

# The Moon Creek Projects

## Decision Rationale

Environmental Assessment Number OR086-08-05

December 2008

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

Township 3 South, Range 8 West, Sections 3, 5, 7-11, 13-15, 18 and 24, Willamette Meridian  
Nestucca River 5<sup>th</sup> field Watershed  
Tillamook County, Oregon

Responsible Agency:                   USDI - Bureau of Land Management

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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-08/078+1792**

## I. INTRODUCTION

The Bureau of Land Management (BLM) conducted an environmental analysis documented in *The Moon Creek Projects Environmental Assessment* (EA # OR086-08-05) and the associated project file. The proposed projects include 1) density management thinning on approximately 420 acres of 30-55 year old, relatively dense Douglas-fir and western hemlock stands, construct and then fully decommission<sup>1</sup> approximately one-half mile of new temporary road, renovate approximately 2.5 miles of existing road and then fully decommission 2 miles of those roads, and reopen and then re-decommission<sup>2</sup> approximately 4.5 miles of previously decommissioned rocked road; and 2) coarse wood development project on approximately 300 acres of forest stands between about 90 and 125 years old. An unsigned Finding of No Significant Impact (FONSI) and the EA were then made available for public review.

The decision documented in this Decision Rationale (DR) is based on the analysis documented in the EA.

## II. DECISION

### Project 1 – Density Management Thinning

I have decided to implement the Moon Creek Density Management Thinning Project as described in Alternative 1 (EA pp.11-22). This decision is based on site-specific analysis in the Moon Creek Projects Environmental Assessment (EA # OR086-08-05), the supporting project record, management recommendations contained in the Nestucca Watershed Analysis; as well as the management direction contained in the *Salem District Record of Decision/Resource Management Plan* (ROD\RMP) (May 1995), which are incorporated by reference in the EA. Hereafter, Alternative 1 is referred to as the “selected alternative”. A map of the selected alternative can be found on page 7 of this Decision Rationale.

The project will be implemented through a commercial timber sale most likely in the year 2010:

#### **Modifications:**

None.

#### **Decision Summary:**

1. **Timber Harvest:** Approximately 420 acres of 30-55 year old predominantly Douglas-fir and western hemlock stands will be thinned from below in a variable-spaced manner by removing suppressed, co-dominant, and occasional dominant trees (thinning from below). In general, the larger-diameter conifers with relatively high live crown ratios and healthy appearing crowns will be retained, regardless of spacing. Thinning will occur only in the

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Definitions taken from Revised 2002 BLM Western Oregon Districts Transportation Management Plan:

<sup>1</sup> Fully Decommission – Road closed permanently to vehicles with a barrier, in a maintenance free condition. Generally have culverts removed and road bed prepared for reestablishment of vegetation. Road template remains on the landscape.

<sup>2</sup> Decommission – Road closed to vehicles on a long term basis (>5 years) but may be used again. Left in an erosion resistant condition, no maintenance planned but could be placed back into use at a reasonable cost.

Douglas-fir and western hemlock component; all other species are reserved to preserve species diversity. All hardwood trees are to be retained and counted toward achieving the recommended basal area target levels. As identified in the *Late-Successional Reserve Assessment for Oregon's Northern Coast Range Adaptive Management Area* (January 1998) (LSRA), generally trees larger than 20 inches diameter will be reserved from harvest, with many of larger trees incidentally felled to facilitate harvest being left on site as coarse woody debris. Approximately 38 percent of the project area will be harvested using ground-based logging equipment, and the remaining 62 percent will be harvested using skyline yarding systems.

2. **Road Work:** Approximately one-half mile of new temporary road construction will occur on BLM land to access the treatment areas. Another 2.5 miles of existing roads under BLM control will be renovated as necessary to accommodate yarding and log-hauling. All of the new temporary road and two miles of the renovated roads will be fully decommissioned and blocked following timber harvest and associated activities. Four and one-half miles of currently existing decommissioned road will be reopened for use during the timber sale activity and then will again be decommissioned at the conclusion of sale activities. Overall there will be a two mile decrease of existing road in the Moon Creek subwatershed as a result of the full decommissioning of two mile of renovated existing road. See footnotes on page 3 above for definitions of *decommission* and *fully decommission*.
3. **Culvert Work:** Section 11- Three culverts along the upper portion of East Creek Road will be permanently reinstalled on 1st and 2nd order streams. A new culvert will be temporarily installed at a 2nd order stream crossing on the 3-7-11.3 road which will access unit 11-2. This installation location will be in an area where the stream has eroded through the road fill and established a new channel. The culvert will be placed in the new channel and removed at the end of the timber sale contract period. Finally, a one or two culvert system will be reinstalled temporarily at the East Creek crossing in the NE ¼ of Section 11. The East Creek crossing will allow access to approximately 30 acres of treatment units and be in place for only one Oregon Dept. of Fish and Wildlife (ODFW) defined in-stream work season (July 1 – September 15). Consequently, all operations that will need access across East Creek at that site will need to be completed within the one dry season constraint. The reason for this constraint is that the cost of installing a culvert that will accommodate 100 year flood events (required in order to be in place during the winter) at the East Creek crossing will be prohibitive for the access of only 30 acres and thus potentially cause the timber sale to be economically infeasible. With the exception of the East Creek crossing, all culverts, including the temporary pipes, will be sized to accommodate a 100 year flood event.

