North Fork Eagle Creek would be restricted to dry season haul only (EA p. 72).

Additional project design features for the Take 3 Thinning project (EA section 2.2.4) which result in no effect to listed fish, particularly relative to preventing sediment delivery to listed fish habitat, include:

- Meeting NW Forest plan standards and guidelines and BMPs for protection of water quality;
- Thinning from below, retaining primarily dominant and co-dominant trees;
- Meeting or exceeding minimum stream protection zone widths, minimum 100 feet wide on streams within 1 mile of listed fish habitat;
- No felling of trees within the primary shade zone on perennial streams;
- Retaining minimum 50 percent average canopy closure within the secondary shade zone;
- Using existing landings and skid trails to the maximum extent possible;
- Constructing new roads on stable, flat or gently sloping (less than 35 percent) topography;
- Implementing erosion control measures;
- No timber hauling during the wet season.

7.0 Conclusion

7.1 Finding of No Significant Impact

I have made a final decision on the Take 3 Thinning Timber Sale project. The selected action is described in DR section 2.0. The Take 3 Thinning Environmental Assessment documents the environmental analysis of the proposed commercial thinning activity.

The EA is incorporated by reference in this Finding of No Significant Impact determination. The analysis in this EA is site-specific and supplements analyses found in the Salem District Proposed Resource Management Plan/Final Environmental Impact Statement, September 1994 (RMP/FEIS). The proposed thinning activities have been designed to conform to the Salem District Record of Decision and Resource Management Plan, May 1995 (1995 RMP) and related documents which direct and provide the legal framework for management of BLM lands within the Salem District (EA Section 1.2, DR Section 5.0). The EA and draft FONSI was made available for public review from November 12th, 2012 to December 19th, 2012. I received 6 comment letters and emails. Response to substantive comments is described in DR section 10.0.

Based upon review of the Take 3 Thinning EA and supporting documents and the public comments I received on this project, I have determined that the selected action is not a major federal action and would not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27.

Context [40 CFR 1508.27(a)]: Potential effects resulting from the implementation of the selected action have been analyzed within the context of the project area boundaries, and the following 6th field watersheds: North Fork Eagle Creek and Upper Eagle Creek. This 330 acre project will affect approximately 0.9 percent of the 35,180 acre combined 6th field watersheds listed above.

Intensity refers to severity of impact [40 CFR 1508.27(b)]. The following text shows how that the proposed project would not have significant impacts with regard to ten considerations for evaluating intensity, as described in 40 CFR 1508.27(b).

1. [40 CFR 1508.27(b) (1)] – **Impacts that may be both beneficial and adverse:** The effects of commercial thinning will not have significant (beneficial and adverse) impacts (EA section 3.0) for the following reasons:
 - *Project design features* described in EA section 2.2.3 would reduce effects to resources to be within RMP standards and guidelines.
 - *Vegetation and Forest Stand Characteristics (EA section 3.3.1)*: Effects to this resource are not significant because: 1/ the selected action would retain a forested environment with at least 40 percent average canopy cover (see wildlife); 2/ the selected action would not adversely affect BLM Special Status or Survey & Manage Species because no suitable habitat for any species known or likely to occur would be lost or altered to a degree that may impact these species. Therefore, the project would not contribute to the need to list a species as Threatened or Endangered; and 3/ Noxious Weeds – Significant increases in the number of invasive/non-native plants are not expected with the application of Project Design Features. (EA section 2.2.3), and native species would naturally revegetate after thinning activities reducing the suitable habitat for invasive species.

- *Hydrology; Fisheries and Aquatic Habitat; and Soils (EA sections 3.3.2, 3.3.3, 3.3.4):* Effects to this resource are not significant because: 1/ Road construction would occur on gentle slopes with stable, vegetated surfaces; 2/ Stream protection zones (minimum of 100 feet on perennial streams, 50 feet on intermittent streams) would maintain current stream temperatures by retaining the current vegetation in the primary shade zone and most of the current levels of shading in the secondary shade zone. Stream protection zones (SPZ) are also expected to prevent sediment as a result of overland flow or surface erosion in logging units from reaching streams; 3/ Timber haul would be restricted to the dry season, 4/ Turbidity increase resulting from road renovation, road maintenance, road decommissioning and road use would not exceed ODEQ water quality standards; and 5/ Sediment delivery to Eagle Creek tributaries would be reduced over the long term by decommissioning 0.47 mile of road 3-5E-13; the proposed action would meet ODEQ water quality standards.
- *Soils (EA section 3.3.4):* Effects to this resource are not significant because no measurable reduction in overall growth and yield in the thinning area would be expected because analysis and decades of BLM experience with similar projects demonstrate that soil compaction and road construction would cause little difference in the average tree spacing, site utilization or overall stand stocking.
- *Wildlife (EA section 3.3.5):* Effects to this resource are not significant because: 1/ Stands to be thinned are not presently functioning as old growth habitat; 2/ Existing snags, large diameter trees (36 inches diameter or larger) and coarse woody debris (CWD) would be reserved. The small number (≤ 10 percent) of large (≥ 15 inches diameter and ≥ 15 feet tall) snags expected to be felled for safety or knocked over by falling and yarding operations would be retained as CWD; 3/ No suitable forest type for BLM Special Status Species known or likely to be present would be changed. Therefore, the project would not contribute to the need to list any BLM Special Status species; 4/ Thinning would not significantly change species richness (a combination of species diversity and abundance) of the Migratory and Resident Bird community. No species would be extirpated in stands as a result of thinning; and 5/ See # 9, for effects to northern spotted owl.
- *Air Quality and Fire Hazard/Risk (EA section 2.2.2, 3.3.6):* Effects to this resource are not significant because the selected action will comply with State of Oregon Air Quality Standards by strict adherence to smoke management regulations. For example, pile burning will take place when wind and air movement patterns would carry smoke away from designated smoke receptor areas, and would dissipate within one to three days, reducing the effect of smoke on air quality. Overall, the risk of a fire starting because of the proposed project is expected to be low and the ability to suppress any fire that does start is good.

Potential for human caused ignition will be reduced by treating the fuels most likely to be ignited by human activities, especially fine fuels adjacent to roads that are open to public access. Within one year fire risk would diminish as the highly flammable "red needles" drop and ground cover/understory vegetation "greens up".

- *Recreation, Visual Resources, and Rural Interface (EA section 3.3.7):* Effects to this resource are not significant because changes to the landscape character will be low and will comply with Visual Resource Management guidelines because the project area will maintain a forested setting. Some disturbance to vegetation will be observable after thinning activities and is expected to develop an undisturbed appearance within five years. Residents within rural interface areas were notified of thinning operations and these areas

have historically experienced private timber management operations, thus no effect to this resource. Road decommissioning and closures associated with this decision will restrict vehicle access to adjacent wilderness areas and portions of BLM land, but maintain foot and horse access, thus having a low affect to this resource. (EA Section 2.2.2.1, 3.3.7, DR Section 2.6).

2. [40 CFR 1508.27(b) (2)] - **The degree to which the proposed action affects public health or safety:** The selected action will not adversely affect public health or safety because the public will be restricted from the project area during operations and the project will not create hazards lasting beyond project operations (Table 14, EA section 3.3.9).
3. [40 CFR 1508.27(b) (3)] - **Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:** The selected action will not affect historical or cultural resources because there are no known cultural resources that require protection in the project area. Any cultural resources discovered in the future will be protected as determined by the BLM Archaeologist. The selected action will not affect parklands, prime farmlands, wild and scenic rivers, or ecologically critical areas because these resources are not located within the project area. The selected action will not affect wetlands, because all wetlands and identified “wet areas” have been excluded from treatment (EA Section 3.3.1, 3.3.2, 3.3.8).
4. [40 CFR 1508.27(b) (4)] - **The degree to which the effects on the quality of the human environment are likely to be highly controversial:** The selected action is not unique or unusual. The BLM has experience implementing similar actions in similar areas without highly controversial effects.
5. [40 CFR 1508.27(b) (5)] - **The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks:** The BLM has experience implementing similar actions in similar locations and has designed the project, including project design features, to avoid highly uncertain, unique and unknown risks (EA section 2.2.3). See # 4, above.
6. [40 CFR 1508.27(b) (6)] - **The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:** The selected action will not establish a precedent for future actions nor would it represent a decision in principle about a further consideration for the following reasons: 1/ The project is in the scope of proposed activities document in the RMP EIS; and 2/ the BLM has experience implementing similar actions in similar areas without setting a precedent for future actions or representing a decision about a further consideration. See # 4, 5, above.
7. [40 CFR 1508.27(b) (7)] - **Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:** Cumulatively, the selected action and connected actions will be unlikely to result in any detectable change for water quality on a sixth or seventh field watershed scale and will be unlikely to have any effect on any designated beneficial uses, including fisheries (EA Section 3.3.3). The Interdisciplinary Team (IDT) evaluated the project area in context of past, present and reasonably foreseeable actions and determined that the proposed action may be expected to temporarily increase stream turbidity as a result of road renovation, road maintenance, road decommissioning and road use. (EA Sections 3.3.2, 3.3.3). These effects of the selected action are not expected to be significant

because hauling on roads will be limited to the dry season, any turbidity increase resulting from road renovation, road maintenance, road decommissioning and road use would not exceed ODEQ water quality standards, would dissipate within 800 meters downstream, and would decrease quickly over time, returning to current levels within minutes or hours.

