Airstrip Thinning Timber Sale

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

Environmental Assessment (EA) Number DOI-BLM-OR-S040-2009-0004-EA

January 2012

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

Willamette Meridian,
T. 4 S., R.5 E., Sections 7 and 18

Middle Clackamas River and North Fork Clackamas River 6th field Watersheds
Clackamas County Oregon

Responsible Agency:	USDI - Bureau of Land Management
Responsible Official:	Cindy Enstrom, Field Manager Cascades Resource Area 1717 Fabry Road SE Salem, OR 97306 (503) 375-5969
For further information, contact:	Keith Walton Cascades Resource Area 1717 Fabry Road SE Salem, OR 97306 (503) 375-5676

BLM
Salem District

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

BLM/OR/WA/AE-11/001+1792

1.0 Introduction

The Bureau of Land Management (BLM) has conducted an environmental analysis for the Airstrip Thinning project, which is documented in the *Airstrip Thinning Environmental Assessment (EA) and Finding of No Significant Impact (FONSI)* approved on May 31, 2011. This EA is incorporated here by reference in this Final Decision, Decision Rationale, and Finding of No Significant Impact (DR). I signed a preliminary Finding of No Significant Impact on May 31, 2011 and made the EA available for public review from June 01, 2011 to July 01, 2011 (DR section 6.0). Substantive comments received during the public review period are addressed in DR section 10.0.

2.0 Decision

I have decided to implement the Airstrip Thinning as a Timber Sale consisting of all or part of each of the four units of Action Alternative 2 described in the EA (pp. 23-33) and DR section 3.4. The units I will implement in the Airstrip Thinning Timber Sale are T. 4. S., R.5 E., units 7A (part), 7B; 18A and 18B. (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 207 acres (DR Table 2, DR section 8.0). This harvest includes:

- Thinning 201 acres within the following 1995 RMP Land Use Allocations (LUA)
  - 198 acres within the General Forest Management Area (GFMA) portion of the Matrix LUA,
  - 3 acres within the Riparian Reserve LUA.
- Clearing 6 acres of vegetation within the road rights-of-way accessing the four units in the Timber Sale (DR Table 2).

2.2 Logging Systems

Approximately 65 percent (135 acres) of the area, including clearing for road construction, will be logged using ground based yarding systems. The remaining 35 percent (72 acres) will be logged with a skyline yarding system.

2.3 Road Work Associated with Logging and Hauling

<u>Road Work to Facilitate Logging:</u>

- Construct approximately 1.6 miles of new road to access thinning units and accommodate logging equipment and log transport. Road construction includes one temporary stream crossing in section 18 as described in the EA (pp. 25-27, 30-31, 60-61, 64).

[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.

- o Renovate approximately 0.7 mile of existing stabilized or decommissioned road to the minimum standard necessary for hauling, including blading, spot rocking, brushing, curve alignment, and tree removal.
- o Renovate and maintain approximately 4.1 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.

Road Work to be Done After Logging Operations are Completed:

- o Stabilize and block all natural surface roads (newly constructed or renovated). Stabilizing entails installing water-bars or other shaping of roads for drainage, placing woody debris, and/or seeding with native species. Earth and debris berms or other methods determined to be effective for each site will be used to block these roads.
- o Remove the temporary culvert stream crossing in section 18, restore original channel dimensions and stabilize the site by shaping the ground, placing woody debris and seeding.
- o Seed approximately 6 acres of disturbed soil associated with roads in and adjacent to harvest units with native species.

2.4 Fuels Treatments

On up to 10 acres within 100 feet of Road 4-5E-18, slash will be treated after harvest operations to reduce fuel loading and provide a fuel break where there is the highest potential for human caused ignition of a wildfire. Areas where no slash will accumulate adjacent to the road will not be treated for fuel reduction. The planned treatment is to pile slash mechanically, 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. 27, 30, 81-83). Slash which accumulates at logging landings will be piled, covered and burned as described above.

2.5 Public Access

During operations on and adjacent to Road 4-5E-18, public access through the sale area will be delayed for up to one-half hour each way to provide for safe passage. Public access into areas with active logging operations will be restricted to provide for public and operator safety. After the completion of the Timber Sale:

- o Public access to units will not be changed as a result of this Timber Sale.
- o Natural surface roads (both existing and new construction) that access the thinning units will be stabilized to prevent erosion and blocked to prevent vehicle access. Foot and horseback access would not be closed.

2.6 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.

2.7 Design Features

Project Design Features as described in EA section 2.2.4 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 Action Alternatives 1 and 2 (EA section 2.2):

The two action alternatives in the EA differed only in the location and amount of road construction and renovation needed to log the proposed commercial thinning. Alternative 1 proposed to avoid renovating part of the old airstrip as a logging road by constructing 0.18 mile of additional new road. Alternative 2 proposed to renovate 0.28 mile of the old airstrip instead of constructing the additional 0.18 mile of new road. The proposed commercial thinning of approximately 290 acres includes (EA p. 46):

- 245 acres of 64 to 68 year-old Late-Mid Seral Stage[2] timber stands;
- 45 acres of two storied 60 and 90 year-old Late-Mid Seral Stage with Mature Seral Stage overstory timber stands;

The above acres include rights-of-way acres. Approximately 280 of these acres are in General Forest Management Area (GFMA) LUA and 10 acres are in the Riparian Reserve LUA. In the proposed action, approximately 124 acres were proposed for skyline yarding and 166 acres for ground-based yarding. Connected Actions (for Alternative 2) include constructing 2.2 miles of new road, renovating 1.0 miles of existing road and maintaining approximately 4.4 miles of existing road; installing and removing one temporary stream crossing, and reducing forest fuel accumulations on approximately 20 acres. Alternative 2 provides the basis for the selected action. Total road construction for Alternative 1: construct 2.4 miles of new road and renovate 0.7 miles of existing road.

[2] Age ranges of stands proposed for treatment are based on 2008 Stand Exam data and are rounded for this presentation. Seral Stage Age Classes are: Early = 0-30; Early Mid = 31-40; Mid = 41-60; Late Mid = 61-80; Early Mature = 81-120; Mature = 121-200; Old Growth = 201+.

3.3 Alternatives considered but not analyzed in detail (EA pp. 33-35):

Alternatives were considered for:

- Treatment of other forest stands within the Riparian Reserve LUA – no additional stands were identified that met all criteria for treatment of Riparian Reserve stands;
- Creating canopy gaps in the Matrix LUA – creating and managing additional gaps was determined to not be consistent with silvicultural objectives for these stands at this time;
- An alternative that would manage stands for carbon storage was not analyzed in detail for reasons described in EA section 2.4 and that this alternative would have the same effects as the No Action alternative;
- Alternative route to access units 18A and B – dropped from further analysis because of safety concerns with public use of the private RV park on this route;
- Install and remove a temporary bridge for the stream crossing in section 18 – a bridge at this location would be expensive and would not likely result in less site disturbance than a temporary culvert;
- Regeneration harvest of unit 7A – analysis of stand exam data (not available prior to scoping on the original proposal) showed that the stand does not meet 1995 RMP criteria for regeneration harvest.

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

EA units 7A (north part), 7B, and 18 A and B of the Proposed Action Alternative 2 (item number 2, above) have been selected to form the Airstrip Thinning Timber Sale. The selected action is to commercially thin approximately 201 acres of 60-90 year old mixed conifer stands and clear approximately 6 acres of right-of-way for new and renovated roads. Approximately 65 percent of the area will be logged with ground based equipment and 35 percent will be logged by skyline yarding. Falling may be mechanized with a processor, or hand felled with chainsaws. In addition to the standard design features, the contract requires the operator to present a logging plan for BLM review that details specific operating methods that protect resources and are appropriate to his equipment

The selected action includes 1.6 miles of new road construction and 0.7 mile of road renovation. After the completion of logging operations, the BLM will implement project design features to control erosion and to establish native groundcover plants to restore disturbed soil to stable condition within one year.

Approximately 0.1 mile of the new road construction will take place within the Riparian Reserve land use allocation, including one temporary stream crossing. (See maps). The BLM will implement project design features for installing, using and removing the culvert used for the temporary stream crossing to ensure that any sediment created when the stream flows is within the standards and effects analyzed for culvert maintenance operations at road/stream crossings.

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 1.2. Table 1 compares the alternatives with regard to the Decision Factors described in EA section 1.2.4 and the project objectives in EA section 1.2.2.

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

Decision Factors and Project Objectives	Comparison of Alternatives
a. Provide timber resources and revenue to the government from the sale of those resources (objectives 1 and 2); b. Reduce the costs both short-term and long-term of managing the lands in the project area (objectives 1 and 2); and c. Provides safe, cost-effective access for logging operations, fuels management and fire suppression (objectives 2, 8, and 9).	The no action alternative would not meet this factor, since no timber sale would take place. The proposed action alternatives and selected action would provide timber resources to the market.
d. Reduce competition-related mortality and wildfire risk, and increase tree vigor and growth (objectives 1 and 9).	The no action alternative would continue current trends and not meet this decision factor. The proposed action alternatives and selected action would meet this decision factor by managing stand density. See f. and g. below. (EA pp. 23-24, 33, 35-36, 48-51, 72-74, 77-78, 82, 83, 85-86,, 93-96, 96-98)
e. Reduce erosion and subsequent sedimentation from roads (objectives 4 and 8).	The no action alternative, proposed action alternatives and selected action meet this decision factor. Under the proposed action alternatives and selected action, roads would be maintained, reducing the risk of erosion and sedimentation associated with the existing road system. New road construction and renovation outside the Riparian Reserve LUA would not cause sedimentation. Installing, using, removing and restoring the temporary stream crossing would not cause sedimentation that would exceed ODEQ standards. (EA pp. 6, 19, 28-32, 58, 59-61, 61-62, 66-67, 92-96, 97-98)

Decision Factors and Project Objectives	Comparison of Alternatives
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 3, 5, 6 and 7); g. Promote the development of healthy late-successional characteristics in the Riparian Reserve LUA (objective 5).	The no action alternative retains existing elements, but does not enhance conditions to provide 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. The proposed action alternatives and selected action would meet these decision factors. Stand health and tree growth rates would be maintained 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. (EA pp. 6, 13-14, 18-19, 23-24, 33, 43-52, 68-70, 72-74, 77-78, 95, 96-97)
h. Maintain access for initial attack and extended fire suppression activities and possibly reduce potential, spread and intensity of wildfire (objective 9). i. Reduce potential human sources of wildfire ignition by controlling access (objective 9).	The no action alternative, proposed action alternatives and selected action all meet this decision factor. However, under the no action alternative dense forest stands with high crown densities are more susceptible to a high intensity, stand replacement wildfire that escapes initial attack and could threaten the public and other resources. Under the proposed action alternatives and selected action, managed, thinned forest stands are less prone to catastrophic wildfires. Fires that do start tend to be easier to control in managed stands. (EA pp. 7, 14, 20, 30, 81-83, 96, 98)
j. Maintain values identified for the North Fork Clackamas River potential suitability as a Wild and Scenic River.	The no action alternative, proposed action alternatives and selected action all meet this decision factor. The no action alternative would continue present conditions and trends. Thinning under the proposed action alternatives and selected action meets all criteria for protective management of these values. (EA pp. 7-8, 14, 20, 86-89, 98)

Considering public comment, the content of the Airstrip 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 1.2 (EA pp.11-14) 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 Action Alternatives Proposed:

I have selected Action Alternative 2 of the EA with modified unit boundaries as the Airstrip Thinning Timber Sale, documented as the Selected Action.