Section 13- A total of eight culverts will be reinstalled on 1st and 2nd order streams to facilitate harvest activities. Four culverts placed in the NW ¼ of Section 13 will be temporary culverts that will be removed at the completion of the timber sale; the other four culverts will remain in place permanently. One small culvert that is currently in place will also be removed at the completion of the timber sale. All culverts will be sized to accommodate a 100 year flood event.

4. **Fuels Treatments:** Fuel treatment strategies will be implemented on portions of the project areas as needed to reduce both the intensity and severity of potential wildfires in the long term. Strategies may include landing piling and possibly burning, pull back of slash along

private ownership plantations, lopping and scattering or, hand or machine piling and burning of excess slash along heavily traveled roads.

All design features described in the EA (pp. 11-22) will be incorporated into the timber sale contract.

### **Project 2 – Coarse Wood Development**

I have decided to implement the Moon Creek Coarse Wood Development Project as described in Alternative 1 (EA p. 62). This decision is based on site-specific analysis in the Moon Creek Projects Environmental Assessment (EA # OR086-08-05), the supporting project record, management recommendations contained in the Nestucca Watershed Analysis; as well as the management direction contained in the *Salem District Record of Decision/Resource Management Plan (ROD\RMP)* (May 1995), which are incorporated by reference in the EA. Hereafter, Alternative 1 is referred to as the “selected alternative”. A map of the selected alternative can be found on page 8 of this Decision Rationale.

#### **Modifications:**

None.

#### **Decision Summary:**

Coarse wood development treatments will occur on approximately 300 acres of 90 to 115 year old forest stands in about 20 separate units ranging between 2 and 85 acres in size. One 30 acre stand is approximately 125 years old, but it was thinned and salvaged in the 1960s and consequently is deficient in snags and large down wood. Review of these stands has found that there are few sound snags and large down wood in recent decay stage. Creating snag and down wood features will have immediate benefit to animals that require those elements such as pileated woodpeckers, which are important ecological engineers that in turn provide habitat for a host of secondary cavity users, one of which is the flying squirrel, the primary prey species for the spotted owl.

The Coarse Wood Development project will also “seed” some steep headwater streams with large wood by falling some trees directly into the stream channel. The effect will be such that if the headwall were to fail, the resultant debris flow will contain stabilizing structure that may slow the flow and thus reduce the amount of sediment that may potentially reach fish bearing stream sections or, if the failure is on a large enough scale, the wood could reach the fish bearing stream and provide additional structure there.