8. [40 CFR 1508.27(b) (8)] - **The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources:** The project will not affect these resources because no features eligible for or listed in this register are in the project area and cultural resource inventory have found no scientific cultural or historical resources that could be affected by the project. If any such resources were to be found, operations will cease immediately until adequate protection is implemented. (EA section 3.3.8).
9. [40 CFR 1508.27(b) (9)] - **The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (ESA) of 1973:** The selected action is not expected to adversely affect ESA listed species or critical habitat for the following reasons:
 - *ESA Wildlife - Northern spotted owl (NSO) (EA Section 3.3.5):* Effects to the species are not significant because: 1/The project is not located in Late Successional Reserve, Critical Habitat, or stands which meet the criteria for Recovery Action 32 for the northern spotted owl; 2/ The project maintains 330 acres of dispersal habitat. 3/ Habitat conditions are expected to improve as thinned stands mature (>20 years); and 4/ Residual trees would increase in size and be available for recruitment or creation of large diameter (>15 inches) snags, culls and coarse woody debris (CWD) for prey species and nesting opportunities, particularly in Riparian Reserves, sooner than would be expected without treatment. ESA Consultation is described in EA section 5.1.1.
 - *ESA Fish – LCR Chinook salmon, LCR Coho salmon, and LCR steelhead trout (EA Section 3.3.3):* The selected action will not impact listed fish or their habitat because: 1/No actions will be taken that would affect salmon and steelhead habitat and 2/ Project design features minimize impacts from tree thinning and road renovation and maintenance on stream channels, water quality, and fish habitat as described in the Hydrology; Fisheries and Aquatic Habitat; and Soils section, above. Additionally, new road construction will be located in stable locations and will not contribute to degradation of aquatic habitat. ESA Consultation is described in EA section 5.1.2.
10. [40 CFR 1508.27(b) (10)] - **Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment:** The proposed thinning activities have been designed to follow Federal, State, and local laws (*EA sections 1.2.1, 1.2.2, 3.3.10*). No violations of state or local law will occur under the selected action.

7.2 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. The notice for this decision will appear in the *Sandy Post* newspaper on April 24, 2013. The planned sale date is May 22nd, 2013.

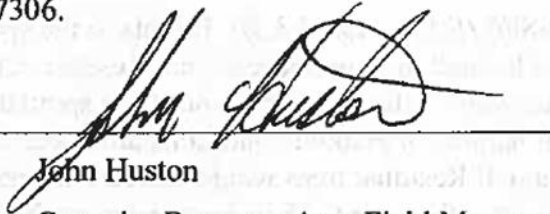
To protest this decision a person must submit a written protest to John Huston, Cascades Field Manager, 1717 Fabry Rd SE, Salem, Oregon 97306 by the close of business (4:30 p.m.) on May 9th, 2013. A written protest electronically transmitted (e.g. email, facsimile, or social media) will not be accepted as a protest. A written protest must be on paper.

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 the BLM shall serve a decision in writing on the protesting party (43 CFR 5003.3).

7.3 Implementation Date

If no protest is received within 15 days after publication of the notice of decision, this decision will become final. For additional information, contact Alisa Tanner (503) 589-6844 or Mike Mathews (503) 375-5711, Cascades Resource Area, Salem BLM, 1717 Fabry Road SE, Salem, Oregon 97306.

Approved by: _____



John Huston

Cascades Resource Area Field Manager

Date: _____

4/18/2013

8.0 Selected Action Compared to EA proposed action

Table 2: Matrix treatment vs. Riparian Reserve

Stand Age	EA Proposed Action*				Selected Action						Change from EA to Selected Action: Total Acres		
	Unit Number	Unit Acres			Unit Number	Total	Matrix		Riparian Reserve				Matrix
		Total	Matrix	Riparian Reserve			Thin	LD patch	Thin	LD patch			
67	13A	17	4	13	1	22	13	2	7	0	+11	-6	
62		18	16	2		8	6	0	2	0	-10	0	
62	13B	70	63	7	2	75	67	0	8	0	+4	+1	
60	13C	8	8	0	3	10	10	0	0	0	+2	0	
30	13D	48	48	0		48	47	1	0	0	0	0	0
60		4	4	0		4	4	0	0	0	0	0	0
96	11D	2	2	0	4	2	2	0	0	0	0	0	
65		7	4	3		5	3	0	2	0	-1	-1	
68 ¹	11A	81	80	1	5	81	80	0	1	0	0	0	
65		11	6	5		9	6	0	3	0	0	-2	
65		19	19	0		17	17	0	0	0	-2	0	
81		27	27	0		25	25	0	0	0	-2	0	
89		17	17	0		14	14	0	0	0	-3	0	
96		1	1	0		1	1	0	0	0	0	0	
66		11G	12	5		7	6	9	3	0	6	0	-2
Total thinning		342	304	38		330	298	3	29	0	-3	-9	
Right-of-Way (ROW) Clearing included in Unit Acres					ROW	-4		0		0	0		
*Data from Table 7 in the EA, pg. 46 ¹ Average weighted stand data from two stands were combined when density, Diameter Breast Height (DBH), trees per acre (TPA), age (within 5 years) and post treatment results were similar					Total Acres thinning	297		29		-3	-9		
					Total acres – thinning and ROW	301		29		-12			

Table 3: Matrix Treatment vs. Riparian Reserve by Logging system

EA Unit No. T3S, R5E	DR Unit No.	Average Stand Ages*	EA Unit Acres	DR** Unit Acres	Thinning Acres by Yarding System and LUA							
					Ground Based Yarding				Skyline Yarding			
					Riparian Reserve EA	Riparian Reserve DR	GFMA EA	GFMA DR	Riparian Reserve EA	Riparian Reserve DR	GFMA EA	GFMA DR
13A	1	62-67	35	30	13	8	19	20	2	1	1	1
13B	2	62	70	75	1	2	35	37	6	6	28	30
13C	3	60	8	10	0	0	8	10	0	0	0	0
13D		30-60	52	52	0	0	52	52	0	0	0	0
11D	4	65-96	9	7	3	2	6	5	0	0	0	0
11A	5	65-96	156	147	1	1	133	129	5	3	17	14
11G	6	66	12	9	5	4	2	1	2	2	3	2
Total Thinning Ac.			342	330	23	17	255	254	15	12	49	47
Difference in acres EA vs. DR			-12		-6		-1		-3		-2	
Total Thinning Acres by Yarding Type DR: Ground Based = 271 acres Skyline = 59 acres												
Approx. Untreated acres by LUA (within BLM ownership in sections 11 and 13): GFMA = 397 Riparian Reserve = 193												
*Average Stand Ages based on birthdate –see Table 7 of the EA ** Gross acres - based on GIS traverse, Exhibit acres for the Timber Sale may be slightly less												