- I did not select Action Alternative 1 of the EA because it would require an additional 0.2 mile of road construction than the selected action, converting one additional acre from forest to non-forest.
- I did not select the south portion of unit 7A shown on the map on page 103 of the EA because the final size of the Matrix unit would have been small and the logging cost and road work (approx. 2 miles of renovation of private road and 0.2 mile of road construction) would have been high relative to the amount of timber harvested. Treating only Matrix for this unit would have been economically inefficient, conflicting with Objective 2 (EA p. 13).

4.3 Selected Action:

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

- Meets the purpose and need of the project as described in the Airstrip Thinning EA section 1.2 (EA pp. 11-14), and all decision factors (EA p. 15) as shown in DR Table 1 (DR section 4.0);
- 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. 17-18, DR sections 5.0, 7.1);
- Would not contribute to the long term expansion of invasive/nonnative weed populations (EA pp. 6, 32, 50, 52);
- Would not have a significant impact on the affected elements of the environment beyond those already anticipated and addressed in the RMP/EIS (EA, pp. 5-10, DR section 7.1);
- Uses existing roads and the minimum length of new roads for the transportation system to facilitate implementation of the project (DR section 2.3);
- Would not impact ESA listed fish or their occupied habitat (EA pp. 10, 63-65, 99-100; DR section 6.3); and

- 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. Suitable habitat is proposed for thinning inside the provincial home range of two Predicted Owl Sites and the BLM consulted with USFWS on impacts to them. Downgrading of 15 acres of suitable habitat to dispersal habitat would be temporary, returning to suitable habitat conditions within 10-30 years. (EA pp. 6, 70-71, 74-75; DR section 6.3, 7.1, 10.0)

5.0 Compliance with Direction

The analysis documented in the Airstrip 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 Airstrip Thinning project, which includes the Airstrip 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. 13, 15-16). All of these documents may be reviewed at the Cascades Resource Area office. The project also complies with authorities described in EA sections 1.3.1 and 3.3.10.

5.1 Land Use Plan Update

The BLM revised their resource management (land use) plans in 2008. On July 16, 2009, the Secretary of the Interior withdrew the 2008 Records of Decision for the Revision of Resource Management Plans of the Western Oregon Bureau of Land Management (2008 RODs/RMPs); and directed the BLM to implement actions in conformance with the resource management plans for western Oregon that were in place prior to December 30, 2008. For the Salem District, the plan in place prior to December 30, 2008 is the 1995 Salem District Management Plan (1995 ROD/RMP), which provides the specific direction for implementing the Northwest Forest Plan (NWFP) (DR section 5.0).

On March 31, 2011, the United States District Court for the District of Columbia vacated and remanded the Secretary of the Interior's decision to withdraw the 2008 RODs/RMPs (Douglas Timber Operators et al. v. Salazar) effectively returning the districts to the 2008 RODs/RMPs.

Plaintiffs in the Pacific Rivers Council V. Shepard litigation filed a partial motion for summary judgment in the U.S. District Court for the District of Oregon on Endangered Species Act (ESA) claims and requested the court to vacate and remand the 2008 RODs/RMPs. A magistrate judge issued findings and recommendations on September 29, 2011 and recommended granting the Plaintiffs motion for partial summary judgment on their ESA claim. The Court recommends setting aside the agency action, vacating the 2008 RODs and reinstating the Northwest Forest Plan as the appropriate remedy. The Northwest Forest Plan was incorporated into the 1995 RODs/RMPs. The Court will review and rule on any objections prior to issuing a final order.

Given the current uncertainty surrounding planning in western Oregon, The Salem District has designed projects to conform to the 1995 ROD/RMP and the 2008 ROD/RMP. Consequently, projects have been consistent with the goals and objectives in the 1995 ROD/RMP and 2008 ROD/RMP.

5.2 Survey and Manage Review (EA section 1.3.1):

On December 17, 2009, the U.S. District Court for the Western District of Washington issued an order in *Conservation Northwest, et al. v. Rey, et al.*, No. 08-1067 (W.D. Wash.) (Coughenour, J.), granting Plaintiffs' motion for partial summary judgment and finding a variety of NEPA violations in the *Final Supplemental to the 2004 Supplemental Environmental Impact Statement to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines* (USDA and USDI, June 2007). In response, parties entered into settlement negotiations in April 2010, and the Court filed approval of the resulting Settlement Agreement on July 6, 2011.

Projects that are within the range of the northern spotted owl are subject to the survey and management standards and guidelines in the 2001 ROD, as modified by the 2011 Settlement Agreement (IM-OR-2011-063, July 2011).

Previously in 2006, the District Court (Judge Pechman) had invalidated the agencies' 2004 RODs eliminating Survey and Manage due to NEPA violations. On October 11, 2006, following the District Court's 2006 ruling, parties to the litigation entered into a stipulation exempting certain activities from the Survey and Manage standard (Pechman exemptions), including thinning projects in stands less than 80 years old. All of the proposed units in Airstrip are under 80 years of age, except for Unit 7A. Following the Court's December 17, 2009 ruling and the Settlement Agreement (July 2011), the Pechman exemptions are still in place.

I have reviewed the Airstrip Thinning Timber Sale, and I have determined that the Airstrip Thinning Timber Sale complies with the December 17, 2009 order, the October 11, 2006 order, and the Settlement Agreement because:

- Units 2, 3 and 4 (EA Units 7B, 18A and B) entail thinning stands less than 80 years old. I have made the determination that this portion of this project meets Exemption A of the Pechman Exemptions (October 11, 2006 Order).
- Botany: All botanical surveys for this project, as well as all proposed Timber Sale projects within the Cascades Resource Area, are conducted to the same standards as was required under Survey & Manage (2001 ROD). Known sites for any listed botanical species in the proposed project area or close proximity are identified, all habitat, with a focus on suitable habitat, is inventoried and all botanical species (vascular plants, lichens, bryophytes and fungi) encountered are identified. The population of the one Special Status botanical species (Cimicifuga elata) encountered during surveys of this project area is outside of the unit boundaries. (EA p. 50).
- Wildlife: Unit 1 (EA Unit 7A) entails thinning a two storied stand with 60 and 90 year-old components and individual trees found ranging up to 169 years old (EA pp. 45, 46). This unit was surveyed in accordance with the following survey methodologies (EA pp. 38, 71-72):
    - Survey Methodology:

- Terrestrial Mollusk Survey and Manage surveys were conducted according to the latest survey protocol (version 3.0 2003) during the spring and fall of 2010. This unit was surveyed for mollusk species in order to comply with the *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage Mitigation Measures Standards and Guidelines, Forest Service National Forests and Bureau of Land Management Districts Within the Range of the Northern Spotted Owl* (ROD 2001) without Annual Species Reviews (IM-OR-2010-017, Interim NEPA Direction for Survey and Manage Species).
- Since the publication of the Airstrip Thinning EA, the Settlement Agreement has been finalized and is now in place.
- Red tree vole: The unit meets stand level criteria for red tree vole habitat and is within its range. The unit was surveyed during summer 2010. The entire unit was surveyed from the ground and the 17 trees which could not be adequately inspected from the ground were climbed.

- Survey Results:

  - One mollusk species was found (Oregon megomphix MEHE). Malone's jumping-slug is expected in the unit because it is now known to be more common than previously thought, occurring in the Columbia River Gorge and the southwestern Washington Cascades and in the Oregon Western Cascades range, but none were found during surveys.
  - No red tree voles were found.

- Recommendations:

  - No buffers are recommended for mollusks due to the abundance of sites over the geographic range of the species found, and the lack of any Bureau status. The scientific rationale provided in the 2001 and 2003 Annual Species Reviews is the currently the best science available. These documents state that these species are more common than previously thought, and the reserve system and other Standards and Guidelines of the NWFP appear to provide for a reasonable assurance of species persistence (ASR 2003, FEIS 2007, Appendix 8 & 9). Furthermore, since the adoption of the Settlement Agreement pre-disturbance surveys for Oregon Megomphix and protection of known sites is no longer required.

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 180 federal, state and municipal government agencies, nearby landowners, tribal authorities, and interested parties on the Cascades Resource Area mailing list on December 21, 2009.

Approximately fifteen (15) comment letters/emails/postcards were received during the scoping period. The scoping and EA comment letters/emails/postcards are available for review at the Salem District BLM Office, 1717 Fabry Rd. SE, Salem, Oregon 97306. EA section 1.4.2 addresses the topics raised in the comments.

Internal scoping was conducted by the Interdisciplinary Team (IDT) through record searches, field reviews and the project planning process.

6.2 EA Comment Periods and Comments

BLM made the Airstrip Thinning EA and Draft FONSI (Finding of No Significant Impact) available for public review from June 01, 2011 to July 01, 2011. Nineteen comment letters/emails/postcards 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 Airstrip Thinning selected action may affect, and is likely to adversely affect the northern spotted owl due to the modification of suitable habitat (Unit 7A). The Airstrip Thinning selected action would not affect spotted owl Critical Habitat or diminish the effectiveness of the conservation program due to the modification of dispersal and suitable habitat (EA p. 99):

- The proposed project would downgrade suitable habitat (TS Unit 1, EA unit 7A, north part) and alter dispersal habitat (TS Unit 2, EA unit 7B) within 1.2 miles (provincial home range) of two "Predicted Owl Sites." (EA p. 74)
- The presence of spotted owls in the vicinity of the Airstrip units is highly unlikely because both predicted sites likely do not provide enough suitable habitat necessary for maintaining spotted owl life history functions, and surveys have been conducted with no responses (EA p.74).
- 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 186 of the 207 acres in the selected action even though the stands would be altered (TS Units 2, 3 & 4, EA units 7B, 18AB);
- Current suitable habitat conditions would be downgraded to dispersal habitat for 10-30 years after treatment on 15 of the 207 acres in the selected action (TS Unit 1, EA unit 7A north part);
- 6 acres of dispersal habitat would be converted to linear openings as road rights-of-way (TS Units 2, 3 & 4, EA units 7B, 18AB);

2. National Marine Fisheries Administration (NMFS)

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

No trees would be thinned in the Riparian Reserve on the North Fork Clackamas River and its tributaries, resulting in no impacts to listed fish habitat, water quality, and large would (LW) in the North Fork Clackamas River.

Stream protection zones (untreated buffers) a minimum of 100 feet wide on each side of three small perennial 1st and 2nd order tributaries to the Clackamas River would prevent impacts to water quality, and listed fish habitat located 0.55 mile downstream in the North Fork Reservoir.

Large wood (LW) levels in North Fork Reservoir 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.

Turbidity and sediment associated with a temporary road crossing on a small 1st order tributary to the Clackamas River would not impact listed fish habitat 0.55 mile downstream because the sediment would either be filtered by a wetland or retained in a low gradient channel section between the road crossing and reservoir.

Steelhead trout and salmon habitat would not be impacted by log hauling as haul routes are all paved roads where they cross tributary streams to the Clackamas and NF Clackamas Rivers.

Additional project design features for the Airstrip 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 LFH;
- No felling of trees within the primary shade zone on perennial streams;
- Retaining minimum 50% 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;
- Removing the temporary stream crossing after completion of logging operations;
- Constructing and removing the temporary stream crossing during the in-water work period when stream flows are low;
- Dewatering the stream during construction and removal of the temporary crossing; and
- No timber transport on natural surface roads during the wet season.