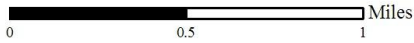
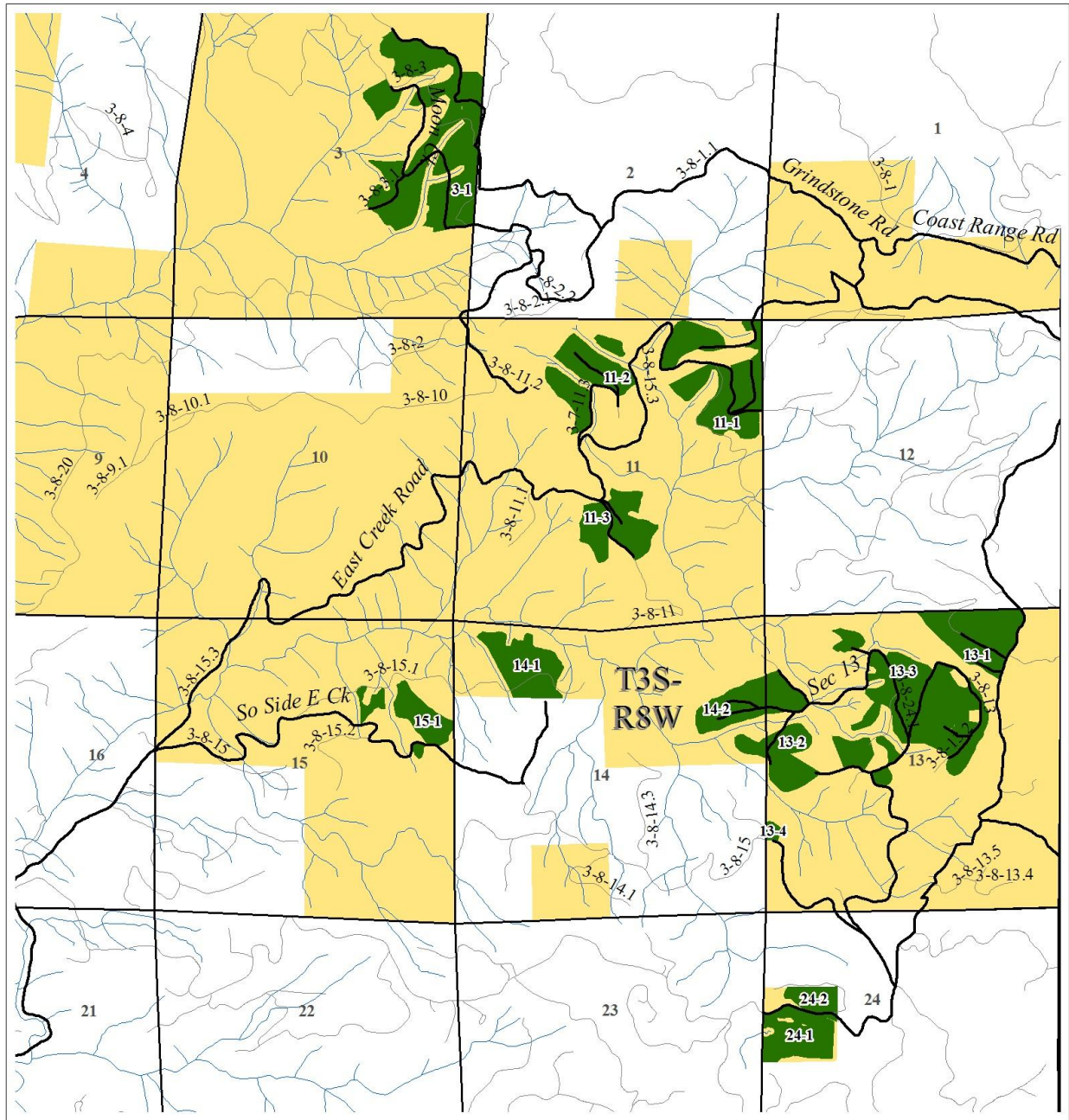
The selected alternative includes all the design features described in the EA (pg. 62).

### **III. COMPLIANCE WITH DIRECTION**

The analysis documented in the Moon Creek Projects EA is site-specific and supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS). These projects have been designed to conform to the *Salem District Record of Decision and Resource Management Plan*, May 1995 (ROD/RMP) and related documents which direct and provide the legal framework for management of BLM lands

within the Salem District (EA pg. 8). All of these documents may be reviewed at the Tillamook Resource Area office.