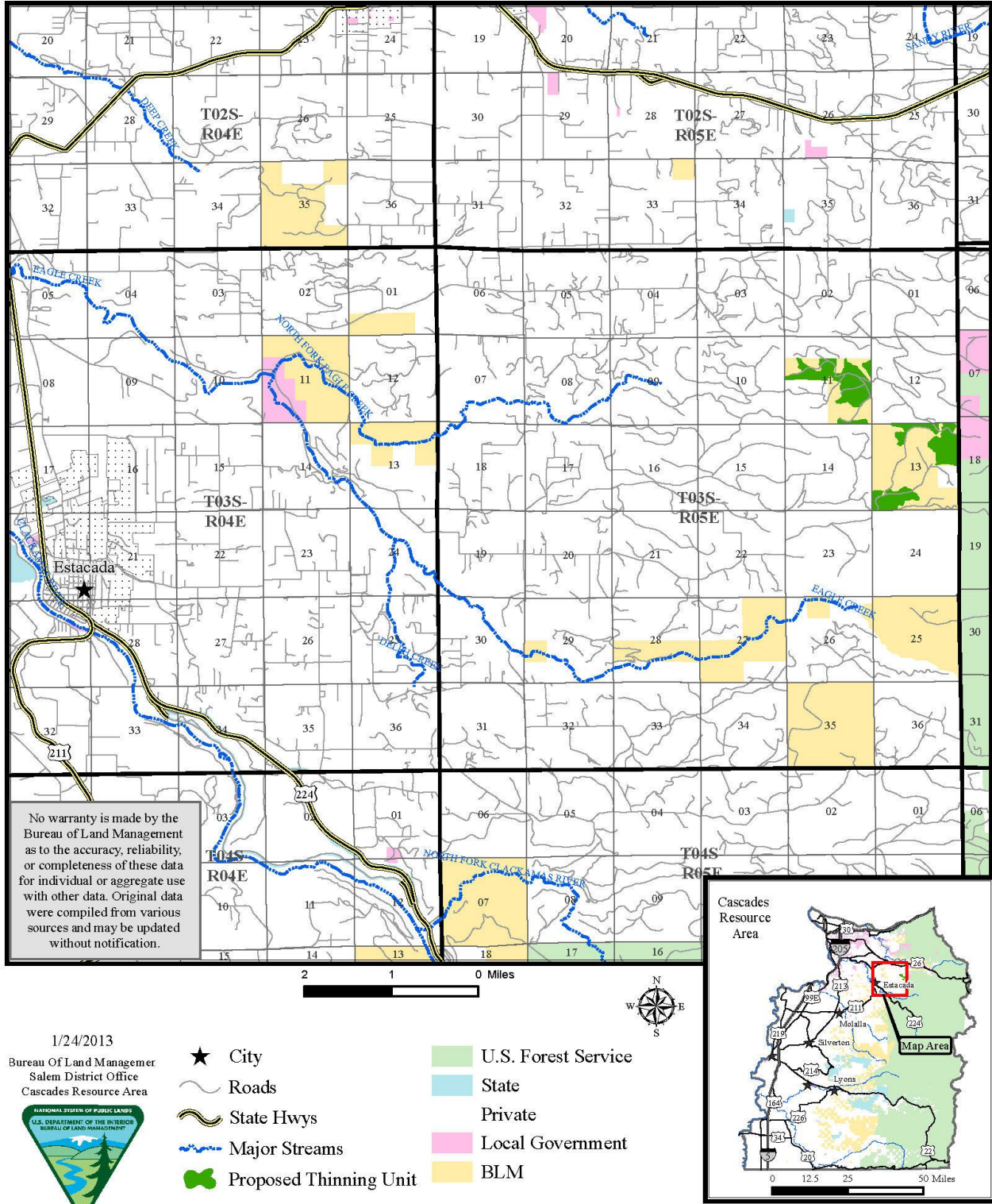
Table 4: Connected actions: Road Work

Road ID	BLM Land												Private Land				Associated Unit		
	Temporary New Construction Natural Surface		Permanent New Construction Rocked		Renovation		Maintenance		Decommission		Stabilize, close		Maintenance		Temporary Construction				
	EA	DR	EA	DR	EA	DR	EA	DR	EA	DR	EA	DR	EA	DR	EA	DR			
3-5E-4							0.78	0.78					1.82	1.82			11A,D	4, 5	
3-5E-11							0.49	0.49					1.66	0.0			11A	5	
3-5E-11.1					0.76	0.76											11G	6	
3-5E-11.2					0.31	0.31											11A	5	
3-5E-11.3					0.48	0.48											11A	5	
3-5E-12.0							0	0.37									13B	2	
3-5E-12.1													0	0.09			13B	2	
3-5E-15													1.47	0			All 11	4,5,6	
3-5E-16													1.08	0			All 11	4,5,6	
3-5E-13							0.27	0.29	0.47	0.47							All 13	1,2,3	
3-5E-13.1							0.99	1.04									13B,D	2,3	
3-5E-13.3							1.13	1.13									13A,C	2,3	
3-5E-13.4											0.26	0.26					none	none	
3-5E-13.5							0.05	0.05									13B	2	
P1	0.18	0.02							0.18	0.02						0.05	0.08	11D	4
P2	0.20	0.21							0.20	0.21								11A	5
P3	0.02	0.03							0.02	0.03								11A	5
P4			0.15	0.12														13A,B	1,2
P5	0.50	0.44							0.50	0.44								13B	2
P6	0.15	0.10							0.15	0.10								13B	2
TOTALS	1.05	0.80	0.15	0.12	1.55	1.55	3.71	4.15	1.52	1.27	0.26	0.26	6.03	1.91	0.05	0.08			
Change in miles	-0.25		-0.03		0		+0.44		-0.25		0		-4.12		+0.03				
Change in total Miles, BLM and Private lands combined: Temporary roads: -0.22, Permanent road: -0.03, Renovation: 0, Maintenance: -4.12, Decommission: -0.22, Stabilize, close: 0																			

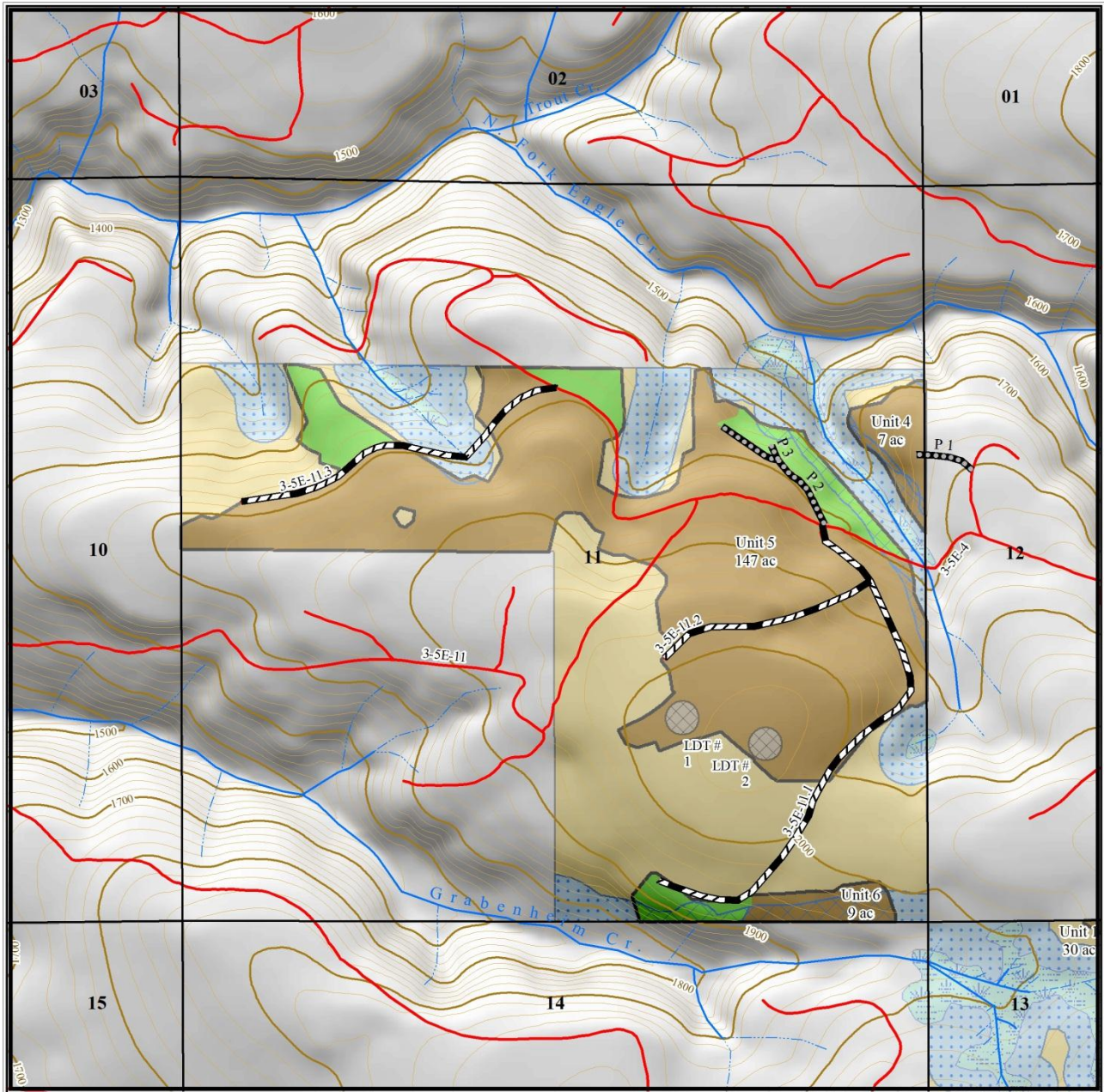
9.0 Maps

Take 3 Thinning Environmental Assessment (EA # S040-2011-0004) Project Location Map

T. 3S, R. 5E, Sections 11 & 13 W. M. - SALEM DISTRICT - OREGON



Take 3 Thinning Environmental Assessment (EA # S040-2011-0004) Decision Rationale Map
 T03S-R05E Sec 11



1,000 500 0 Feet
 Contour Interval: 20'

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

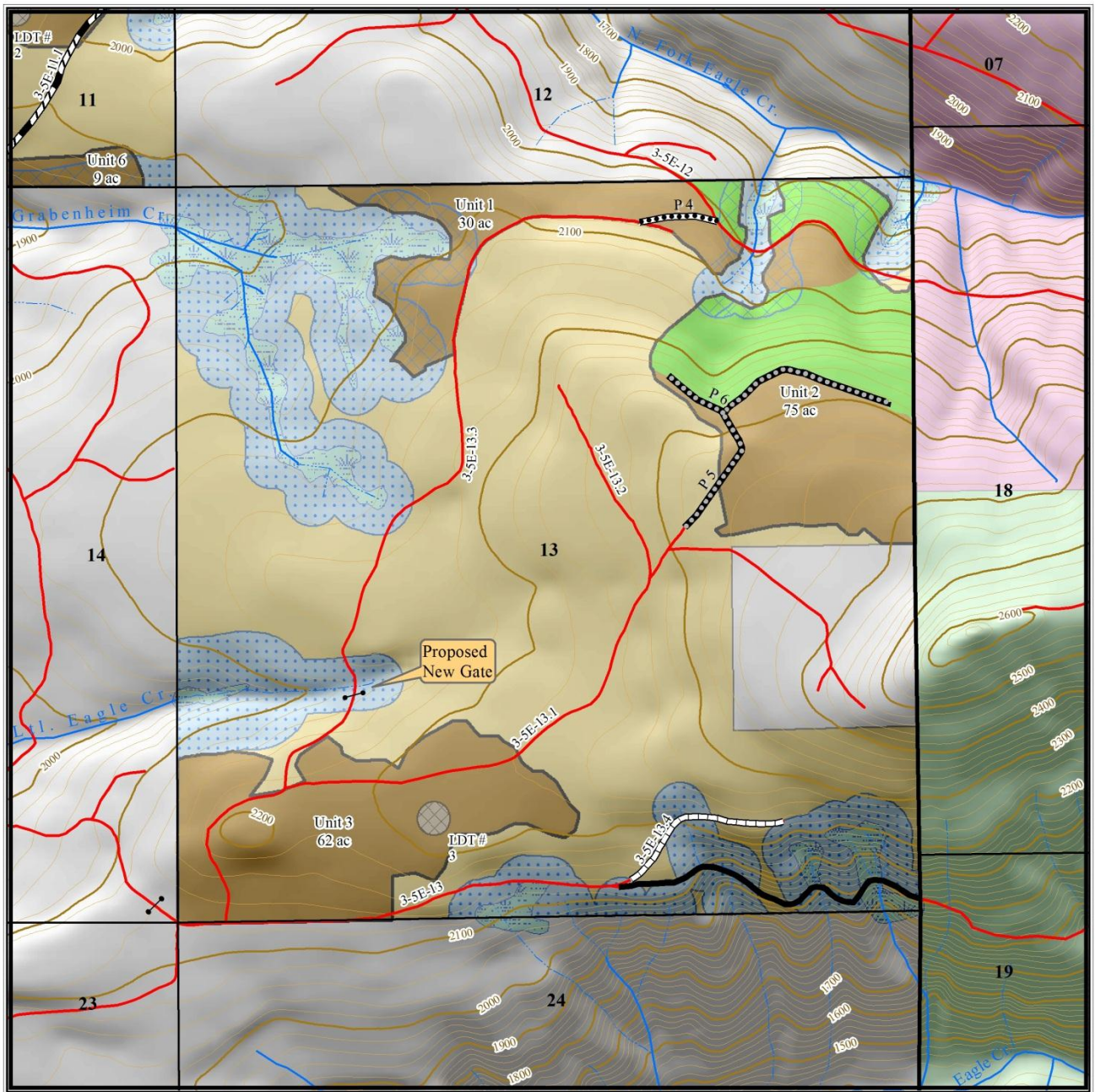
- Road
- Intermittent
- Perennial
- Low Density Thinning (LDT)
- New
- Renovation
- Wet Area
- Untreated Riparian Reserves (~ 193ac)
- Cable
- Cable/Riparian
- Ground
- Ground/Riparian
- BLM
- Private/Unk