In addition to project design features to prevent sediment delivery to listed fish habitat, the low water flow, low gradient and presence of wetlands downstream of the temporary stream crossing would prevent sediment from reaching listed fish habitat.

7.0 Conclusion

7.1 Final Finding of No Significant Impact

I have made a final decision on the Airstrip Thinning Timber Sale project. The selected action is described in DR section 2.0. The Airstrip 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 1.3, DR Section 5.0). The EA and draft FONSI was made available for public review from June 01, 2011 to July 01, 2011. I received 19 comment letters and cards. Response to substantive comments is described in DR section 10.0.

Based upon review of the Airstrip 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.

Therefore, supplemental or additional information to the analysis in the RMP/FEIS in the form of a new environmental impact statement is not needed. This finding is based on the following discussion:

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: Middle Clackamas River (Helion Creek) and North Fork Clackamas River (Fall Creek). This 207 acre project will affect approximately 0.6 percent of the 32,334 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 the selected action are unlikely to have significant (beneficial and adverse) impacts (EA section 3.0) for the following reasons:

   Project design features described in EA section 2.2.4 will reduce the risk of effects to affected resources to be within 1995 RMP standards and guidelines and to be within the effects described in the RMP/EIS.

Vegetation: The selected action will not contribute to the need to list any BLM Special Status Species because no suitable habitat for any species known or likely to be present would be lost or altered to a degree that would negatively impact existing populations (EA sections 2.2.4 #s 48 & 49; 3.3.1.1).

Known populations of *Cimicifuga elata* populations are outside of unit boundaries in the selected action. Increases in the number of invasive/non-native plants are expected to be slight because BLM observation of the response of these species to similar actions in the area gives evidence that these species are not strong competitors with native species and that there will not be adverse direct or cumulative impacts. The risk of spread will be further reduced by washing equipment and seeding disturbed soil with native species (EA sections 2.2.4 #s 45 & 46; 3.3.1.1).

Hydrology; Fisheries and Aquatic Habitat (EA sections 3.3.2-3.3.3): The selected action will abide by and meet State of Oregon water quality standards (Oregon Department of Environmental Quality (ODEQ) administering the Clean Water Act). Fisheries and aquatic habitat will not be negatively impacted because water quality and flows will be maintained (EA section 3.3.3).

Project design features for the temporary stream crossing in section 18 will prevent sediment exceeding ODEQ water quality standards. Sediment will not reach listed fish habitat because installing, using, removing and stabilizing the temporary crossing during the same annual in-stream work season when stream flows are low will limit sediment production to a single season when water flow is too low to transport sediment more than one half mile in this low-gradient channel. Other road construction to be done in the selected action will not cause sediment delivery to streams because road construction will occur on gentle slopes with stable, vegetated surfaces. Timber haul and road maintenance project design features will prevent sedimentation delivery to streams in quantities that would exceed Oregon DEQ and Clean Water Act standards. (EA section 2.2.4 #s 23 – 34; 3.3.2; 3.3.3)

Current stream temperature will meet ODEQ water quality standards because full Riparian Reserve retention (440 ft. each side for fish-bearing streams, 220 ft. all other streams) in section 7, and stream protection zones (100 feet on perennial streams and 50 feet on intermittent streams) in section 18 will maintain current stream temperatures by retaining the current vegetation in the primary shade zone. Design features for unit layout and logging implemented in the selected action will prevent sediment from logging units reaching streams (EA sections 2.2.4 #s 1-14, 24-29, 32-34; 3.3.2).

Soils (EA section 3.3.4): No measurable reduction in overall growth and yield in the thinning area is expected because analysis and decades of BLM experience with similar projects demonstrate that soil compaction and road construction cause little difference in the average tree spacing, site utilization or overall stand stocking. Soils will remain stable and the BLM expects that mycorrhizae populations will be retained, as confirmed by experience with similar projects.

Wildlife (EA section 3.3.5): The project will not contribute to the need to list any BLM Special Status species because:

No suitable habitat for BLM Special Status species known or likely to be present would be lost, though some habitat will be modified. None of the stands selected for thinning are presently functioning as old growth habitat. Units 2, 3 and 4 (EA units 7B, 18A&B) are not presently functioning as mature or late successional habitat.

The stand that includes Unit 1 (EA unit 7A, north part) is currently functioning as mature forest habitat, but only approximately one quarter (15 acres treated out of approximately 60 acres of this stand) is being thinned and no more than 10 percent of the large diameter trees within this 15 acres would be cut, so there will be minimal overall impact to mature forest habitat in the stand.

Of the 791 acres of BLM managed land in the two affected 6th field watersheds: habitat in 73 percent (584 acres) would be unaltered by the proposal; 24 percent (186 acres) of treated stands would maintain northern spotted owl (NSO) dispersal habitat, which correlates to maintaining habitat for other species as well; and 2 percent (15 acres) of NSO suitable habitat would be downgraded to dispersal habitat but retain the capability to again become suitable habitat within 10-30 years. The remaining fraction of 1 percent (6 acres) would be cleared for road construction.

Except as noted in the rest of this paragraph, existing snags, remnant old growth trees and coarse woody debris (CWD) will be retained. Two 60 inch diameter snags will be felled in Unit 2 for road construction. Up to 10 percent of other snags $\geq$ 15 inches diameter and $\geq$ 15 feet tall will likely be felled for safety or knocked over by falling and yarding operations and, if felled, will be retained as CWD. Up to 10 percent of existing CWD will likely be disturbed (bucked and/or moved) during road construction and logging operations.

The selected action will 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.

Air Quality and Fire Hazard/Risk (EA section 3.3.6): The selected action will comply with State of Oregon Air Quality Standards by strict adherence to smoke management regulations. The selected action will not significantly increase the risk of destructive wildfire because fuels treatments will reduce potential for human caused ignition, fine fuels that are the main contributors to rapid spread of wildfire will decay within 2 to 4 years and all slash will decompose to near current fuel loading levels within 15 years, and access for rapid initial attack by wildland firefighting forces will be maintained.

Carbon Storage, Carbon Emissions and Climate Change (EA section 3.3.7): The incremental increase in carbon emissions as greenhouse gasses attributable to the selected action is of such small magnitude that it is unlikely to be detectable at regional, continental or global scales or to affect the results of any models now being used to predict climate change.

Recreation, Visual Resources, and Rural Interface (EA section 3.3.7): Restrictions on recreational access to the project area after timber harvest operations are complete will not be changed from their current status because of the selected action. During logging operations, access through the harvest area on road 4-5E-18 to the Ladee Flat OHV Use Area and dispersed recreation on USFS lands would remain open during contract operations, but traffic could be delayed for one half hour to allow operators to make the road safe for passage.

Access to harvest units for dispersed recreation (e.g. hiking, mushroom gathering, paintball) would be unavailable during active harvest operations, but similar recreation opportunities are available in the vicinity on US Forest Service and other public lands.

The selected action would comply with Visual Resource Management guidelines because changes to the landscape character would be low and the project would maintain a forested setting. Some disturbance to vegetation would be observable after thinning activities and would be expected to develop an undisturbed appearance within five years.

Log truck traffic in the rural interface would occur only on roads where such traffic is common.

Wild and Scenic River Eligible River Segment (EA sections 3.3.8, 3.3.3): The selected action would not adversely affect the North Fork Clackamas River Wild and Scenic River eligibility because: **1/** Changes to the landscape from the selected action would conform to the goals and objectives for VRM Class 2, which is the interim protection measure for "Scenic" classification. VRM Class 2 standards retain the existing character of the landscape by ensuring that changes to the landscape cannot attract the attention of the casual observer and repeat the basic elements found in the natural features of the surrounding landscape. BLM experience demonstrates that commercial thinning causes changes which may be visible, but do not "attract the attention of the casual observer". The portion of the harvest units which are within the river corridor (1/4 mile each side of the river) are not visible from the river or the trails along the river. Approximately 6 acres of Unit 1 and 10 acres of Unit 2 are within the WSR corridor, as shown on the Airstrip Thinning Selected Action map, (DR section 9.0); **2/** Interim protection measures for the Outstandingly Remarkable Value of "Fisheries" would be protected by the full "No Treatment" Riparian Reserves. The selected action would cause no changes to fish populations or habitat.

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: following legal requirements for traffic control on Road 4-5E-18 through the contract area during operations, and restricting public access to all other parts of the project area during operations would protect the public from injury from project operations. The project would not create hazards lasting beyond project operations. (EA Table 5 and section 3.3.10)

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 all known cultural resources that require protection are outside of the unit boundaries and would not be affected by operations. Any cultural resources discovered in the future would be protected as determined by the BLM Archaeologist. The proposed project would not affect parklands, prime farmlands, wilderness, or ecologically critical areas because these resources are not located within the project area (EA Sections 3.3.8; 3.3.9). For Wild and Scenic Rivers, see item 1. above.

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 effects associated with the selected action do not have not uncertain, unique or unknown risks because the BLM has experience implementing similar actions in similar areas without these risks and project design features would minimize the risks associated with the project (EA section 2.3.4). See FONSI #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 will it represent a decision in principle about a further consideration for the following reasons: 1/ The project is in the scope of proposed activities documented in the RMP/ EIS. 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 FONSI #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:** The Interdisciplinary Team (IDT) evaluated the project area in context of past, present and reasonably foreseeable actions and determined that there is a potential for cumulative effects on water quality, and on carbon storage. These effects are not expected to be significant for the following reasons:

   Water Quality: The selected action is expected to temporarily increase stream sediment and turbidity as a result of installing a temporary stream crossing in section 18. These effects are not expected to be significant for the following reasons:

   - Any sediment increase resulting from the selected action will be too small to be discernible relative to background sediment yields, is not be expected to exceed ODEQ water quality standards and will decrease quickly over time (Dissmeyer, 2000).
   - The selected action is unlikely to result in any detectable change for water quality on a sixth or seventh field watershed scale. (EA Section 3.3.3.2)
   - See FONSI #9 – ESA Fish

   Carbon storage and carbon emissions (EA section 3.3.7): The incremental increase in atmospheric carbon and greenhouse gasses and the decrease in carbon storage attributed to the proposed project would not be detectable with current technology and would not affect the results of any models now being used to predict climate change.

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 selected action will not affect these resources because no sites potentially affected by the project have been identified as potentially eligible for such listing. "The Incline" is the only known cultural feature which could be considered for eligibility and it is outside of the project area and would not be impacted by the project (EA sections 3.2; 3.3.9; 3.3.10). See FONSI #3, above.

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): The selected action will not affect known spotted owls because it is not within the provincial home range radius of any known spotted owl sites, Late Successional Reserve or Critical Habitat for the northern spotted owl. The selected action maintains dispersal habitat in 186 treated acres and downgrades 15 acres of suitable habitat to dispersal habitat. 584 acres of dispersal and suitable habitat in the 791 acre block of BLM land in sections 7 and 18 would not be affected by the project. Habitat conditions are expected to improve as thinned stands mature over the next 20 years and the 15 acres of downgraded habitat would again become suitable habitat within 10-30 years as residual trees increase in size and structural complexity increases in the stands.

   The selected action will not affect spotted owls because it is highly unlikely that there are any resident spotted owls in the vicinity of the selected action units, and incidental take would not occur.

   The selected action area is within 1.2 miles of two "Predicted Owl Sites", but there have been no responses in two years of owl surveys, and habitat analysis shows that there is not enough suitable habitat to maintain resident NSO.