# Proposed Density Management Treatment Areas

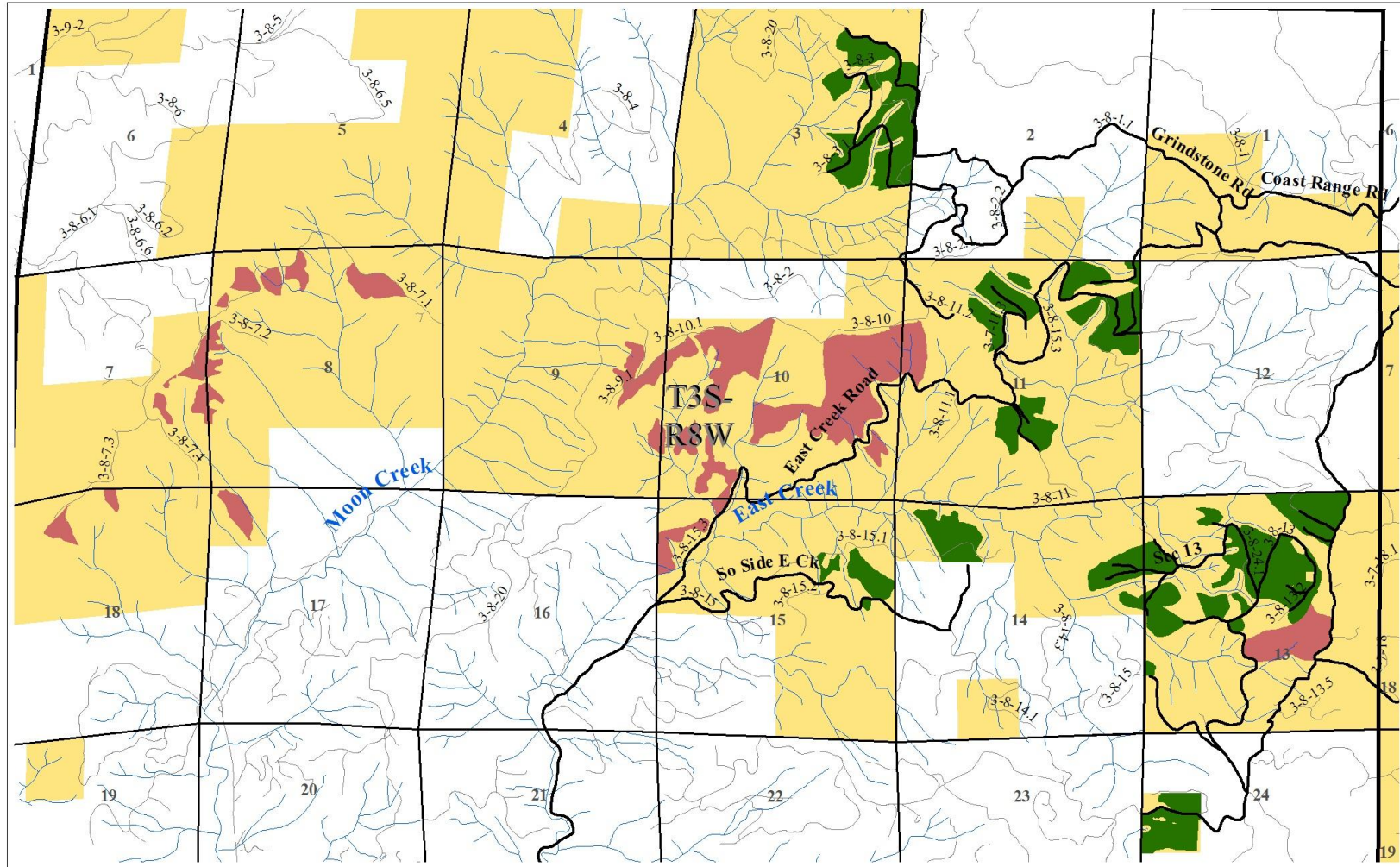


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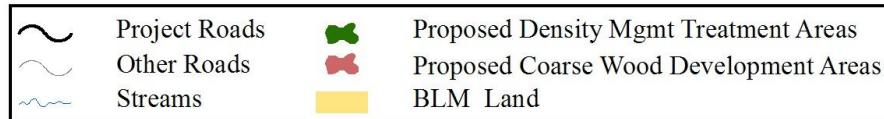
	Project Roads
	Other Roads
	Streams
	Proposed Density Mgmt Treatment Areas
	BLM Land



### Proposed Coarse Wood Development Areas



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## **Northern Spotted Owl (NSO) Status Review:**

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

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

## **IV. ALTERNATIVES CONSIDERED**

### **Alternatives Considered but Not Analyzed in Detail:**

None.

### **Alternatives Considered in Detail:**

The EA analyzed the effects of the proposed action and the no action alternatives. Complete descriptions of the "action" and "no action" alternatives are contained in the EA, pages 11-22, and 62-64.

## **V. DECISION RATIONALE**

### **Project 1 – Density Management Thinning**

Considering public comment, the content of the EA and supporting project record, the management recommendations contained in the Nestucca Watershed Analysis, and the management direction contained in the ROD/RMP, I have decided to implement the selected alternative as described above. The following is my rationale for this decision.

1. The selected alternative:
  - Meets the purpose and need of the project (EA section 2.1), as shown below in Table 1.
  - Complies with the *Salem District Record of Decision and Resource Management Plan*, May 1995 (ROD/RMP) and related documents which direct and provide the legal framework for management of BLM lands within the Salem District (EA pp. 8-9).

- Complies with the *Record of Decision for the Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl*, April 1994 (Northwest Forest Plan ROD)
  - Considers new information on the northern spotted owl (DR p.9).
  - Will not have significant impact on the affected elements of the environment (DR pp. 10-11) beyond those already anticipated and addressed in the RMP/FEIS.
  - Has been adequately analyzed.
2. The No Action alternative was not selected because it does not meet the Purpose and Need directly, or delays the achievement of the Purpose and Need (EA section 2.1), as shown in Table 1.