March 12, 2013
 Bureau Of Land Management
 Salem District Office
 Cascades Resource Area



Take 3 Thinning Environmental Assessment (EA # S040-2011-0004) Decision Rationale Map

T03S-R05E Sec 13



1,000 500 0 Feet
 Contour Interval: 20'

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

- | | |
|---|---|
| <ul style="list-style-type: none"> — Closure Device — Road — Intermittent — Perennial ⊗ Low Density Thinning (LDT) — Close — Decommission — New — New/Perm — Renovation | <ul style="list-style-type: none"> Wet Area Untreated Riparian Reserves (~ 193ac) Cable Cable/Riparian Ground Ground/Riparian BLM Private/Unk Local Government USFS |
|---|---|

March 12, 2013
 Bureau Of Land Management
 Salem District Office
 Cascades Resource Area



10.0 Response to Comments Received during the EA Comment Period:

Having reviewed all of the comments I received during the EA comment period (November 12th – December 19th, 2012), I have summarized them into the following categories: 10.1 BLM management objectives in Riparian Reserve LUA and ACS Objectives, 10.2, Snag and coarse Woody Debris Habitat, 10.3 Special Status Species, Survey and Manage Species and Their Habitat, 10.4 Road Management and Mileage in Key Watersheds. 10.5 BLM Management Objectives, Vegetation and Silviculture Prescriptions 10.6 Project Design Features and Best Management Practices 10.7 Logging systems, Operations and Implementation 10.8 Wilderness Characteristics, Visual Resources and Recreation, 10.9 Other Comments received.

10.1 BLM management objectives in Riparian Reserve LUA and ACS Objectives

1. *I received comments expressing differing views of BLM management for the Riparian Reserve (RR) LUA and how thinning in the RR will meet ACS objectives, especially how the project would impact coarse wood recruitment. Specific comments include:*
 - *An opinion that thinning in the RR will not meet ACS (3 commenters):*
 - *An opinion that all thinning should be done outside the RR.*
 - *An opinion that harvest operations in the RR will have “adverse impacts” to the RR and therefore do not meet ACS.*
 - *An opinion that thinning in the RR will “degrade” habitat.*
 - *An opinion that thinning treatments in Riparian Reserves is not “ecologically beneficial.”*
 - *An opinion the no action alternative (no thinning in RR) would meet ACS objectives.*
 - *An opinion that the faster growth rate of thinned trees in the RR would not necessarily result in more large trees.*
 - *General support of the criteria the BLM used to determine whether RR treatment contribute to meeting ACS objectives.*
 - *An opinion approving of the exclusion of high water tables and wet areas from treatment*
 - *A request the BLM includes a map of wet areas and all Riparian Reserve areas.*
 - *An opinion the BLM needs to treat more RR stands to meet EA objectives.*
 - *An opinion that merchantable logs should not be removed from the Riparian Reserves, as they provide important terrestrial habitat and in-stream structure.*
 - *An opinion in favor that most of the RR LUA in the project area is “left alone” with “adequate buffers” on the acres thinned.*
 - *An opinion that “the minimal thinning” in the RR is a positive feature of the project.*
 - *General support of the addition prescription in the RR of maintaining small clumps of trees and variably in spacing.*
 - *An opinion the BLM should protect shrubs in the RR in order to meet ACS objectives.*
 - *An opinion the BLM’s stream protection zones (SPZ) negatively effect large wood levels in the streams by deferring treatments that would accelerate the development of large trees.*
 - *A comment expressing concern about wet areas observed in unit IID extending further than the 100 foot minimum SPZ on the perennial stream – specifically how thinning in this area will meet compliance with ACS objective 7.*
 - *A concern that dust generated from dry season hauling will impact fish habitat.*

Response to 1: The BLM acknowledges the range of opinions regarding riparian thinning and fully addressed this issue, providing rationale for the proposed action. Chapter 1 of the EA addresses the need and purposes for actions in Riparian Reserves, outlining the objectives to provide late

successional habitat and long term structural and species diversity to meet ACS Objectives 8 and 9. Desirable late seral forest stand characteristics include larger trees for a large green tree component and recruitment of large snags and down CWD in future stands, multi-layered stands, and multiple species, including shrub species. Stands identified for treatment lack these desired characteristics.

The planning team also considered public comments and information displaying contrary evidence to the benefits of riparian thinning. Incorporating all information, including NWFP and RMP direction, the team identified 38 acres within the project area appropriate for thinning. 29 of those 38 acres are identified in this DR to be thinned. Impacts associated with harvest operations in the Riparian Reserve were analyzed by hydrology, fisheries, soils and wildlife specialists in Section 3.3 of the EA and were determined to not have any direct, indirect or cumulative impacts.

The analyses also concluded that residual stand densities and SPZs will provide for full stream shade, bank protection, and a sediment buffer to the streams. Habitat connectivity is also expected to improve as late successional conditions develop (EA p. 86). Thus, the Take 3 thinning sale complies with ACS Objectives and Oregon Department of Environmental Quality (ODEQ) water quality standards. Compliance with ACS objectives is also described in the EA in the Hydrology and Fisheries sections (EA 3.3.2, pp.61-67, 3.3.3 pp. 69-72) and addressed in EA Section 3.3.10 “Compliance with the Aquatic Conservation Strategy” (pp. 104-108) with a narrative describing how both action and no action alternatives meet that objective.

Approximately 193 acres of Riparian Reserve (87 percent of the RR in the project vicinity) will not be thinned, allowing suppression mortality to develop large amounts of dead wood as suggested by some commenters, while accelerating growth on retained trees on 29 acres of RR to accelerate development of multiple desired late successional characteristics. Thinning approximately 13 percent of the RR in the project vicinity will increase stand structural diversity at the landscape level, consistent with ACS Objectives 8 and 9 as described in EA section 3.3.10.

The map provided in this DR shows all RR areas in the project area, updated stream layers, and the locations of mapped wet areas. There is a *minimum* SPZ width of 100 feet on perennial streams; some areas along the west boundary of unit 4 exceed 100 feet where necessary and exclude any wet areas from treatment (DR 9.0). A minimum of 50 feet distance of operations from intermittent streams and 100 feet from perennial streams will be implemented, therefore the IDT determined the proposed action does not prevent or retard the attainment of ACS objectives (EA p. 104).

Sediment from dust during summer haul was evaluated; BLM fisheries staff inspected ditch lines at the two stream crossings along the proposed haul route. No sediment (derived from driving the road during the dry season) was shown to be moving to stream channels.