   The selected action is not likely to jeopardize the continued existence of the NSO, is not likely to adversely modify NSO critical habitat, and is not likely to diminish the effectiveness of the conservation program established under the NWFP to protect the NSO and its habitat on federal lands within its range (BO, pp. 97-98). ESA Consultation is described in EA section 5.1.1 and DR section 6.3.

   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:

   - Undisturbed Riparian Reserves in section 7 and undisturbed buffers at least 100 feet wide on 1st and 2nd order streams in section 18 will prevent impacts to water quality, channels, flows and large woody debris (LWD) in listed fish habitat;
   - No sediment from the temporary road crossing in section 18 is expected to reach listed fish habitat >0.5 miles downstream;
   - Stream crossings on the haul route are on paved roads so no sediment would move to streams as a result of log hauling; and

- New road construction is located in stable locations and will not contribute to degradation of aquatic habitat.
- Consultation with the National Marine Fisheries Service (NMFS) is not required because the selected action will have no effect on listed fish species or their habitat. ESA Consultation rationale is further 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 selected action is designed to follow Federal, State and local laws (EA sections 1.3, 3.3.10).

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 January 18, 2012. The planned sale date is February 15, 2012.

To protest this decision a person must submit a written protest to Cindy Enstrom, Cascades Field Manager, 1717 Fabry Rd SE, Salem, Oregon 97306 by the close of business (4:30 p.m.) on February 02, 2012. The regulations do not authorize the acceptance of protests in any form other than a signed, written and printed original that is delivered to the physical address of the advertising BLM office.

The protest must clearly and concisely state the reasons why the decision is believed to be in error.

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

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 Keith Walton (503) 375-5676 or Chris Papen (503) 375-5633, Cascades Resource Area, Salem BLM, 1717 Fabry Road SE, Salem, Oregon 97306.

Approved by: Cindy Enstrom Date: 1-11-2012

Cindy Enstrom

Cascades Resource Area Field Manager

8.0 Selected Action Compared to EA Alternative 2

Table 2: Unit Acres by LUA: Selected Action Compared to EA.

Stand Age	Analyzed in EA			Selected Action			Difference from EA to Selected Action	
	Unit Number	Unit Acres		Unit No.	Unit Acres		Unit Acres	
		Rip. Res.	GFMA		Rip. Res.	GFMA	Rip. Res.	GFMA
90/60	7A	0	45	1	0	15	0	(-30)
64	7B	0	190	2	0	152	0	(-38)
68	18A	5	35	3	3	25	(-2)	(-10)
68	18B	5	10	4	0	6	(-5)	(-4)
	7 Ac. Right-of-Way Clearing Included in Unit Acres			Right-of-Way	0+	6-	0	(-1)
Total Acres		10	280		3	204	(-7)	(-83)
Percent of 791 BLM Ac.		1	35		0.4	26		

Table 3: Yarding Method Acres by Unit and LUA: Selected Action Compared to EA.

EA Unit No.	EA Unit Acres	Analyzed in EA, Yarding			Timber Sale Unit No.	Timber Sale Unit Acres	Selected Action, Yarding		
		Ground Based Yarding		Skyline			Ground Based		Skyline
		Riparian Reserve	Matrix	Matrix			Riparian Reserve	Matrix	Matrix
7A	45	0	1	44	1	15	0	1	14
7B	190	0	115	75	2	152	0	96	56
18A	40	5	30	5	3	28	3	25	0
18B	15	5	10	0	4	6	0	6	0
			Incl. 7 Ac. RoW		RoW	6	0+	6	0
Total Ac.	290	10	156	124		207	3	134	70

Table 4: Road Work Miles: Selected Action Compared to EA.

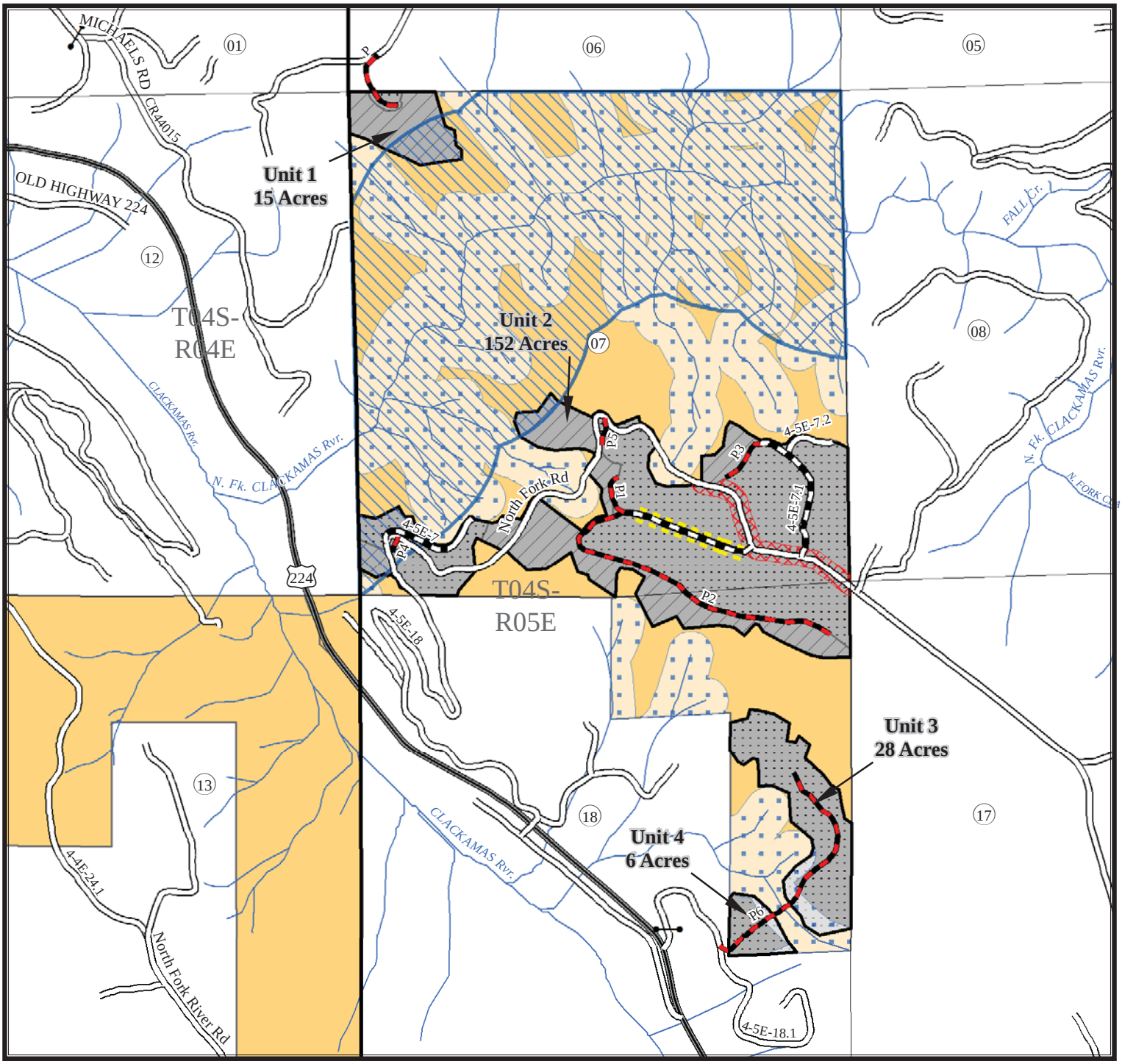
EA Unit No.	Miles Analyzed in EA (Alt. 2)				Timber Sale Unit No.	Selected Action			
	BLM		Private & USFS			BLM		Private & USFS	
	New Const.	Reno-vation	New Const.	Road Maint.		New Const.	Reno-vation	New Const.	Road Maint.
7A	0.4	0	0.1	1.7	1	0.06	0	0.06	1.40
7B	0.9	1.0	0	2.4	2	0.92	0.70	0	2.41
18A&B	0.7	0	0+	0.3	3	0.55	0	0+	0.29
Total Mi.	2.0	1.0	0.2	4.4		1.5	0.7	0.1	4.1

Notes: 0+ indicates less than 0.5 acre or 0.05 mile. 0.5 acre is rounded to 1. Acres rounded to nearest full acre. Miles (EA and Total) rounded to 0.1. "Renovation" refers to unmaintained, currently unusable road to be renovated to useable condition under original design standards. All new and renovated roads are natural surface (dirt). Road Maintenance is work done to maintain currently drivable roads to design standards. In timber sale contract terminology, maintenance is designated as renovation while the EA differentiates between them as described above.

Airstrip Thinning Selected Action

Decision Rationale EA No. DOI-BLM-OR-S040-2009-0004-EA

T.4S., R.5E., Sections 7 & 18 W. M. - SALEM DISTRICT - OREGON



Thinning Unit Boundary
Partial Cut Area - Skyline Yarding
Partial Cut Area - Ground-Based Yarding
Fuel Reduction Area
Riparian Reserve LUA
Eligible Wild & Scenic Area
Streams
G Gate
Existing Road
Highway
Road to be Constructed
Road to be Renovated
Air Strip
BLM Land

December 20, 2011
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 June 01 – July 01, 2011), I have summarized them into the following categories: 10.1 Authorities, 10.2 Range of Alternatives and Alternative Development, 10.3 BLM Management Objectives and Silvicultural Prescriptions for Matrix and Riparian Reserve LUA, 10.4 Water Quality and ACS Objectives, 10.5 Snag and Coarse Woody Debris Habitat, 10.6 Special Status Species and Their Habitat, 10.7 Road Management, 10.8 Soil Impacts and Other Resource Damage, 10.9 Carbon and Climate, and 10.10 Wild and Scenic River, Visual Resources and Recreation.

10.1 Authorities

1. *I received a comment expressing the opinion that the Western Oregon Plan Revision should be the applicable Land Use Plan instead of the 1995 Salem District Resource Management Plan (1995 RMP) used in planning and analyzing the Airstrip Thinning Timber Sale and that this would increase the volume and economic efficiency of the timber sale.*

Response to 1: The BLM revised their resource management (land use) plans in 2008. On July 16, 2009, the Secretary of the Interior withdrew the 2008 Records of Decision for the Revision of Resource Management Plans of the Western Oregon Bureau of Land Management (2008 RODs/RMPs); and directed the BLM to implement actions in conformance with the resource management plans for western Oregon that were in place prior to December 30, 2008. For the Salem District, the plan in place prior to December 30, 2008 is the 1995 Salem District Management Plan (1995 ROD/RMP), which provides the specific direction for implementing the Northwest Forest Plan (NWFP) (DR section 5.0).

On March 31, 2011, the United States District Court for the District of Columbia vacated and remanded the Secretary of the Interior's decision to withdraw the 2008 RODs/RMPs (Douglas Timber Operators et al. v. Salazar) effectively returning the districts to the 2008 RODs/RMPs.

Plaintiffs in the Pacific Rivers Council V. Shepard litigation filed a partial motion for summary judgment in the U.S. District Court for the District of Oregon on Endangered Species Act (ESA) claims and requested the court to vacate and remand the 2008 RODs/RMPs. A magistrate judge issued findings and recommendations on September 29, 2011 and recommended granting the Plaintiffs motion for partial summary judgment on their ESA claim. The Court recommends setting aside the agency action, vacating the 2008 RODs and reinstating the Northwest Forest Plan as the appropriate remedy. As stated above, the Northwest Forest Plan was incorporated into the 1995 RODs/RMPs. The Court will review and rule on any objections prior to issuing a final order.