**Table 1: Comparison of the Alternatives with Regard to the Purpose of and Need for Action – Project 1**

<i>Purpose and Need (EA section 2.1)</i>	<i>No Action</i>	<i>Selected Action</i>
If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines, they will be kept to a minimum, be routed through unsuitable habitat where possible, and be designed to minimize adverse impacts. (RMP/ROD p.17).	N/A. With no action, no new roads would be constructed.	Fulfills. Considerable effort was made to minimize new road construction/renovation and roads were designed to minimize adverse impacts.
Reduce existing road mileage within Key Watersheds...  Focus watershed restoration on removing some roads and, where needed, upgrading those that remain in the system” (RMP/ROD p. 7)	Does not fulfill.	Fulfills. The Moon Creek Projects will reduce existing road mileage in the Upper Nestucca River Key Watershed by 2 miles.
Apply silvicultural treatments to restore large conifers in Riparian Reserves”. (RMP/ROD p. 7).	Does not fulfill.	Fulfills. Silvicultural treatment will occur in approximately 148 acres of Riparian Reserve with the intention of improving growing conditions in overstocked stands.
If needed to create and maintain late-successional forest conditions, conduct thinning operations in forest stands up to the 110-year age class (106 to 115 years). This will be accomplished by precommercial or commercial thinning of stands regardless of origin. (RMP/ROD p. 15).	Partially fulfills. The stands proposed for treatment will continue to mature	Fulfills. Variable Density Thinning of these dense, uniform Douglas-fir/ western hemlock stands will accelerate development of late-successional characteristics in comparison with doing nothing.

<i>Purpose and Need (EA section 2.1)</i>	<i>No Action</i>	<i>Selected Action</i>
Development of old-growth forest characteristics including snags, logs on the forest floor, large trees, and canopy gaps that enable establishment of multiple tree layers and diverse species composition. (NW Forest Plan ROD/ S&G's p. B-5)	Partially fulfills. The stands proposed for treatment will continue to mature	Fulfills. Silvicultural action in the Moon Creek Projects will create and/or accelerate the development of some characteristics of old-growth forests.
Prevention of large-scale disturbances by fire, wind, insects and diseases that would destroy or limit the ability of the reserves to sustain viable forest species populations.	Does not fulfill. Over dense stands can become unstable making them susceptible to wind damage and possibly subsequent insect damage.	Fulfills. The selected alternative will reduce competition on most acres and lead to more windfirm and resilient stands with better opportunity to develop into high quality late-seral stands
Apply silvicultural practices for RR's to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives." (NW Forest Plan ROD/ S&G's p. C-32)	Does not fulfill.	Fulfills. Silvicultural action in the Moon Creek Projects will create and/or accelerate the development of some characteristics of old-growth forests.

**Project 2 – Coarse Wood Development**

Considering public comment, the content of the EA and supporting project record, the management recommendations contained in the Nestucca Watershed Analysis, and the management direction contained in the ROD/RMP, I have decided to implement the selected alternative as described above. The following is my rationale for this decision.

1. The selected alternative:
  - Meets the purpose and need of the project (EA section 3.1), as shown below in Table 2.
  - Complies with the *Salem District Record of Decision and Resource Management Plan*, May 1995 (RMP) and related documents which direct and provide the legal framework for management of BLM lands within the Salem District (EA p. 61).
  - Considers new information on northern spotted owl (DR p. 9).
  - Will not have significant impact on the affected elements of the environment (DR p. 12) beyond those already anticipated and addressed in the RMP/FEIS.
  - Has been adequately analyzed.
  
2. The No Action alternative was not selected because it does not meet the Purpose and Need directly (EA section 3.1), as shown in Table 2.

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

<i>Purpose and Need (EA section 4.1)</i>	<i>No Action</i>	<i>Selected Action</i>
Enhance and maintain biological diversity and ecosystem health in order to contribute to healthy wildlife populations (ROD/RMP pg. 24)	Does not fulfill. Does not enhance biological diversity and ecosystem health.	Fulfills. Enhances biological diversity and ecosystem health on approximately 300 acres.
Design projects to improve conditions for wildlife if they provide late-successional habitat benefits or if their effect on late-successional associated species is negligible (ROD/RMP pg. 25);	Does not fulfill. Does not improve conditions for wildlife.	Fulfills. Improves conditions for wildlife by enhancing beneficial late-successional habitat features on approximately 300 acres.
Provide down wood and snags in the size and decay class distribution reflective of the stand age (Nestucca WA pg. 64)	Does not fulfill. Stands would remain deficient in snags and down wood	Fulfills. Contributes toward alleviating the snag and down wood deficit.
Design and implement watershed restoration projects that promote long-term ecological integrity of ecosystems...(ROD/RMP pg. 14)	Does not fulfill. Fails to implement restoration project.	Fulfills. Enhances biological diversity and ecosystem health on approximately 300 acres.