10.2 Snag and Coarse Woody Debris Habitat

2. *I received comments about snag and coarse woody debris (CWD) management and other dead wood management. These were linked to snag and CWD management in RR's as well as in general on BLM managed land. Specific comments include:*

Specific to RR:

- *An opinion that thinning in the RR provides trees of suitable size for large snags or CWD sooner, but not the snags or CWD themselves.*
- *An opinion that thinning in the RR captures mortality which both reduces and delays recruitment of dead wood necessary to meet objectives for late successional habitat in RR and to meet ACS objectives (3 commenters).*
- *An opinion that the EA "misrepresents" that large snag habitat will be enhanced and aquatic objectives will be met from thinning.*

GFMA and general:

- *An opinion that thinning does not enhance production of large snags, and the loss of any small snags through thinning would not be off-set by any "benefits" of potential large snags after thinning.*
- *An opinion that thinning in stands over 80 years would not meet the purpose and need of the project, especially pertaining to snags and CWD.*
- *An opinion the EA does not take CWD and snags into account when discussing forest "complexity."*
- *An opinion that thinning trees over 20" DBH would deprive stands of future large trees and large snags and down wood.*
- *An opinion that dead wood will be reduced in the long term due to multiple thinnings.*
- *Agreement the previously topped trees in unit 11A should be retained.*
- *An opinion the RMP does not "prescribe" a snag size.*
- *An opinion the BLM targets for snags and CWD is "discredited" and more dead wood is needed.*

Response to 2: The effects of thinning on snags and dead wood are addressed in EA Sections 3.3.1, 3.3.5 and 3.3.10. The EA acknowledges that there would be adverse effects to smaller snags less than 15 inches DBH due to thinning (EA p. 87). The EA further acknowledges that the number of small snags and dead wood retained and recruited would be reduced over the next 20 to 40 years because thinning from below, removes smaller suppressed and intermediate trees that would otherwise die from suppression mortality and become snags during that time. The thinning would remove some co-dominant material over 20 inches DBH both in the Matrix and Riparian Reserve, however since this is a thinning from below, the majority of dominants and co-dominants would be reserved. The EA further states that there would be a snag deficit in these stands for 2 to 5 decades. Most of these stands are 60 to 90 years of age and would be in a snag deficit condition for less than three decades. There is a portion of one stand (48 acres of unit 13D) which is in the matrix that is only 30 years of age and would take longer (up to five decades) to develop larger trees for snag and dead wood recruitment.

In respect to CWD habitat creation in the RR: Lands within the Riparian Reserve are to be managed according to the Aquatic Conservation Strategy for late-successional stand conditions in the long term (RMP pp. 5-6, 9-11). Once the thinned stands in Riparian Reserve grow beyond this snag deficit stage

(described above), they would all be over 80 years of age and in the early mature seral stage with some characteristics of late successional habitat. Trees available for snag and dead wood recruitment would be larger with more volume and value to wildlife.

The effects analysis concluded the benefits of thinning to improve wildlife habitat through accelerating larger tree structure and understory development (EA p. 86) including CWD (EA p. 87).

With respect to CWD habitat in Matrix: Lands within the Matrix/General Forest Management Areas (GFMA) Land Use Allocation are primarily designated for the sustained production of timber, and not for the development of late-successional stand conditions. Guidelines for retention of snags and dead wood for the matrix are described in the RMP pages 20-21 and the EA is consistent with this direction. The stands in the Matrix would be candidates for regeneration harvest, and enough large green trees would be available for green tree retention, snag and dead wood recruitment to meet RMP guidelines and objectives.

The NWFP and RMP do not establish a specific standard for “large snags”. The EA (p. 81, Table 11) discusses the snag sizes required by five species of woodpecker which supports the concept that larger snags provide habitat that is longer lasting and valuable for more species than smaller snags. The RMP, under Matrix, Objectives page 21 states in part:

“Retain snags within a timber harvest unit at levels sufficient to support species of cavity nesting birds at 40 percent of potential population levels. Meet the 40 percent minimum throughout the Matrix with per acre requirements met on average areas no larger than 40 acres.”

This same direction can also be found under Management Direction for Matrix LUA under Wildlife Objectives (p. 25) and Timber Resources Objectives (p. 46) of the RMP.

The intent is to use the largest available standing dead tree components within the area to fulfill their ecological function as best they can. The use of forestry techniques such as thinning to allow for the development of larger trees to create larger CWD and snags over the long term is clearly envisioned in both the NWFP and the RMP. In addition, the project, in the EA, envisions retention of at least 90 percent of existing CWD and snags within harvested areas (EA pp. 6, 87, 89, 90).

Appendix D of the RMP, “Silvicultural Systems and Harvest Methods” under “Silvicultural Treatments”, “Commercial Thinnings” page D-2 states in part:

“The objectives of commercial thinning may include one or more of the following: to increase the proportion of merchantable volume in the stand, to produce larger, more valuable logs, to anticipate mortality of small trees as the stand develops, to maintain good crown ratios and stable, wind firm trees, to accelerate development of trees which can later provide large-diameter snags and down logs, to manage species composition, or to promote development of desired understory vegetation.”

In the interim, the largest CWD and snags would be utilized as available. In addition, it is important to observe that while thinning in younger stands does reduce mortality and correspondingly decrease the generation of smaller woody debris and snags, surrounding stands, including untreated Riparian Reserves and other untreated LUAs, continue to provide for small diameter suppression recruitment of snags. This coupled with the potential larger forest components being generated in thinned areas creates a diverse representation of forest components that can contribute to the overall health and viability of the forest. The intent of the thinning program in this area then is to forego the potential loss of captured mortality in the short term within thinning areas in favor of providing larger trees from

which CWD, large snags and more valuable commercial timber can be obtained over the long term.

10.3 Special Status Species, Survey and Manage Species and their Habitat

3. *I received comments concerning special status species (SSS), survey and manage (S&M) species and their habitat:*

- *A question why no formal surveys were done for the Johnson's Hairstreak.*
- *A question regarding if bat species were surveyed.*
- *A question regarding what it means that the Oregon Slender Salamander is now on "list 4" for SSS.*
- *An opinion that thinning will impact flying squirrel populations, an important prey species for the Northern spotted owl, according to recent research.*
- *A question regarding the S&M species protected in the previous thinning and why they no longer need protection.*
- *An opinion thinning would remove suitable habitat for three S&M species and should be considered in cumulative effects.*

Response to 3: No surveys for the Johnson's Hairstreak were conducted due to the butterflies' preference for dwarf mistletoe high in tree canopies and surveys are limited in their ability to detect their presence. In the absence of surveys, the BLM assumes that species *are* present and analyzes effects accordingly. The habitat in Take 3 is marginal at best due to its young age. Potential adverse effects of the Take 3 proposal on Johnson's hairstreak are described in the EA (Section 3.3.5.1, p. 89).

Regarding surveys for Bats: The Northwest Forest Plan Standards and Guidelines, C-43 establishes procedures for surveying cave, mine, bridge and building habitat, but not snag and decadent tree habitat. There is no cave, mine, bridge or building habitat, and optimal snag habitat is rare. Bat surveys are problematic and logistically challenging. In the absence of surveys, the BLM assumes that species *are* present and analyzes effects accordingly. The EA (p. 83) states: "There is one Bureau Sensitive bat species suspected to occur in Take 3 Area, the fringed bat. Four bat species of concern are suspected to occur in the Take 3 Area (silver-haired bat, long-eared myotis, long-legged myotis, and Yuma myotis). These species are associated with caves and mines, bridges, buildings, cliff habitat, or decadent live trees and large snags with sloughing bark." Potential adverse effects of the Take 3 proposal on bats are described in the EA (Section 3.3.5.1, p. 89).

The Oregon Slender Salamander: The Oregon slender salamander is listed on List 4 of the Oregon Biodiversity Information Center (OBIC) Institute for Natural Resources maintained by Portland State University with assistance from experts in the field from Federal and State agencies, the Native Plant Society and The Nature Conservancy. "List 4 includes Taxa which are of conservation concern but are not currently threatened or endangered. This includes taxa which are very rare but are currently secure, as well as taxa which are declining in numbers or habitat but are still too common to be proposed as threatened or endangered. While these taxa may not currently need the same active management attention as threatened or endangered taxa, they do require continued monitoring (OBIC 2010 p. 4)." Prior to 2010, the Oregon slender salamander was a Bureau Sensitive Species on List 1, which includes taxa that are threatened with extinction or presumed to be extinct throughout their entire range. Oregon slender salamanders have been found to be more abundant than previously thought. As a result of this change in status, the Oregon slender salamander is no longer a Bureau Sensitive Species.

Regarding Flying Squirrel populations: Recent research by Carey and Wilson (2011) does indicate that thinning can have adverse impacts on flying squirrel habitat. Take 3 proposes to thin 330 acres of the total 920 acres available on BLM lands in these parcels, or 36 percent. The remaining 64 percent would remain untreated under the Take 3 proposal. The flying squirrel is not a Special Status Species, nor is it on any list maintained by Oregon Biodiversity Information Center, indicating that it is not a rare species. It is well established that the flying squirrel is an important prey species for the Northern spotted owl. The Take 3 area was surveyed for spotted owls during 2011 and 2012. No spotted owls were found.

Regarding S&M species: Projects that are within the range of the northern spotted owl are currently subject to the survey and management standards and guidelines as outlined in the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (2001 ROD), as modified by the 2011 Settlement Agreement (DR 5.0). The previous thinning was surveyed for Survey and Manage species back in the late 1990s when there were species which have since been removed from the Survey and Manage requirements for surveys and protection. These include several mollusk species which have since been found to be more common than previously thought.

Of the S&M fungi species identified within the previous thinning (Rusty Saw Reoffer, EA p. 39), six (6) remain listed as S&M. Of those 6 species, only 4 species/known sites are within the proposed Take 3 unit boundaries and all are within unit 11A (unit 5). Only one site existed in a stand that was classified as 80 years or older and required protection, as outlined in the 2001 ROD and modified by the 2011 Settlement Agreement (see above paragraph). This site retains a 50 foot radius buffer and will be managed to protect the known population (EA p. 47, DR 9.0). The EA addresses the cumulative effects to SSS and S&M plant species. Suitable habitat that might support SSS or S&M fungi species within the project area will be modified. However, suitable habitat will remain in reserve areas adjacent to the proposed harvest area (EA p. 52).