Given the current uncertainty surrounding planning in western Oregon, The Salem District has designed projects to conform to the 1995 ROD/RMP and the 2008 ROD/RMP. Consequently, projects have been consistent with the goals and objectives in the 1995 ROD/RMP and 2008 ROD/RMP. By implementing the 1995 RMP for the Airstrip Thinning Timber Sale, I am following current court recommendations as described above.

10.2 Range of Alternatives and Alternative Development

2. *I received comments expressing the opinion that the range of alternatives considered was insufficient because:*

- *Road location is the only difference between the two action alternatives analyzed.*
- *Opinion that "The BLM has not done a thorough job of rigorously exploring alternatives…" There are no alternative treatments, prescriptions, unit selection or logging systems.*
- *Did not include alternatives for different land use objectives such as carbon storage or developing dense cover and dead wood. (No specific reference, drawn from context.)*

Response to 2: I have determined that the BLM considered an adequate range of alternatives in developing the Airstrip Thinning Timber Sale as required by NEPA. In the development of alternatives, the EA follows the guidance stated in Section 102 (2) (E) of the National Environmental Policy Act of 1969, as amended (NEPA), Federal agencies shall "…study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."

The IDT examines each stand within the proposed project then uses objective data collected during stand exams and stand modeling that uses one or more scientific models, combined with personal, professional observations and judgment to develop sound silvicultural prescriptions to achieve the defined objectives. EA section 1.2.1, pp. 11-13, shows that overstocked stands in the project area need forest management actions to reduce the density of trees to allow remaining trees to have sufficient water, nutrients and space for additional growth to meet RMP objectives.

EA section 1.2.2, pp. 13-14, shows that the purpose of the project is to manage developing stands to optimize growth; supply forest commodities; maintain water quality standards; develop large conifers in Riparian Reserves; protect federally proposed and listed species; maintain a safe, environmentally sound road system; and protect public, facilities and resources from wildfire.

The EA presented an adequate range of alternatives as well as information regarding alternatives considered but not analyzed in detail given input provided by the interdisciplinary team (IDT) and public input (EA pp. 34-35). Pages 11-12 of the EA described the factors that the IDT used to develop the action alternatives. The EA analyzed the required "No Action Alternative" and the following action alternatives: . In addition to the two action alternatives analyzed in detail, the EA documents (EA section 2.4, pp. 33-35) the following six additional alternatives considered by the IDT:

- Treatment of other forest stands within the Riparian Reserve LUA;
- Creation of canopy gaps in the GFMA LUA;
- Reserving stands in the project area for carbon storage;
- Alternative access routes with associated road work;
- Using a temporary bridge for the stream crossing section 18; and
- Regeneration harvest of up to 45 acres including and adjacent to Unit 1 (EA unit 7A).

Each of these alternatives was dropped from further analysis and consideration. The reasons for dropping each of these alternatives from further consideration are described in EA section 2.4. Minor variations in prescriptions, logging systems, road locations and unit boundaries do not constitute "alternatives" to be analyzed separately. Selecting or deferring individual units or combination of units is within the range of the analysis of the action and no action alternatives.

In Morongo Band Mission Indians v. Federal Aviation Admin., 161 F.3d 569, 573 (9th Cir. 1998), the Ninth Circuit held that parties claiming a NEPA violation involving failure to consider a reasonable alternative must offer a specific, detailed counterproposal that has a chance of success. Also in other cases the Ninth Circuit held that an agency does not have to consider alternatives that are not feasible, Headwaters, Inc. v. BLM, 914 F.2d 1174, 1180-1181 (9th Cir. 1990) and an agency does not have to consider alternatives that would not accomplish the purpose of the proposed project, City of Angoon v. Hodel. 803 F.2d 1016, 1021 (9th Cir. 1986). Further, the Ninth Circuit has rejected the argument that an EA requires consideration of more than two alternatives. See Native Ecosystems Council v. Forest Service., 428 F.3d 1233, 1246 (9th Cir. 2005).

See also: Comments and Responses # 3 and 4.

10.3 BLM Management Objectives and Silvicultural Prescriptions for Matrix and Riparian Reserve LUA

3. *I received comments expressing differing views of BLM management objectives and silvicultural prescriptions for the Matrix (GFMA) Land Use Allocation (LUA). Specific comments included:*

- *Opinion that if road construction is needed to treat an area (Matrix), BLM should leave it untreated to "meet objectives for dense cover and dead wood recruitment."*
- *Support for the purpose and need for the project and generally agreement that the project will meet the objectives.*
- *Opinion that since the BLM is not implementing regeneration harvest as described in the RMP, thin more heavily than the current prescription.*
- *General support for prescription, concern about removing "some" dominant and co-dominant trees and how that will be implemented.*
- *Opinion that "[the data in] Table 9 is comprehensive and convincing with respect to the benefits of the thinning project."*
- *Opinion that skips and gaps should be part of the Matrix prescription.*
- *Agreement with dropping the regeneration harvest alternative (unit 1, EA unit 7A).*
- *Opinion that thinning unit 1 (EA unit 7A) should be deferred.*
- *Opinion that unit 1 should be dropped due logging damage to large diameter trees.*
- *Management should focus "exclusively on even-age, human-created tree plantations."*
- *Opinion that the project should avoid all spotted owl habitat (specifically TS Unit 1 = EA unit 7A).*

- *Disagrees with purpose and need for the project and disagrees with BLM's assessment of the benefits of thinning.*

Response to 3: The Salem Resource Management Plan (RMP) currently directs the management of BLM lands. Under the current RMP, some or all of these stands would be evaluated for management options within the next thirty years. The current treatment leaves multiple options for future management with potential to develop structural diversity. Management options to be considered will be defined by the RMP in place at that time, so predicting specific management practices decades in the future would be speculative.

With regard to BLM management objectives for the portion of this project which is in the Matrix LUA (198 of 201 thinning acres), the IDT designed the Proposed Action to meet the Purpose of and Need for Action (purpose and need), implementing RMP management objectives for the Matrix LUA. RMP objectives applicable to this project are described in EA section 1.2.2 (EA pp. 13-14) and in Table 2, below. The following is a summary of the purpose and need for the Airstrip Thinning Timber Sale.

Table 2: Summary of the Purpose of the Project and Applicable RMP Objectives, Matrix LUA

Summary of Purpose (Objectives) of the Project	Applicable RMP Objective(s)
Summarized from EA p. 13: Manage developing stands on available lands to promote tree survival and growth and to achieve a balance between wood volume production, quality of wood, and timber value at harvest. Supply a sustainable source of forest commodities from the Matrix land use allocation to provide jobs and contribute to community stability. Select logging systems based on the suitability and economic efficiency of each system for the successful implementation of the silvicultural prescription, for protection of soil and water quality, and for meeting other land use objectives by developing Timber Sales that can be successfully offered to the market place.	Summarized from RMP p.46: Manage developing stands on available lands to promote tree survival and growth and to achieve a balance between wood volume production, quality of wood, and timber value at harvest. Provide a sustainable supply of timber and other forest products. RMP p. 48: Commercially thin managed timber stands to increase timber production or to achieve other management objectives. RMP p. 20: Produce a sustainable supply of timber and other forest commodities to provide jobs and contribute to community stability. RMP p. 2: Manage lands in accordance with the Oregon and California Lands Act (O&C Act) and other environmental laws such as the Federal Land Policy and Management Act (FLPMA), the Endangered Species Act and the Clean Water Act.
EA p.14: Maintain and develop a safe, efficient and environmentally sound road system and reduce environmental effects associated with identified existing roads within the project area.	RMP p. 62: Develop and maintain a transportation system that serves the needs of users in an environmentally sound manner. RMP p.11: Minimize sediment delivery to streams from roads. RMP p. 2: maintain water quality standards

Summary of Purpose (Objectives) of the Project	Applicable RMP Objective(s)
EA p. 14: Protect, manage, and conserve federal listed and proposed species and their habitats to achieve their recovery in compliance with the Endangered Species Act and Bureau special status species policies.	RMP p. 28: Protect, manage and conserve federally listed and proposed species and their habitats to achieve their recovery in compliance with the Endangered Species Act, approved recovery plans, and BLM special status species policies.
EA p. 14: Increase protection from large, intense wildfires in the project area by limiting potential human sources of ignition, providing access for fire suppression resources, and maintaining a healthy forest that is resistant to wildfire.	RMP p. 39: Reduce public use of non-through roads with traffic barriers to reduce fire risk and other resource damage. Reduce fuel hazards.

Summary of the Need for the Project (EA Sec. 1.2.1, pp. 11-13):

The management objective for lands within the Matrix/GFMA LUA are to produce a sustainable supply of timber and other forest commodities while also providing a variety of forest habitat functions (RMP p. 20). Field reconnaissance and Stand Exam data show that timber stands in the Airstrip Thinning project area are either overstocked, or soon will be. Growth rates in overstocked stands decline, the health and vigor of trees and other vegetation in these stands decline, and the stands begin to self thin as the smaller trees die. This reduces timber productivity and delays development of some desirable stand structure for habitat.

The proposed forest management activities are needed in the project area stands to reverse or prevent these trends so the stands will remain vigorous and contribute to future forest production and other goals of the NWFP.

Forgoing logging within the project area is described in the No Action Alternative of the EA. The effects of the no action alternative are described for each resource in EA section 3.0. The No Action Alternative does not meet the need or the purpose for the project (EA section 3.3.12, pp. 96-98).

Some comments on the objectives for Matrix LUA support the stated objectives. These ranged from general support with some specific concerns to an opinion that the layout and prescription should have been done differently to provide more timber harvest volume and provide it more economically. BLM staff chose a prescription and unit layout to implement the RMP in a way that leaves several management options open for the future. The selected action provides flexibility ranging from future partial cut entries or regeneration harvest in the next three decades, to a complete change of management strategy in future Management Plans.

Other comments preferred objectives that would develop preferred habitat characteristics and recommended either implementing the No Action Alternative, or a variable density prescription to create skips, gaps and decadence. Changing RMP management objectives is beyond the scope of this EA.

See Comment and Response # 7 for discussion of spotted owl habitat in Unit 1 (EA unit 7A).

4. *I received comments expressing differing views of BLM management objectives and silvicultural prescriptions for the Riparian Reserve (RR) Land Use Allocation (LUA). Specific comments included:*

- *Stand management (thinning) should only be done outside of RR.*
- *Supports the two general criteria used to determine whether RR treatment contribute to meeting ACS objectives for habitat. Expresses opinion in favor of "minimal intrusion" into RR and managing RR "to enhance late successional characteristics".*
- *Opinion that the BLM needs to treat more RR stands to meet EA objectives.*
- *Opinion in favor of minimal (10 acres) RR thinning after field review of stands.*
- *Opinion that untreated buffers should be narrower. 100 ft. is not a NWFP or WOPR standard.*
- *Opinion in favor of 100 ft. Stream Protection Zone "buffer".*
- *Note: Additional and interrelated comments focused on snags, CWD and other dead wood management in RR and ACS Objective 8. These are addressed in Comment and Response 6, below.*

Response to 4: With regard to BLM management objectives for the portion of this project which is in the Riparian Reserve LUA (3 of 201 acres, unit area), the IDT designed the Proposed Action to meet the Purpose of and Need for Action (purpose and need), implementing RMP management objectives for the Riparian Reserve LUA. RMP objectives applicable to this project are described in EA section 1.2.2 (EA pp. 13-14) and in Table 3, below. The following is a summary of the purpose and need for the Airstrip Thinning Timber Sale.