**VI. PUBLIC INVOLVEMENT/CONSULTATION/COORDINATION**

**Scoping:**

A description of the proposal was included in the Salem Bureau of Land Management Project Update which was mailed to more than 1000 individuals and organizations. A letter asking for scoping input on the proposal was mailed on November 7, 2007 to 44 individuals, groups and agencies that were potentially affected and/or interested in management activities in the resource area as a whole or in this area in particular. A total of four letters and one phone response were received as a result of this scoping. Responses to these comments can be found in Appendix 1 of the EA.

**Comment Period and Comments:**

Based on the original response, the EA was mailed to 8 agencies, individuals and organizations on November 5, 2008. A legal notice was placed in the *Headlight Herald* newspaper in Tillamook, Oregon soliciting public input on the action on November 5, 2008. A total of two comments were received during the 30 day comment period for the EA. Responses to these comments can be found in Appendix A of this Decision Rationale.

**Consultation/Coordination:**

## **Project 1 – Density Management Thinning**

### Wildlife Consultation

Currently, the Moon Creek Density Management Project is planned to be implemented via one timber sale in fiscal year 2010. Consultation with the U.S. Fish and Wildlife Service (USFWS) as provided in Section 7 of the Endangered Species Act (ESA) of 1973 (16U.S.C. 1536 (a)(2) and (a)(4) as amended) will be accomplished by inclusion of this timber sale into one Programmatic Biological Assessment for FY 2009 and 2010 Habitat Modification Projects prepared by the terrestrial sub-group of the North Coast Province Interagency Level 1 Team.

Should the timber sale project not be implemented (sold) within FY 2010 as currently planned but rather in a subsequent year, the project would likely be resubmitted for inclusion in the next appropriate programmatic consultation. If the project is determined by USFWS to not be in compliance with the standards of the programmatic consultation, the projects would be changed to be in compliance with the programmatic consultation or a project-specific consultation would be conducted. In either case, project implementation will be consistent with any direction contained in the Letter of Concurrence resulting from the consultation process.

### Fisheries Consultation

Informal consultation under Section 7 of the Endangered Species Act for potential impacts resulting from implementation of the Moon Creek Density Management Project to Oregon Coast coho is expected to be done programmatically in the *Biological Assessment for Fiscal Year 2010-2011 Low- Risk Thinning Timber Sales on Bureau of Land Management and National Forest land in the North Coast Province*. Project implementation will be consistent with any direction contained in the Letter of Concurrence resulting from the consultation process. Consultation for the Magnuson-Steven Fishery Conservation and Management Act which concerns Oregon Coast coho and chinook salmon will not be requested as it was determined that these density management actions will not adversely affect Essential Fish Habitat for those species.

## **Project 2 – Coarse Wood Development**

### Wildlife Consultation

Consultation with U.S. Fish and Wildlife Service (USFWS) as provided in Section 7 of the Endangered Species Act (ESA) of 1973 (16U.S.C. 1536 (a)(2) and (a)(4) as amended) will be accomplished by inclusion of the Moon Creek Coarse Wood Development Project into the appropriate Programmatic Biological Assessment for Projects that may Disturb listed terrestrial species prepared by the terrestrial sub-group of the North Coast Province Interagency Level 1 Team. Because implementation of the project is dependent upon funding and it will likely take several fiscal years to fully implement, it may be included in more than one programmatic consultation if necessary. Project implementation will be consistent with any direction contained in the Letter of Concurrence resulting from the consultation process.

### Fisheries Consultation

This project is not expected to affect any ESA listed fish or fish habitat covered by the Magnuson-

Steven Fishery Conservation and Management Act (EA p. 70) therefore Section 7 consultation is not necessary.

Review of Aquatic Conservation Strategy Objectives:

I have reviewed this analysis and have determined that the project meets the Aquatic Conservation Strategy in the context of the court rulings involving *Pacific Coast Federation of Fisherman's Association (PCFFA) IV and PCFFA II* [complies with the ACS on the project (site) scale]. The following is an update of how this project complies with the four components of the Aquatic Conservation Strategy (RMP/ROD pg 6-7). The project will comply with:

**Component 1 – Riparian Reserves:** The proposed action is consistent for the following reasons: a watershed analysis has been completed; road and landing locations have been minimized in Riparian Reserves; wetlands have been avoided when constructing new roads; sediment delivery from roads to streams has been minimized.

**Component 2 – Key Watershed:** The project area is within the Upper Nestucca River Tier 1 Key Watershed. A watershed analysis has been prepared (Nestucca Watershed Analysis, October 1994). Some roads will be removed from the watershed (approximately 2 miles at project completion); the silvicultural prescription includes actions that will restore large conifers in Riparian Reserves.

**Component 3 – Watershed Analysis:** The Nestucca Watershed Analysis was completed in October 1994. Recommendations from the watershed analysis were incorporating into the EA.