10.4 Road Management and Mileage in Key Watersheds

4. *I received several comments regarding proposed roads to be built, both temporary and permanent, in the Take 3 EA. I received comments about the proposal to decommission and close segments of road in the project area, associated timelines for these actions, and how these actions will affect road mileage in a Key Watershed. Specific comments include:*
 - *General support of road construction to access units for thinning opportunities.*
 - *General support of the closing of road 13.4 and the decommissioning of road 13.0 from the 13.4 and 13.0 junction to the USFS Wilderness Boundary (2 commenters).*
 - *Concern regarding the lack of a timeline for when the decommissioning and road closure on BLM would occur; when the work will take place to ensure there is no net increase in road mileage in the Eagle Creek Watershed.*
 - *An opinion the BLM should consider future management needs and added costs when decommissioning roads.*
 - *An opinion the Connected Actions section of the EA (EA 2.2.2) is “well described.”*
 - *General support for the installation of a new gate.*
 - *An opinion all road construction should be dropped from the project.*
 - *A concern regarding the time of when/if the USFS roads proposed for removal in the Watershed have been decommissioned.*

- *Concern about proposed treatment and road construction for unit IID (unit 4, P1 road) and whether road construction will increase the likelihood of future blow down in the Unit.*

Response to 4: The EA assessed the issue of roads in the Eagle Creek Watershed (pp. 17, 67, 70, 72). The project proposes to decommission 0.47 miles of existing road and construct 0.12 miles of permanent road (DR table 4), resulting in a net decrease of 0.35 miles of road in the key watershed under the Take 3 EA proposal. In addition, the USFS has completed decommissioning of 2 miles of road in the key watershed (EA p. 41). Combined, there will be a net reduction of over 2 miles of road. The net decrease is consistent with key watershed direction contained in the RMP and NWFP.

Comments expressed concern regarding the timeline for the 0.47 miles of road to be decommissioned, and the closure of the 13.4 road. As with other actions selected in the decision (timber harvest, fuels reduction and other road work) there is no set timeline as many factors such as date of timber sale award, purchaser's implementation schedule, and protests and appeals determine timelines of implementation. However, as stated in this decision (DR Section 5.2), the BLM affirms its commitment the road will be decommissioned following use.

Future management of BLM lands accessed by the roads proposed for decommissioning was considered. The 13.0 road currently ends at the Salmon-Huckleberry Wilderness Area boundary, and closely follows the property line between BLM and private industry forest lands (DR 9.0). Access to BLM lands for potential future silvicultural treatment was considered limited. The IDT determined decommissioning the 0.47 miles of the 13.0 road outweighed any limited possibility of timber management in the BLM forested stands currently accessible from this road. Management of adjacent BLM plantations can be achieved through future access on the 13.4 road; which in the Take 3 EA is proposed for closure and stabilization, but not decommissioning. This road can be renovated and utilized for future management actions when the adjacent BLM plantations are old enough for commercial thinning treatments.

With reference to the concern about the construction of the temporary P1 road into unit 4, this road has been reduced by length from the original EA proposal. Logging feasibility, access to thin the stand, and comments from the public; including the concern raised about increase in blowdown due to the construction of this road, were taken into account when the length was modified. The road on BLM land was reduced by several hundred feet (see DR table 4).

10.5 BLM Management Objectives in the Matrix LUA, Vegetation and Silvicultural Prescriptions

5. *I received comments expressing differing views regarding silvicultural practices and management objectives on BLM forest land. Specific comments include:*

- *An opinion the BLM should not use the "outdated" Northwest Forest Plan guidelines and NEPA analysis to support thinning in the Matrix.*
- *An opinion the Take 3 thinning is a "well designed" thinning project.*
- *An opinion that disagrees with the purpose and need for the project and BLM's assessment of the benefits of thinning (2 commenters).*
- *An opinion that thinning of "older" stands should be dropped from the proposal.*
- *An opinion that thinning in stands over 80 years does not provide ecological benefits*

- *An opinion that the primary goal of BLM timber sales in O&C lands should be to support local mills and generate funds to support local government.*
- *A concern about how many board feet of timber will be removed from the project and for the BLM to clarify whether or not it is “excessive” for the Eagle Creek Watershed.*
- *An opinion that thinning 13C (unit 3) does not meet the purpose and need for the project due to the presence of large snags and CWD and should be dropped from the proposal.*
- *A concern the thinning proposed in unit 11D (unit 4) will create more blow-down along the property edge.*
- *A request the BLM modify the project design features to retain more hardwood diversity, including hardwoods and shrubs under 7” dbh.*
- *A question regarding invasive species and why it is stated in the EA (page 52) they will be “short lived.”*
- *A question regarding the definition of “simple structure” in the EA.*
- *A request that minor tree species be retained.*
- *An opinion that there is no lack of early seral habitat in the project area and that low density thinning areas are not necessary.*
- *A comment was received that low density thinning areas should be larger for elk forage and structural diversity.*

Response to 5: The Salem RMP currently directs the management of BLM land and any management options to be considered will be defined by the RMP. Changing RMP management objectives is beyond the scope of the EA or this DR.

Under the current RMP, some or all these stands in the Matrix LUA would be considered and evaluated for treatment options. The current RMP does not restrict timber harvest on Matrix lands that are over 80 years in age (42 acres of the 330 proposed for thinning), or those that may contain large snags or CWD (unit 3). The IDT designed the Proposed Action to meet the Purpose of and Need for Action (EA 1.1) in the Matrix LUA to be consistent with RMP direction. Any existing large snags and CWD would be retained as outlined in the purpose and need in the EA (p. 13), the proposed action (EA 2.2) and in the RMP (p. 20). The thinning prescriptions described in the EA for Matrix lands (p. 23) are consistent with the purpose and need of this project.

Comments expressed concern about thinning unit 11D (Unit 4) and whether thinning the stand would create more blowdown along the east property edge. The EA acknowledges some blowdown (“windthrow”) would be expected after thinning (EA p. 48), and is evident along the edge of the BLM ownership and the young private conifer plantation (EA p. 44). It is expected thinning would increase the diameter growth rates on the retained trees, resulting in larger, healthier trees in the long run, reducing the potential for blowdown from wind events in the future. The road proposed for construction into this unit was also shortened (see response 4). Any blowdown that does occur would recruit down dead wood habitat in the stand.

Comments indicated confusion about how invasive species would be “short lived” following thinning. Project design features #33, 42 and 43 provide mitigation measures to reduce the likelihood of increase invasive weed populations during and after the timber sale (EA pp.34-35). The EA states on page 52 the evidence on both private and public lands adjacent to the proposed project areas show how “no dramatic population increase in invasive/non-native species would occur if the proposed project proceeds as planned. Similar projects in the vicinity of the proposed project had little to no difference in their invasive/non-native species population composition or numbers, and these projects were completed without the project design features of this proposal.”

Comments expressed concern the volume of the timber was not disclosed in the EA and that it may conflict with a watershed analysis (WA) recommendation of limiting volume to 10.3 million board feet per decade in the watershed (WA p. 111). The IDT team recognized the recommendation and addressed issues considered but eliminated (EA p. 21). In summary, the volume figure in the watershed analysis was estimated using an assumed volume per acre value that was 30 percent of the actual volume measured. The volume estimated in the watershed analysis was never intended to set an upper harvest limit; rather, to compare the harvest levels estimated in the NWFP to the combined harvest estimates for all the watershed analyses for the entire Mt Hood National Forest.

Regarding volume disclosure in the EA: The number of acres impacted by project activities is relevant to the analysis. For example, the acres of soil displacement, or acres of spotted owl habitat degraded is important, while the timber volume does not lend further information that is relevant to the effects analysis. Actual volume removed is decided after the EA is completed and public comments on the EA are considered. Volume of timber proposed for logging is included in this decision (DR p. 2).

Simple structure, as used in this EA (p 36), refers to a single layered stand with lack of structural and species diversity. It also may lack decadence components such as broken-topped live trees, mistletoe, cavities, large snags, and fallen trees. In the RR, the objective will be to provide large trees for future snags and down wood (EA p. 13). The effects of the proposed action on understory/overstory development and dead wood components was analyzed in the EA (EA 2.3, 3.3), including effects on the recruitment of smaller dead wood components in the short term.

Although shrubs are not specifically addressed for protection or retention in the PDF's of the EA or the RMP, small gaps and openings in the canopy created by thinning should provide additional light to the forest floor and help increase under-story vegetation growth over time (EA pp. 47-51). The proposed action in the EA describes how a mix of tree species, including hardwoods, will be retained in both the Matrix and RR LUA (EA p. 23).

With regard to the Low Density thinning areas: While it is true that there are early seral clearcuts on adjacent lands in the Take 3 area, there is a lack of early seral on BLM lands. Early seral habitat in the adjacent clearcuts are of poor quality due to their past treatments, larger size, vegetation management and long distances from edge with existing forested habitats. The low density thinning areas in the Take 3 Thinning are strategically placed in locations where they will be of greater benefit to wildlife species, and are short distances from forested edges. The low density thinning areas are limited in size to provide small openings and increased light to the forest floor more than what would occur in the rest of the commercial thinning. They are intended to increase stand structure by varying tree spacing diversity. One of the objectives of regeneration harvest that could occur in the future in the Matrix would be to provide larger areas for early successional habitat (RMP p. 20).