Table 3: Summary of the Purpose of the Project and Applicable RMP Objectives, Riparian Reserve LUA

Summary of Purpose (Objectives) of the Project	**Applicable RMP Objective(s)**
EA pp. 13-14: Maintain water quality standards and improve stream conditions by maintaining effective shade for streams…; and designing new roads and using existing roads to avoid increasing the quantity of water and sediment transported to streams.	RMP p. 2: Maintain water quality standards
Develop large conifers and future large coarse woody debris, large snag habitat, in-stream large wood, and long-term structural and spatial diversity by applying commercial thinning treatments within the Riparian Reserve LUA …, removing merchantable material only when it is consistent with the purposes for which the Riparian Reserves were established.	RMP p. 7: Apply silvicultural treatments to restore large conifers in Riparian Reserves. RMP p. 11: Apply silvicultural practices for Riparian Reserves to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives.

The EA states (p. 24, Silvicultural Treatments, Riparian Reserve LUA) that the IDT "… identified ten acres of Riparian Reserve…where active restoration would benefit ACS objectives." The Resource Management Plan (RMP) establishes long term management objectives for the Riparian Reserve LUA. Future management actions would be designed to meet Plan level objectives at that time. It is beyond the scope of this EA to analyze potential changes to RMP level direction.

Riparian Reserve lands are designated for restoring and maintaining the ecological health of watersheds and aquatic ecosystems (RMP p. 5, ACS Objective 1), and for providing habitat for terrestrial species (RMP p. 9).

The Airstrip Thinning IDT evaluated Riparian Reserve stands to determine if treatment is warranted to achieve ACS Objectives (EA section 2.2.1, p. 24). The ID Team members based their assessments on field examinations by professional wildlife biologists, hydrologist, fisheries biologist and foresters and by analysis of stand exam data, aerial photographs and historical records. Criteria for selecting stands to be treated included: how each stand fit into a mosaic of stands with different characteristics to contribute to habitat diversity and complexity across the landscape; structural elements within the stand; proximity to streams; slope stability; potential impacts to water quality, woody debris in stream channels and fish habitat; stand structure (including CWD and snags); logging feasibility and economic efficiency. The IDT identified ten acres to analyze in the EA (p. 24). I decided to thin three of those RR acres.

Stream protection buffers implemented in the Airstrip Thinning Timber Sale provide protection beyond that needed to maintain stream temperatures to ensure no impacts to listed fish habitat located within one mile of sale units. The National Marine Fisheries Service (NMFS) recommends protection buffers of ≥100 feet on perennial streams within one mile of listed fish habitat to maintain large and small woody debris levels, and to provide additional protection for water quality. All perennial streams in the Airstrip Thinning Timber Sale area are within that one-mile range. See Comment and Response #6 for discussion of snag, CWD and other dead wood management.

10.4 Water Quality and ACS Objectives

5. *I received comments concerning how the Airstrip Thinning project would meet ACS Objectives, especially how the project would affect water quality.*

- *Opinion that: "[The Fisheries and Aquatic Habitat] section is adequate, and I liked the mention of the downstream wetland functioning to intercept sediment from the temporary stream crossing installation/removal."*
- *Opinion that the EA is unclear on how the 9 ACS Objectives are met. Particular mention of road construction in RR in section 18 and logging and road construction in RR in Unit 2 (EA unit 7B).*
- *Disagrees with BLM assessment of the amount of sediment/turbidity entering streams from roads and logging and the environmental effects of that sediment.*

- *Questions analysis of sediment caused by the temporary stream crossing in section 18.*
- *Opinion that BLM did not analyze sediment caused by roads, landings and ground-based yarding because the WEPP model does not include them.*
- *Claims EA does not analyze sediment and toxins from culverts on Road 4-5E-7.*
- *Opinion that EA assessment of effects to multiple measures of water quality is "not supported".*
- *Questions process and efficacy of visual turbidity monitoring.*

o *Opinion that the cut for the road in Unit 2 (EA unit 7B) would impact subsurface water flow. Presents commenter's calculations of road cut which, in their opinion, conflicts with EA statement that the road "…would not require extensive cut or fill construction…".*

Response to 5: The Airstrip Thinning Timber Sale complies with ACS Objectives and Oregon Department of Environmental Quality (ODEQ) water quality standards as described in the following sections of the EA: The Hydrology (EA section 3.3.2, pp. 52-62) and Fisheries and Aquatic Habitat (section 3.3.3, pp. 62-65) sections of the EA link multiple resource analysis categories in both the "affected environment" and "environmental effects" sections to specific ACS Objectives in the **Bold Underlined Headings** of those sections. Each ACS Objective is addressed in EA section 3.3.11, "Compliance with the Aquatic Conservation Strategy", (pp. 92-96) with a narrative describing how both action and no action alternatives meet that objective. Compliance with dead wood aspects of ACS Objective 8 is discussed in Comment and Response # 4, above, based on analysis in Wildlife, EA section 3.3.5 (pp. 68-81). Project Design Features (PDF) to prevent impacts exceeding ODEQ standards for Water Quality are presented in EA section 2.2.4 (pp. 28-32). Many of the PDF are designed to: limit potential compaction and erosion from logging (#1-22), limit sediment from road construction and use related activities (#23-35), and maintain habitat components (#36-49).

The BLM is confident that ACS Objectives and ODEQ water quality standards are met because the IDT assessed sediment and other aspects of water quality for the EA in a variety of ways:

To estimate the amounts and effects of erosion and sediment, the BLM used a combination of modeling (particularly the WEPP model), research reports/literature, observations made on similar projects throughout the Resource Area and the professional judgment of the BLM hydrologist/soils specialist, fisheries biologist, foresters and timber sale contract administrators on the Interdisciplinary Team (IDT) that developed the Airstrip Thinning project.

WEPP modeling is specific to skyline yarding where the slopes are steeper and generally closer to streams than areas yarded with ground-based equipment – results are summarized on p. 67 of the EA (Soils section) and referred to on pp. 60-61 (Hydrology section). Detailed analysis of the WEPP model is documented in the Soils Specialist Report which was incorporated into the EA by reference (p. 65).

References for applicable research which, combined with field experience, provided the basis for evaluations of other measures of water quality are cited throughout the EA. Citations relating to sediment include: USGS 2003, Patric et al 1984, Geren 2006, Hawe 2007, Leopold 1997, Norris 1993, Morris and Fan 1998, Dissmeyer 2000, Pimental 1987, Olson and Rugger 2007, Rashin et al 2006 and CH2MHILL et al 1999.

Citations relating to other aspects of water quality and quantity (base flow, peak flow, peak flow augmentation due to forest harvest, ground water, effective shade and stream temperature, dissolved oxygen, pH, and nitrates) include: USEPA 1991, Grant 2008, OWEB 1997, Wemple et al 1996 & 2003, Oregon WRD, ODEQ, Bosch et al 1982, Troendle et al 2006, Berris 1984, and Grant et al 2008.

Visual monitoring of turbidity is effective because turbidity is essentially a visual trait of decreased water clarity (EA p. 58). ODEQ turbidity monitoring protocol states that "visual gauging is acceptable." In addition to visually checking water clarity above and below culverts, BLM contract administrators visually assess road surfaces on the haul route to determine is runoff is transporting sediment to streams between visits. Small erosion channels on road surfaces are readily visible and it is easy to assess whether runoff is diverted onto vegetated slopes where it infiltrates, is trapped and filtered, or is potentially running into a stream. The timber sale contract administrator can immediately require corrective measures including mitigation of the runoff pattern and/or suspend operations that contribute to generating sediment and runoff (EA pp. 30-31, 60-61). Sediment generated at the temporary crossing in section 18 is analyzed in the EA and would be unlikely to exceed Oregon's water quality standards (EA pp. 31, 60-61).

The BLM Hydrologist conducted onsite evaluation of the road locations for the Airstrip Thinning Timber Sale and determined that cuts for road construction would not intercept groundwater flows. This evaluation was based on more than two decades of professional experience with similar road construction and a variety of soil types on similar BLM timber sale projects. Any surface or shallow subsurface flow during major rain events that is intercepted would infiltrate below the road and not be channeled to streams by the road (EA p. 59). The commenter's calculations assume a "full bench" cut to a level cross section of the road, resulting in four feet of cut. The actual cut will be less than that (approximately half) because "cut and fill" construction will be used where part of the road surface will be on fill material, and the road will be out-sloped which will reduce the depth of cut.

10.5 Snag and Coarse Woody Debris Habitat

6. *I received comments about snag and coarse woody debris (CWD) management and other dead wood management. These were often linked to northern spotted owl (NSO) habitat or ACS Objective 8. Specific comments included:*

- *Specific to RR – Commenter disagrees with BLM assessment of effects on dead wood from thinning in the RR:*
  - *Opinion that unit 1 (EA unit 7A) is older than 80 years and, in addition to their opinion that the unit should be managed for carbon storage (*see Comment and Response # 2*), there is a "…need to retain far more green trees in order to meet higher standards for snags and dead wood."*

- *Disagrees with models and standards used by the BLM for determining amounts of snags and other dead wood. Opinion that BLM targets are "outdated" and that higher numbers are needed.*
- *Opinion that the EA does not disclose positive and negative effects of RR treatment on dead wood.*
- *Disagrees with BLM assessment of the need for and results of treatment, specifically vertical canopy structure v. dead wood.*
- *Disagrees with the prescription for RR treatment and expresses the opinion that BLM does not provide evidence for increased habitat diversity.*
- *Opinion that "…thinning in the outer portion of riparian reserves [sic] will reduce wood recruitment and retard attainment of objectives."*
- *Disagrees with BLM's assessment of growing larger trees and the potential for dead wood recruitment.*
- *Disagrees with BLM's assessment of accelerating diameter growth and providing source material for large diameter snags and CWD sooner than they would be available from unthinned stands.*
- *Disagrees with BLM's statements that untreated area will provide a continuing source of dead wood, claims that the EA does not provide assurance that untreated stands would not be logged later. (*Cross reference Comment and Response # 3- skips in thinning in Matrix LUA stands.*)*
- *Disagrees with BLM's thinning prescription and assessment of its effect on snag/dead wood creation.*
- *Opinion that the EA fails to analyze effects of logging in RR on CWD and its effects on meeting ACS Objective 8.*

o *Matrix and general –*

- *Opinion that "…logging proposals must be scaled back to allow natural …recruiting dead wood…" and provide "...a mix of treated and untreated areas spatially distributed on the landscape."*
- *Opinion that the BLM should avoid falling the two large snags in the right-of-way in unit 2 (EA unit 7B). Drop road construction and portions of the units served by new roads.*
- *Disagrees with BLM's assessment of effects of thinning Unit 1 (EA unit 7A) on dead wood recruitment and habitat for NSO.*
- *Compliment that "the analysis for CWD is good, i.e., why the smaller diameter…has less value as wildlife habitat."*
- *Opinion that BLM should avoid cutting any large trees in Unit 1 (EA unit 7A).*
- *Compliment: "The effects analysis for snags and CWD is particularly good and well-written."*
- *Statement that snag numbers are insufficient to comply with the law. (What "law" is not specified.)*
- *Opinion that "…the BLM should be focused on preserving the few large snags remaining."*

- *Opinion that BLM's analysis of the impact of falling two large remnant snags "…violates NEPA by failing to provide an adequate analysis of the impact of the loss of these snags on snag-dependent species in the project area." Based on the opinion that the EA understates the "…impact[s] on the local snag-dependent species that the BLM has not adequately analyzed or mitigated."*
- *Opinion that since there are currently low levels of CWD, "…activities that adversely impact 10% of the little remaining CWD do not comply with the RMP."*

Response to 6: The EA analyzed the impacts of thinning on current and future snag levels and recruitment in both the Matrix and Riparian Reserve LUAs. Existing snags and CWD are described in EA section 3.3.5, especially pp. 69-70, including Tables 11 and 12. The EA clearly shows that current levels of snags and CWD are lower than desired levels. Effects of thinning on existing snags and CWD are described in the same section, especially pp. 72-74. In summary: Up to 10 percent of snags larger than 15 inches diameter and 15 feet tall will be felled or knocked over by logging operations. These snags would remain on site as woody debris, some of which would meet CWD standards. Up to 10 percent of existing CWD would be cut into shorter pieces and/or moved.