**Component 4 – Watershed Restoration:** The proposed actions are consistent with the following components of watershed restoration:

Control and prevention of road related run-off and sediment – Road-related runoff will be reduced by spot rocking on haul routes where the subgrade is soft, ruts are developing, and near stream crossings. This spot rocking would occur prior to and during periods of haul. These actions will control and prevent road-related runoff and sediment.

Restoration of the condition of Riparian vegetation – 148 acres of Riparian Reserve will be treated with density management thinning to promote the development of late-successional forest characteristics on an accelerated timeframe. This will occur with no ground-based equipment operating off of existing roads and trails.

Road Removal – The proposed action includes the removal by full decommissioning of approximately 2 miles of road within the Key Watershed and improving others that are used in the implementation of the Density Management Project.

Coarse Wood Development – The Moon Creek Projects will also restore some components of the natural ecosystem that will indirectly contribute to the conservation of the spotted owl.

In addition, I have reviewed this project against the ACS objectives at the project or site scale with the following results: The no action alternative does not retard or prevent the attainment of any of the nine ACS objectives because this alternative would maintain current conditions. The proposed action also does not retard or prevent the attainment of any of the nine ACS objectives (Table 4).

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

<i>Aquatic Conservation Strategy Objective</i>	<i>Remarks (No Action Alternative addresses all projects )</i>
<p>1. Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features.</p> <p><i>None of the Alternatives retard or prevent the attainment of ACS objective 1</i></p>	<p><b>No Action Alternatives:</b> The No Action alternative would maintain the development of the existing vegetation and associated stand structure at its present rate. The current distribution, diversity and complexity of watershed and landscape-scale features would be maintained.</p> <p><b>Project 1 Density Management Action Alternative:</b> The proposed variable thinning in portions of the Riparian Reserve Land Use Allocation (Riparian Reserves) would result in forest stands that exhibit attributes typically associated with stands of a more advanced age and stand structural development (larger trees, a more developed understory), sooner than would result from the No Action Alternative. Since Riparian Reserves provide travel corridors and resources for aquatic, riparian dependant and other late-successional associated plants and animals, the increased structural and plant diversity would ensure protection of aquatic systems by maintaining and restoring the distribution, diversity and complexity of watershed and landscape features.</p> <p><b>Project 2 Coarse Wood Development Action Alternative:</b> Creation of CWD in the project area would enhance, to a small degree, the diversity and complexity of forest stands in the affected watershed. At the landscape scale, diversity and complexity would be maintained.</p>
<p>2. Maintain and restore spatial and temporal connectivity within and between watersheds.</p> <p><i>None of the Alternatives retard or prevent the attainment of ACS objective 2</i></p>	<p><b>No Action Alternatives:</b> The No Action alternative would have little effect on connectivity except in the long term within the affected watersheds.</p> <p><b>Project 1 Density Management Action Alternative:</b> Long term connectivity of terrestrial watershed features would be improved by enhancing conditions for stand structure development. In time, function in these Riparian Reserves would improve as refugia habitat for late successional, aquatic and riparian associated / dependent species. Both terrestrial and aquatic connectivity would be maintained, or improved over the long-term, as Riparian Reserves develop late successional characteristics, lateral, longitudinal and drainage connectivity would be restored.</p> <p><b>Project 2 Coarse Wood Development Action Alternative:</b> Creation of CWD would improve connectivity within and between watersheds by enhancing habitat for late successional dependant species in the treatment areas.</p>

<b><i>Aquatic Conservation Strategy Objective</i></b>	<b><i>Remarks (No Action Alternative addresses all projects )</i></b>
<p>3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.</p> <p><i>None of the Alternatives retard or prevent the attainment of ACS objective 3</i></p>	<p><b>No Action Alternatives:</b> It is assumed that the current condition of physical integrity would be maintained.</p> <p><b>Project 1 Density Management Action Alternative:</b> Physical integrity of channels at crossings with culvert work would be altered for one to several years following repair/maintenance. The majority of stream crossings are on small 1<sup>st</sup> and 2<sup>nd</sup> order stream channels with little or no flow. Maintenance on these stream channels would not have long term effects to physical integrity of these stream channels. Due to the stable nature of channels at these locations, little or no additional disturbance to channel morphology would be expected either upstream or downstream from the crossing. The one larger order stream crossing on East Creek is on a very low gradient reach &lt; 5% slope and is not expected to alter physical integrity upstream or downstream of the stream crossing at this location after removal.</p> <p><b>Project 2 Coarse Wood Development Action Alternative:</b> This project would have no effect on the physical integrity of the aquatic system; therefore the current condition would be maintained.</p>
<p>4. Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems.</p> <p><i>None of the Alternatives retard or prevent the attainment of ACS objective 4</i></p>	<p><b>No Action Alternatives:</b> It is assumed that the current condition of the water quality would be maintained.</p> <p><b>Project 1 Density Management Action Alternative:</b> No-harvest buffers in Riparian Reserves would be maintained. The proposed temporary roads are on ridge top or mid-slope locations with no hydrologic connections or proximity to streams or riparian areas. Overall, the action alternative would be unlikely to have any measurable effect on stream temperatures, pH, or dissolved oxygen. Sediment transport and turbidity in the affected watersheds is likely to increase over the short term as a direct result of road repair and construction, hauling and yarding in and around the Riparian Reserve LUA. Over the long-term (beyond 3-5 years), current conditions and trends in turbidity and sediment yield would likely be maintained under the action alternative.</p> <p><b>Project 2 Coarse Wood Development Action Alternative:</b> This project would have no effect on water quality; therefore the current condition would be maintained.</p>