10.6 Project Design Features and Best Management Practices

6. *I received comments regarding Project Design Features (PDF's) listed in the Take 3 EA and Best Management Practices (BMP's):*
- *An opinion the current BMP's are inadequate and not followed effectively on BLM timber sales citing a specific BLM timber sale (Annie's Cabin).*
 - *A question regarding post-logging monitoring to track BMP effectiveness, and a request to include plans for post-logging BMP monitoring in the DR.*
 - *An opinion certain PDF's in the EA have more importance than others.*
 - *An opinion that the design features should be written into the sale contract and compliance monitored and enforced by the BLM.*
 - *A concern the P4 road will be built on a slope greater than 30 percent which would exceed BMP's.*

Response to 6: The proposed actions incorporate the use of BMPs to further protect soil, water, wildlife, cultural, botanical and community resources. In addition to BMPs, the Salem District, NMFS, and USFWS planning documents provide objectives, direction and sideboards designed to protect resource values. Another level of protection is ensured by the team of specialists trained in their field and familiar with the ground who refine the proposed action to ensure compliance with policies and regulations. Collectively, the use of BMPs, following standards and guidelines, and confirming consistency with agency consultation requirements ensures project activities meet or exceed requirements to protect key resource values.

A public comment expressed concerns about BMP effectiveness, monitoring and enforcement, citing a perceived misapplication associated with the Annie's Cabin Timber Sale. The Take 3 project has no connections or association with the referenced timber sale. Therefore, to address issues associated with unrelated projects the BLM refers interested public to the record of interest. However, related to the Take 3 project are the BMPs and process followed to ensure successful implementation. The EA (p.31-35) presents the BMPs as PDF's; the table specifies action, benefitting resource, and provides citations. The PDF's and seasonal restriction table in the EA (p. 32-36) are incorporated into the timber sale contract. The EA (p. 21-22) under *planning and implementation* outlines BLM's project administration.

The selected BMPs are found in the RMP, ODEQ, NMFS and USFWS planning documents. The established list of BMPs filter down from regulatory agencies to the RMP to the project level and at each step reviewed for efficacy for the intended application. In addition, each planning document, including BMPs, went through extensive external review prior to release and implementation. Hence, the established BMPs were examined and agreed upon by numerous agencies and specialists as an excellent set of tools to protect resources. To verify the purported benefits, BMPs have been and continue to be monitored for effectiveness including but not limited to: Agency specialist annual reports, ODF roads studies, and the Aquatic and Riparian Effectiveness Monitoring Program (AREMP). These reports validate the assumptions and assertions that BMPs reduce or eliminate potential resource effects.

If BMPs were used solely to protect resources or if BMPs were used to mitigate an identified unacceptable resource consequence, defined as effects exceeding those disclosed in an EIS or in non-compliance with standards and guidelines, selected BMPs would be an issue and specifically addressed. However, the selected BMPs have been critically reviewed and are used to compliment the

protective measures found in the aforementioned multiple agency standards and guidelines.

In response to the comment about the permanent road construction (P4) exceeding 30 percent in grade: The P4 road is 0.12 miles in length with a road grade averaging 10 percent (with a range of 0-18 percent) after a completed road survey by our Engineers. This design is consistent with our BMP's.

10.7 Logging systems, operations and implementation

7. *I received comments questioning the logging systems being proposed, as well as other operational and implementation aspects of the timber sale. Specific comments include:*
- *A request that decision maps include logging corridors and landing location.*
 - *A concern about the acres proposed for treatment in the Riparian Reserve that will involve ground-based yarding.*
 - *An opinion the BLM should acknowledge the size and number of landings associated with the new road construction.*
 - *A question about the proposed logging methods and feasibility in unit 11G (Unit 6) and the northern portions of 11D (unit 4) and 11A (unit 5).*
 - *An opinion the BLM should offer more opportunities for winter harvest and hauling operations.*
 - *General support for project design features to prevent unauthorized OHV use during operations.*
 - *A request for a logging cost analysis for the project.*

Response to 7: Locations of logging corridors and landings are submitted by the purchaser to the BLM for review and approval as a logging/harvest plan. The number of landings or their size are dependent on the equipment used under the stipulations of the timber sale contract, and cannot be predetermined with accuracy before the logging plan is submitted by the purchaser. The BLM would require the construction of ground-based and skyline corridors and landings according to the approved logging plan. During the implementation phase of the Timber Sale Contract, a BLM Timber Sale Administrator is in charge of the immediate monitoring of the activities on the ground (Response to 6).

Best management practices are followed according to the Salem District RMP (Appendix C-1, C-2) regarding both ground based and cable harvest, and is incorporated as PDF's in the EA (EA 2.2.3, PDF #1-16) and in the timber sale contract (Response to 6). Generally, ground that is less than 35 percent slope is considered and analyzed for ground-based activities, while areas that exceed 35 percent in slope are analyzed for cable harvest in the EA, regardless of LUA (RMP C-2). Impacts associated with harvest operations, including ground-based operations in the Riparian Reserve were analyzed by hydrology, fisheries, soils and wildlife specialists in Section 3.3 of the EA and were determined to not have any direct, indirect or cumulative impacts.

Logging feasibility for units 11A, 11D and 11G were evaluated based on the BMP's and PDF's described and referenced above. Portions of units were either removed or boundaries modified from the original EA proposal during the layout process to access thinning areas using the guidelines provided in our BMP's.

Winter harvest operations were considered and evaluated by the IDT during the EA process. It was determined winter harvest and haul opportunities would be limited due to the lack of cable logging opportunities, rocky roads for haul, and the limitations of hauling across the North Fork Eagle Creek where listed fish species are present. Therefore, winter haul operations are restricted for the Take 3

timber sale.

Economic viability of certain management actions was recognized by the IDT and was addressed in issues considered but eliminated (EA p. 19). The Take 3 project was designed to be economically viable, including the logging systems proposed, in order to meet the purpose and need of the project, specifically EA project objectives 1 and 2 (EA Section 1.1.2).

10.8 Wilderness Characteristics, Visual Resources and Recreation

8. *I received some questions regarding the Wilderness Characteristic values, Visual Resource Management and Recreation portions of the EA:*

- *A comment expressing confusion regarding the location of the “wilderness characteristics” and if they are protected.*
- *A question regarding where the “major public travel routes” are near the thinning units.*
- *A comment expressing concern regarding the intermittent impact to access to trailheads during operations and if alternate routes will be provided.*

Response to 8: The EA describes the location of the Salmon Huckleberry Wilderness addition, created in 2009, being adjacent (east) to the section 13 property boundary (EA p 99) and is in what is currently mapped as USFS land in section 19, and a portion of section 18. The closest thinning unit (13B or unit 2) is approximately 1300 feet to the northwest from the USFS Wilderness boundary.

The evaluation in 2006 for adjacent wilderness characteristics is also described in the EA (EA p. 99). The location of the wilderness characteristics area on BLM is approximately 14 acres in section 13, directly adjacent to the USFS Wilderness boundary and will not be impacted by any operations associated with the Take 3 timber sale, temporary road decommissioning or road closures. Decommissioning of the 13.0 road (DR 2.4) may be “visible from the lands inventoried to contain wilderness characteristics if visitors happen to be walking in the area. However, decommissioning a road leading into the wilderness would increase overall enjoyment of recreational users to the Salmon-Huckleberry Wilderness” (EA 101). Specific location of the wilderness characteristics area in section 13 is available in the *Take 3 Rec/Rural Interface/Visuals Specialist Report* and is incorporated by reference in the EA.

Temporary disruptions to some recreation use in the area including, but not limited to hiking, hunting and horseback riding would occur during operations, as well as temporarily restricting traffic on some roads for safety concerns including tree falling, yarding and timber hauling. The 13.0 road may be temporarily blocked to foot and horse traffic during decommissioning efforts. Alternate routes and access to the Salmon-Huckleberry Wilderness trails may be available through the USFS.

The major public travel routes include segments of George Road and Harvey Road in T3S, R5E section 22 where portions of units 13C and 13D (unit 3) may be visible from a distance. A viewshed analysis determined how much of unit 3 may be visible from these roads (EA p 100). A map of this analysis is available in the *Take 3 Rec/Rural Interface/Visuals Specialist Report* and is incorporated by reference in the EA.

10.9 Other Comments Received

1. Pile burning:

- A question regarding pile burning and why it is not incorporated into seasonal restriction table (EA p. 36).

Response: All prescribed burning (including pile burning) is coordinated with the Oregon Department of Forestry (ODF) and is conducted at the direction of the BLM authorized officer in accordance with the Oregon State Smoke Management Plan and Project Design Features. Burning is regulated by ODF to prevent any smoke intrusion into Smoke Sensitive Receptor Areas (SSRA's) and to prevent any visibility issues in wilderness areas. In general, burning is not allowed from just prior to July 4th, until the end of "Fire Season". Project Design Feature # 19 (EA p. 33) suggests a general time frame to complete prescribed (pile) burning.

A prescribed fire burn plan is required before any ignition may take place. It is a site specific document that considers weather, fuels parameters and ignition and holding requirements on the day of ignition. Weather patterns vary year to year, and because it is required to complete hazard fuels reduction work in a timely manner, any season of the year that follows the prescribed burn prescription and smoke management direction would be acceptable for burning. ODF limits when the BLM can burn, dependent on the conditions listed above, therefore the BLM cannot include definite dates for restrictions or allowances for burning in EA or decision documents.

2. Sediment and WEPP modeling

- An opinion that BLM did not analyze sediment caused by roads, landings and ground-based yarding (2 commenters).