The same section, especially pp. 73-74, of the EA describes potential snag and CWD effects and recruitment in the future. It states that the direct results include:

- loss of some large snag habitat,
- loss of some small diameter snags,
- reduced numbers of snags created by suppression mortality,
- suppression mortality tends to create small diameter snags, and
- no change to trends of dead wood production and retention on untreated areas - approximately 2/3 of the BLM managed land in the Airstrip Thinning project area (T.4S., R.5E., sections 7 and 18) would not be treated.

The BLM based its predictions of future snag retention and development for both the proposed action and no action alternatives on the professional experience of BLM silviculturists, wildlife biologists, foresters and contract administrators as well as professional interpretation of stand projection modeling.

The EA states (p. 24, Silvicultural Treatments, Riparian Reserve LUA) that the IDT "… identified ten acres of Riparian Reserve…where active restoration would benefit ACS objectives." It also states (p. 73) that an indirect result of thinning would be to encourage faster diameter growth on retained trees, providing potential source material for large diameter snags and CWD sooner than comparable untreated stands would. The EA demonstrates that large diameter snags and CWD provide habitat for more species than small diameter snags and CWD for a variety of reasons (EA pp. 69-70).

The BLM agrees that large dead wood (snags and CWD) and large live trees provide different habitats and that thinning removes most of the trees which would die from suppression mortality and create small snags. At a landscape scale in sections 7 and 18 the Airstrip Thinning Timber Sale is affecting less than one percent of the Riparian Reserve and the myriad small snags developing in those unmanaged forest stands. BLM also recognizes that large healthy trees growing after thinning are not snag habitat.

However, it is self-evident that it takes a large live tree to become a large dead tree. Snags may be created in the future from these trees by either natural causes or management actions.

Part of the objective of ACSO 8 is to "Maintain … amounts and distributions of [CWD]…"

Thinning in three acres of Riparian Reserve meets the criteria for ACS Objective 8 because it is one component of long-term, landscape level structural and spatial diversity in this area. In the selected action, the thinning is expected to contribute to long-term (more than 20 years) restoration of large diameter trees as a source for dead wood. In the short term (1-20 years) less than one percent of the RR (three of 400 acres) in this area will be treated, leaving more than 99 percent of the Riparian Reserve to continue developing dead wood entirely through natural processes.

The environmental effects of falling snags and impacting CWD – including two large (60 inches diameter) remnant snags (Unit 2 [EA unit 7B], right-of-way) – are within the effects analyzed in the RMP/FEIS (1994). The BLM analyzed falling these two remnant snags (EA pp. 69-70, 73-74, 77-78 and "no action" pp. 79-81; Wildlife Report p. 17) and recognizes that it does have an impact on cavity nesters and other species that use large snags, however the CWD created will remain on the site and provide this type of habitat. The remaining large diameter/old growth trees in and adjacent to the unit would continue to provide decadence in the stand and could become large snags in the future. During the project development process, the IDT weighed management objectives for Matrix LUA, stand characteristics, logging feasibility and road construction requirements to select stands for treatment.

During this process and before final thinning unit selection the IDT identified concerns related to other resources, including wildlife habitat, and evaluated those concerns within the analysis conducted for the RMP/FEIS and Salem District RMP.

In addition to analysis of Old-Growth and Large Diameter Trees, Snags, Coarse Wood Debris (CWD) and Special Habitats (EA section 3.3.5, pp. 69-70, 73-74, 77-78 and "no action" pp. 79-81), the EA analyzed Federally Listed Species: Northern Spotted Owls (NSO) and Special Status, Survey and Manage, and other Species of Concern (EA pp. 70-72, 74-76, 78-79, and no action pp. 79-81). Consultation with US Fish and Wildlife Service (USFWS) is described on p. 99 of the EA and DR section 6.3. The EA concluded that the proposed project would not contribute to cumulative effects to spotted owls (EA p. 78, rationale described) and that thinning in the project areas; either individually or collectively, would not be expected to contribute to the need to list any Bureau Sensitive Species under the Endangered Species Act (EA p. 79, rationale described). See Comment and Response # 7.

The NWFP and Salem District RMP set the minimum standards for snag and down wood retention. Changing management standards for the NWFP and the Salem District RMP are outside the scope of this project. The NWFP and current RMP continue to be in accordance with the O&C Act, Endangered Species Act, Clean Water Act, and other applicable laws. BLM has no new land management mandates or direction to manage for snag levels greater than those in the RMP.

10.6 Special Status Species and Their Habitat

7. *I received comments concerning Northern Spotted Owl (NSO) and its habitat:*

- *Opinion that it is unfortunate that 45 acres (selected action = 15 acres) of suitable NSO habitat will be downgraded to dispersal habitat.*
- *Statement that BLM apparently did not do a Recovery Action 32 Analysis as suggested by the 2008 draft and 2011 final NSO Recovery Plan. Opinion that logging in Unit 1 (EA unit 7A) should be deferred to avoid impact to NSO habitat.*

Response to 7: The BLM did a thorough analysis of NSO habitat, including an analysis for the potential of RA32 habitat. Analysis included: determination of NSO home ranges, owl surveys, stand exam data analysis, field examinations by BLM wildlife biologists, and aerial photo and ground reconnaissance surveys of potential habitat within 1.2 miles of the unit.

Findings include: There are no spotted owls whose home range overlaps the unit, no spotted owls were found during surveys, the stand is lacking the large snag component found in high quality NSO habitat, the unit currently lacks components of decadence that would make it RA 32 habitat, and current stand characteristics make it marginal suitable habitat. (EA section 3.3.5, specifically pp. 70-71, 74-75, 78, 80; Internal memo, Wildlife Biologist's response to Airstrip Thinning EA comments, Murphy and Price 2011 on file.)

8. *In its current state, the unit lacks components of decadence such as large snags, broken tops and epicormic branching that would make it suitable nesting habitat. Due to this lack of decadence and nesting features, it does not meet the criteria outlined in the 2011 Revised Recovery Plan for the Northern Spotted Owl for RA 32 habitat. One of the objectives of thinning in this unit is to encourage high quality NSO habitat to develop with the characteristics associated with RA 32 stands and increase the likelihood for spotted owls to occupy the area. (Murphy and Price 2011, see also EA pp. 43-45, 48-50, 52, 68, 69-71, 72-75, 77-78, 79-80.) Special Status Species and their habitat - Bats, Red Tree Vole (RTV), Mollusks, Oregon Slender Salamanders, and Botanical. Specific comments include:*

- *Opinion that undetected bat and RTV sites are a reason to minimize loss of large diameter trees and snags.*
- *Opinion that an "unknown percentage" of bat habitat impacted is an "unacceptable level of harassment" because the project falls two large snags which are a high percentage of local habitat.*
- *Statement that it is unclear in the EA how Oregon megomphix sites are buffered in Unit 1 (EA unit 7A) as per the 2001 Survey and Manage ROD.*
- *Opinion that failure to meet CWD standards constitutes failure to protect OR megomphix. Questions whether BLM implemented "Strategy 2" hot spots.*
- *Requests explanation of protection measures for tall bugbane (c. elata).*
- *Statement that the BLM failed to meet management direction for the Oregon slender salamander because its status has been elevated to Bureau Sensitive. Therefore, 10 percent mortality violates the RMP by not helping to "recover" the species.*

Response to 8: The selected action maintains the vast majority of large tree (>36 in. dia.) and snag (>15 in. dia.) potential habitat, as described in the following paragraphs. Roads to be constructed for the selected action were routed to avoid impacting as many large trees and snags as was feasible while maintaining proper grade, alignment and access to landings. The selected action also implements project design features as contract requirements that minimize potential cutting of large trees and snags through BLM review and approval of logging plans and BLM contract administration procedures.

Based on previous experience with similar projects with similar contract requirements, the BLM is confident that less than 10 percent of these large trees and snags in the thinning units would be cut or knocked over by logging operations. The timber cruise indicates that no trees larger than 36 inches diameter (at breast height) are designated for cutting and removal in the thinning units and one such tree is in the right-of-way for the roads to be constructed in section 18. Since 90+ percent would be retained within harvest units and only about one quarter of the BLM block in this area would be treated, the roughly 97.5+ percent of non-impacted large tree and snag habitat would be sufficient to maintain near-current levels of species that depend on these habitats. Those which are cut or knocked over would be left onsite as CWD, which is also lacking in these units. (EA pp. 69-70, 70-72, 73-74, 75-76, 77-79, 79-81)

The two large snags (See Response to # 6, above) are adjacent to one of the roads to be constructed in Unit 2 (EA unit 7B). Landings for the portion of the units to be logged with skyline yarding are best located immediately above the major slope break for safety and economic efficiency. The IDT discussed options for different road locations and engineering staff determined that any road system design to reach the entire unit would require additional road spurs to reach landing locations. This would not meet Objective 8 of the Purpose of the Project (EA sec. 1.2.2, pp. 13-14) for an efficient and environmentally sound road system because the additional road construction would increase costs, impact more land, and increase logging costs by reducing options for specific logging techniques.

The IDT also determined that potential cutting of these two snags is within the effects analyzed in the RMP/FEIS. The route for the road avoids the need to cut any of the old growth trees in this unit. When cut, these two snags would provide high value, large diameter, hard CWD which is also in short supply in this unit. (EA pp. 69-70, 73-74, 77-78, 79-80) Old growth snags are only one habitat type for bats (EA p. 71). Other habitats for bats include large decadent trees such as those scattered in and around the thinning units, caves, mines, cliffs, bridges and buildings (EA p. 71).

The BLM implemented Management Strategy 3 for management of Oregon megomphix (a mollusk) because it fits all four criteria to be considered “locally common” (version 2.0 of the Management Recommendations for Terrestrial Mollusk Species). Strategy 3 allows disturbance, including thinning and other activities. However, the BLM did not simply ignore or dismiss this species. Several resource management practices were incorporated into the design of the selected action which will assure persistence of Oregon megomphix in the Airstrip Thinning Timber Sale vicinity, including:

1) Unthinned areas include Riparian Reserves where most of the hardwood component (which provides the best habitat for this species) is found;
2) Most of the hardwoods, including bigleaf maple, within the thinning unit boundaries would be retained;

3) Due to seasonal restrictions for other resources, operations would occur only during the dry season when these mollusks are less active;

4) No broadcast burning and only limited pile burning would be done;

5) 90 percent of CWD would remain on site; and

6) Canopy closure would remain above 40 percent, often above 60 percent.

(EA section 2.2 pp. 24, 28-32, 33; section 3.3.1 pp. 47, 48-49, 50-51, 52; section 3.3.5 pp. 68, 69-70, 72, 74, 76, 78-79,79-80, 80-81).

Since the publication of the Airstrip Thinning EA, the Settlement Agreement has been finalized and is now in place (IM-OR-2011-063, July 2011). Pre-disturbance surveys for Oregon Megomphix, and protection of known sites is no longer required under the Settlement Agreement.

The BLM excluded sites where tall bugbane (c. elata) was found from the thinning units in the selected action, so the populations and habitat would not be disturbed. The BLM expects the species to remain stable or expand slightly as a result of thinning within unit boundaries. (EA p. 51)

The BLM expects direct effects to Oregon slender salamander populations to be minimal, based on research (Rundio and Olson, 2007) and BLM survey results (Dowlan, unpublished 2006). Also, impacts will be limited to mortality or disruption of up to ten percent of individual salamanders within thinning unit boundaries because only ten percent of their habitat would be disturbed. Since Only about one fourth of BLM managed land in the vicinity would be thinned, less than 2.5 percent of salamanders in the immediate vicinity would be affected. (EA p. 75) Evaluation of plan level management of the species is beyond the scope of the EA or this DR.

10.7 Road Management

9. *Road management and objectives – Specific comments include:*

- *Opinion preferring Alternative 2 to reduce new road construction.*
- *Comment on analysis: "The road construction effects and analysis (p. 49, bottom) is convincing." Comment on analysis: Impacts to wildlife of renovating the airstrip is honestly portrayed. Followed by opinion that commenter prefers Alternative 2.*
- *Opinion that two miles of new road is "unwarranted and excessive", particularly in Riparian reserve.*
- *Opinion that the BLM should end the new road construction in Unit 2 (EA unit 7B) at approximately P2 5+00 (location identified by BLM based on comment description to end road before the two snags discussed in comment and response 6) and drop the SE portion of Unit 2 served by the remainder of the road.*
- *Comment on analysis: Cannot tell which renovated roads might not be closed and stabilized after operations.*
- *Recommend closing and removing Road 4-5E-7 because of road deterioration and toxins introduced into streams where they cross the road.*

Response to 9: The BLM has designed and analyzed a safe, efficient and environmentally sound road system (Objective 8 EA p. 14, RMP p. 62) to implement Objectives 1, 2, 4 and 9 of the Purpose of the Project (EA section 1.2.2, pp. 13-14). The BLM Interdisciplinary Team selected stands to thin based on the objectives (EA section 1.2.2, pp. 13-14) for Matrix LUA and logging feasibility. Then the BLM evaluated and designed a road system to accomplish those objectives by designing a safe, efficient and environmentally sound road system to provide appropriate access for timber harvest, as described in Objective 8 (EA p. 14, RMP p. 62) and in Decision Factor 3 (EA section 1.2.4, p. 15). The IDT recognized and analyzed environmental effects, both beneficial and adverse, of these roads and determined that the effects were within the effects analyzed in the RMP/FEIS. (EA pp. 5-7, 54, 56, 59, 60-61, 62, 64-65, 66, 67, 69-70, 73-74, 76, 77, 78, 79-80, 86-88, 89-90,93, 94, 96)

See discussion of road construction impact on two large snags in Comment and Response # 6.

The selected action closes and stabilizes all new roads and all renovated roads which are now closed. Only roads which are currently open and maintained for travel will be left open after operations.

The selected action renovates and uses 0.15 mile (approx. 800 feet) of Road 4-5E-7 (Airstrip Thinning Timber Sale, Exhibit C, p. 1). The road renovation will not cross any stream. This road segment will be closed and stabilized after use, as discussed above. The remainder of the road was previously closed and decommissioned and culverts were removed to return the streams back to natural channels. (DR section 9.0 - map.)

10.8 Soil Impacts and Other Resource Damage

10. *Soil impacts and other resource damage by Off Highway Vehicles (OHV) and logging – specific comments include:*

- *Opinion that roads and other access points into the forest need to be designed to prevent unauthorized OHV use and damage.*
- *Questions BLM analysis of impacts to soil from compaction, adds parenthetical acres reported and calculates compaction at ~20 percent (EA p. 65).*
- *Claims that BLM did not address: short and long-term impacts of decreased soil productivity, road and landing construction, and landslide risk. Questions BLM conclusion, but identifies no specific impacts.*

Response to 10: The BLM routinely implements measures to prevent unauthorized OHV access on Public Lands. Access points, closed roads and skid trails will be physically blocked access and/or made impassible after operations using techniques that are designed to avoid causing erosion, avoid damaging retained trees, and allow closed roads to be opened if needed for firefighting. (EA section 2.2.4, p. 29, design feature No. 7). Effects are analyzed in the EA (p. 67) based on BLM experience with similar projects. Sometimes OHV users create new access points, and the BLM aggressively repairs damage and blocks these access points when discovered.

The EA reports incorrect parenthetical acres, leading to the confusion that was reflected in the comment. The percentages of expected compaction described in the EA (p. 66, Direct Effects) for each yarding type are correct. These percentages were applied to the full acreage instead of to the appropriate portion described in the text.

Acres by yarding method are included in EA Table 2, p. 23. Corrected acreages for the EA text are presented in the Table below:

Corrected Compaction and Disturbance Acres and Percent for the Airstrip Thinning EA

Logging Method	Acres (EA p. 23, Table 2)	Compaction/Disturbance Percent	Compaction/Disturbance Acres
Ground Based	166	6-8 (EA p. 66)	10-13 (Calculated)
Skyline	124	3-7 (EA p. 66)	4-9 (Calculated)
Total from Logging	290	4.80-7.6 (calculated)	14-22
Road Construction	2 miles	1.7	5
Road Renovation	1 mile	0.7	2

These acres include ground that is disturbed but not compacted, so that acres compacted will be less than the acres listed.

The selected action would result in similar percentages of compaction and disturbance from logging (10-15.5 acres, 5-8 percent) plus 4 acres from 1.5 miles of road construction and less than 2 acres from 0.7 mile of renovation on BLM land. Calculated from percentages cited above and DR 8.0, Tables 3 and 4.

The EA addresses productivity, erosion and cumulative effects on pp. 66-67 of the EA. It states that "No measurable reduction in overall growth and yield … would be expected because decades of BLM experience with similar projects has demonstrated that growth accelerates after thinning." The EA does not address landslide potential because all areas with landslide potential are excluded from the proposed action and are not part of the project analyzed.

10.9 Carbon and Climate

11. *Carbon storage and climate change – specific comments include:*

- *Opinion that BLM should manage stands older than 80 years for non-timber objectives including carbon storage to mitigate climate change.*
- *Disagrees with BLM carbon and climate change assessment because no source of greenhouse gasses (GHG) can be considered too small to be significant (de minimus). Expresses opinion that forests must be managed to contribute to "wedges" of the carbon cycle.*
- *Opinion that BLM should buy carbon credits to mitigate climate change and the "time value of carbon".*
- *Opinion that the BLM should "figure out how to incorporate" the "time value of carbon" into NEPA analysis.*

Response to 11: Objectives for BLM managed Public Lands are established in the RMP. See comment and response 1, 3 and 4, above.

The BLM analyzed carbon storage and related issues in EA section 3.3.7, pp. 84-85. The BLM analyzed and disclosed the effects (consequences) of the proposed action (logging and forest management activities) on carbon storage.

This analysis was done at multiple scales (project level, regional, continental and global) and for short term (0-10 years) and long term (11-30 years) temporal scales.

The effects of the proposed action on climate were not analyzed because there are no known models of climate change and carbon/greenhouse gasses interrelationships which are sensitive enough to analyze amounts this small and because the available data would not provide additional information useful for making a reasoned choice among alternatives (EA p. 84-85). The commenters provided no analysis to indicate that the BLM's analysis of carbon storage is in error or that there is any internationally accepted model that can analyze potential effects of this small magnitude on climate change, so the commenter provided no basis for me to change the analysis method or conclusions.

I reviewed and considered the commenter's previous comments on the carbon analysis in other recent timber harvest EAs. I responded to similar, though more detailed, comments in the Gordon Creek Decision Rationale, April 28, 2009 and in my protest response to Oregon Wild April 26, 2010.

The BLM has no authority, mechanism or direction to purchase carbon credits.

The commenter presented "time value of carbon" only as a theoretical concept. The BLM knows of no accepted scientific models or other tools to use to analyze this concept and the commenter provides none, so there is no known basis on which the BLM can "figure out how to incorporate" this concept into its NEPA analysis.

.

10.10 Wild and Scenic River, Visual Resources and Recreation

12. *Wild and Scenic River (WSR) values, Visual Resource Management (VRM) and Recreation*

- *Question: How many acres of the project are in the WSR corridor?*
- *Opinion that meeting the Outstandingly Remarkable Values for fisheries and scenic qualities needs to meet the 80% level of the DecAid model.*
- *Opinion that "This section [WSR] was quite well done."*
- *Statement that commenter is "…pleased that BLM management actions will not compromise the potential classification of 'Scenic' for the lower North Fork Clackamas River, as this is a resource of particular importance to me."*
- *Commenter claims to have observed many active OHV trails and shooting trespasses in the project area, also paintball.*
- *Concern expressed about potential unauthorized use access via new and renovated roads.*
- *Concern expressed that "restricted use" would prevent public access and monitoring opportunities for interested public. Unclear what those restrictions would be.*

Response to 12: The selected action includes approximately 16 acres within the WSR corridor, which extends ¼ mile each side of the North Fork Clackamas River in the project area. Six acres of Unit 1 and 10 acres of Unit 2 are within the corridor (Airstrip Thinning Selected Action map, DR section 9.0, and GIS spatial data).

Criteria for eligible Scenic classification and Fisheries Outstandingly Remarkable Values do not require the use of DecAid model, or any other particular model for modeling dead wood. The DecAid model for decadent wood levels is one of several methods for evaluating levels of snag and down wood habitat. The BLM uses different methods based on stand exam data and field evaluations by professional wildlife and fisheries biologists. The BLM has determined that VRM Class 2 standards would preserve the scenic and fisheries characteristics that make this river segment eligible for WSR status.

The commenter did not provide specific locations where they have observed active OHV and shooting trespasses on BLM land in the project area. BLM field personnel have observed many instances of historic OHV and shooting activity on BLM managed land, but very few instances of current activity and minimal damage. The project design features and timber sale contract contain measures to prevent OHV access and shooting after the project is completed (see comment and response 10, soil and other resource damage). BLM personnel did observe evidence of paintball and other group activities, but litter was the only resource damage noted from these activities. The road alignment on the old airstrip has a curve that will prevent the long sight-line that was the attractive feature for historic shooting in this location. (EA pp. 29 #7, 31 #35, 86-88)

Public safety is important. Normal procedures for restricting unauthorized access to dangerous areas in active logging operations as required by the Oregon Occupational Health and Safety Administration (OR-OSHA), and providing security for logging equipment will be implemented. Public access to all other areas will be delayed at times during active operations, but not closed. No restrictions beyond those necessary for public safety and security of logging operations are planned. (EA pp. 14; 29 #7; 30 #15, #20; 31 #35; 88.)