Response: To estimate the amounts and effects of erosion and sediment, the BLM used a combination of modeling (WEPP Model), research reports/literature, observations made on similar projects throughout the Resource Area and the professional judgment of the BLM hydrologist/soils specialists, fisheries biologists, foresters and timber sale contract administrators on the Interdisciplinary Team (IDT) during the development of the Take 3 EA. The EA documents (p. 64) that with the Project Design Features incorporated into the project would eliminate and/or limit acceleration of sediment delivery to streams in the project area.

WEPP modeling is specific to skyline yarding where slopes are generally steeper than areas yarded with ground-based equipment – results are summarized on p. 39 - 41 of this Decision in the *Errata* and the EA 3.3.2 and 3.3.4 and referred to on pp. 66, and 76 of the EA. Detailed analysis of the WEPP model is documented in the Soils Specialist Report which was incorporated into the EA by reference (EA p. 73).

3. Riparian areas

- A question regarding the definition of "riparian areas" (EA 65) vs. the RR LUA.

Response: Riparian area, as used in this EA, refers to the aquatic habitat and the terrestrial zone where biotic and hydrologic elements interact with and affect each other directly. It is basically the area where plants grow rooted in the water table of streams, springs, wet meadows, etc. Related terms

include riparian zone, riparian habitat and riparian buffer zone. These related terms are sometimes used in other documents as synonyms, and sometimes to indicate specific parts or functions of the overall riparian area, especially the terrestrial part of the riparian area. (RMP/FEIS 1994, chapter 6-12; Helms (Editor), 1998, The Dictionary of Forestry).

The Riparian Reserve Land Use Allocation is a defined management allocation intended to protect riparian ecosystems; provide for the aquatic, hydrologic and terrestrial functions embodied in the Aquatic Conservation Strategy Objectives; and to provide connectivity between upland habitat blocks. Riparian Reserves include both riparian area and upland area. (RMP pp. 5-6, 7-8).

Another related term used in this EA is Stream Protection Zone which is designated on the ground to include the riparian area and enough additional upland area to protect habitat in the riparian area and water quality. Related terms used in other documents include: stream buffer, riparian buffer, protection buffer, no-entry buffer or no-harvest buffer.

4. State agencies and scoping

- *An opinion that Oregon Department of Fish and Wildlife (ODFW) was not adequately notified or the project, or involved in its development.*

Response: Cascades Resource Area staff has been in contact with ODFW regarding Take 3 and other planned or active projects in the Resource Area. The ODFW headquarters' in Salem received scoping and EA publication letters from the Salem BLM which included information and contacts for the Take 3 project. The regional offices addresses have recently been added to our mailing lists.

5. Native grass seed

- *A request to examine the native grass seed mixed to be used in the project to ensure it is palatable for elk and deer.*

Response: Any requests to examine native grass seed will be considered for each project. Please contact the Salem office when operations are underway.

11.0 Errata: Modifications and Corrections to the Take 3 Thinning EA and FONSI

11.1 Modifications and Corrections

This section of the DR includes any modifications, mathematical corrections, or any other changes that need to be disclosed and corrected in the Take 3 EA and FONSI. Unless otherwise noted, all direct, indirect and cumulative effects associated with any analysis referenced in this section remain valid. All changes, additions or modifications to text are **underlined and in bold.**

Finding of No Significant Impact

Page 5

The analysis in this EA is site-specific and supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS). The proposed thinning activities have been designed to conform to the *Salem District Record of Decision and Resource Management Plan*, May 1995 (RMP) and related documents, which direct and provide the legal framework for management of BLM lands within the Salem District (EA Section 1.3). Approximately **304** of these acres are in the Matrix land use allocation (LUA), and 38 acres are in the Riparian Reserve LUA as described in the RMP.

3.3.2. Hydrology

Affected Environment

Channel and Wetland Morphology (ACS Objective 3)

Project area stream channels – intermittent streams

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The project area is situated in the Western Cascades physical province and streams reflect the geologic origin of the area³. Most of the terrain around the treatment units is volcanic in origin and composed of basaltic and andesitic rocks of Miocene age (Walker, 1991). Stream channels immediately adjacent to, or in some cases within, the proposed treatment units are a mix of first order headwater channels with intermittent flow that converge in 2nd and 3rd order perennial channels tributary to the Eagle Creek main channel (**see Figure 5**)⁴.

3.3.2.2. Environmental Effects, Cumulative Effects

Sediment Regime (ACS Objectives 5)

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The WEPP estimated an average sediment yield of 0.52 tons per acre for the proposed treatment in unit 11A, results in a total sediment yield for the proposed project (cable yarding of 64 acres) of **33 tons**

³ For a more detailed description of stream channel formation and geomorphology the reader is referred to *Geomorphology of Steepland Headwaters: The Transition From Hillslopes to Channels* (Benda *et al.*, 2005).

⁴ Figure 5 is a photo of a perennial stream, and is available in the *Hydrology/Channels/Water Quality Specialist Report: Take 3 Project (Hawe 2011)*, which is incorporated by reference, but not included in the Take 3 EA.

per year. Accounting for the 50 percent estimated precision of the WEPP model, **17-66 tons per year** could be contributed to the watershed from this action. This represents **0.02 – 0.07 percent of mean annual yield** at the fifth field watershed scale. Given the inherent variability and error in sediment yield measurements⁵, a less than 1 percent increase is not detectable with current technology designed for field use. Typically, sediment yields from forest harvest decrease exponentially over time (Dissmeyer, 2000).

3.3.3. Fisheries

3.3.3.1 Proposed Action

Haul Route, Section 11

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Similarly, an alternate haul route that crosses North Fork Eagle Creek on a private road would not contribute sediment to the stream because it would not be used to haul logs during the wet season. (The road slopes toward the stream crossing, gravel is lacking on the road surface, and soil is present on the bridge decking **(Photo 2)**⁶ so it would contribute sediment to the stream if it were to be used for wet season haul.) Logs were hauled on this alternate route for a previous BLM Timber Sale (Rusty Saw Reoffer, 1999) because of the shorter distance to a paved county road, and thus it is reasonable to expect that the purchaser of the Take 3 Thinning timber sale may also use this alternate haul route.

3.3.4. Soils

3.3.4.1 Proposed Action

Surface Erosion Potential: Water Erosion Prediction Project (WEPP)

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"Background" surface erosion estimated by the WEPP model for this area is 0.38 tons per acre or approximately **23 tons per year** over the total **64 acres** of proposed cable yarding. The cable yarding proposal increases surface erosion estimated by the WEPP model for this area to **0.52 tons per acre** or approximately **33 tons** per year over the total **64 acres** of proposed cable yarding.

To put these sediment yields into a visual context; the average annual surface erosion rate would increase from about 1.5 wheelbarrow to **2.0** wheelbarrows full of soil⁷ for each acre treated (an acre is about the size of a football field).

Degradation of soil by erosion is of concern because soil formation is slow. Typical renewal rates for topsoil range from 0.12 to 0.8 tons per acre per year (Pimentel, 1987). Reducing stand density by approximately half is estimated to increase surface erosion but rates would still remain within rates of

⁵ Accurate estimates of sediment yield are difficult to measure and may vary by two or more orders of magnitude (Gregory L. Morris, Jiahua Fan, 1998).

⁶ This photo is available in the *Fisheries report: Take 3 project (Zoellick, 2011)* and incorporated by reference, but was not included in the Take 3 EA.

⁷ One wheelbarrow is assumed to carry approximately 5 ft³ of soil which weighs approximately 500 lbs. Since 0.38 tons = 760 lbs., it is equal to 1.5 wheelbarrow of soil.

renewal. These erosion rates could have an effect on soil productivity if maintained over the course of time. Typically sediment yields from forest harvest decrease over time as a negative exponential (Dissmeyer, 2000). The quantity of surface erosion during large storm events would likely drop back to current levels (**0.36 tons per acre per year**) within three to five years as the remaining forest stand fills out. By way of comparison, in the United States surface erosion on croplands (44.5 tons per acre per year) averages more than 80 times the top rate estimated for this action (Pimentel, 1987). Therefore, the rate of surface soil erosion under this proposal is unlikely to have any long term deleterious effect on soil productivity.

3.3.4.2 Cumulative Effects

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The combined effect of the proposed action (density management, road work, fuels treatments, skid trail construction, and CWD creation), would increase the overall amount of compacted/disturbed surfaces in the Eagle Creek watershed. **Constructing up to 1.25 miles of roads is an increase by 3 percent in the watershed as a whole (1.25 miles/43 miles).** However, most of these surfaces would not be retained over the long term (i.e., equivalent decommissioning is proposed) so that at the conclusion of the project the quantity of compacted road surfaces would begin to decrease over time and within a decade would likely approach current levels.

There is an overall maximum increase of **38 acres** in compaction/disturbance of soils under the proposed action, approximately 0.1 percent of the watershed. The extent of compacted/disturbed soil surfaces in the watershed as a whole was not estimated and a “cumulative” total has not been determined. At the conclusion of the project the quantity of compacted/disturbed soils would begin to decrease over time from the maximum and is highly likely to approach current levels within a decade as soil surfaces recover.

The limited magnitude (0.1 percent of the total watershed) and duration (from the first year following disturbance with a decline toward existing levels within the first decade) of the cumulative increase in compacted/disturbed soil surfaces would likely be insignificant on the watershed scale.

There is a small risk for a cumulative reduction in overall site productivity from top soil displacement, as the proposed activities have the potential to remove and/or displace soil nutrients. However, the limited magnitude and duration of the effect (for an example, the quantity of surface erosion during large storm events), would likely drop back to current levels **of 0.36 tons per acre per year** within three to five years as the remaining forest stand fills out and would likely be insignificant on both the local and watershed scale.