<b><i>Aquatic Conservation Strategy Objective</i></b>	<b><i>Remarks (No Action Alternative addresses all projects )</i></b>
<p>5. Maintain and restore the sediment regime under which aquatic ecosystems evolved.</p> <p><i>None of the Alternatives retard or prevent the attainment of ACS objective 5</i></p>	<p><b>No Action Alternatives:</b> It is assumed that the current levels of sediment into streams would be maintained.</p> <p><b>Project 1 Density Management Action Alternative:</b> No-harvest buffers in Riparian Reserves would be maintained (minimum of 60 feet in treatment areas). Dry season hauling would minimize sediment delivery. After the sale short-term localized increases in stream sediment can be expected during culvert removal and replacement, but BMPs and mitigation measures would be implemented to limit acceleration of sediment delivery to streams. As a result, it is unlikely that the action alternative would lead to a measurable change in sediment regime, including increases in sediment delivery to streams, stream turbidity, or the alteration of stream substrate composition or sediment transport regime.</p> <p><b>Project 2 Coarse Wood Development Action Alternative:</b> This project would have no effect on the sediment regime; therefore the current condition would be maintained.</p>
<p>6. Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing.</p> <p><i>None of the Alternatives retard or prevent the attainment of ACS objective 6</i></p>	<p><b>No Action Alternatives:</b> No change in in-streams flows would be anticipated.</p> <p><b>Project 1 Density Management Action Alternative:</b> Because the proposed action would remove less than half the existing forest cover, it is unlikely to produce any measurable effect on stream flows. Within the Riparian Reserve LUA, substantial portions of the riparian canopy would be retained, therefore maintaining riparian microclimate conditions and protecting streams from increases in temperature.</p> <p><b>Project 2 Coarse Wood Development Action Alternative:</b> The project would have no effect on in-stream flows.</p>
<p>7. Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.</p> <p><i>None of the Alternatives retard or prevent the attainment of ACS objective 7</i></p>	<p><b>No Action Alternatives:</b> The current condition of flood plains and their ability to sustain inundation and the water table elevations in meadows and wetlands is expected to be maintained.</p> <p><b>Project 1 Density Management Action Alternative:</b> There would be no alteration of any stream channel, wetland or pond morphological feature. All operations, equipment and disturbances are kept a minimum of 60 feet from all wetlands and stream channels. Thus, the current condition of floodplain inundation and water tables would be maintained.</p> <p><b>Project 2 Coarse Wood Development Action Alternative:</b> This project would no effect on floodplains or water table elevation; therefore the current condition would be maintained.</p>

<i>Aquatic Conservation Strategy Objective</i>	<i>Remarks (No Action Alternative addresses all projects )</i>
<p>8. Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands.</p> <p><i>None of the Alternatives retard or prevent the attainment of ACS objective 8</i></p>	<p><b>No Action Alternatives:</b> The current species composition and structural diversity of plant communities will continue along the current trajectory. Diversification will occur over a longer period of time.</p> <p><b>Project 1 Density Management Action Alternative:</b> No-harvest buffers would maintain structural diversity of plant communities within a minimum of 60 feet from all streams and wetlands in treatment areas. Thinning in Riparian Reserve LUA outside of the no-harvest buffers would help to restore species composition by allowing more understory development and structural diversity by creating horizontal and vertical variations that are currently lacking in the riparian treatment areas.</p> <p><b>Project 2 Coarse Wood Development Action Alternative:</b> This project would have very little effect on the species composition and structural diversity of plant communities.</p>
<p>9. Maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species.</p> <p><i>None of the Alternatives retard or prevent the attainment of ACS objective 9</i></p>	<p><b>No Action Alternatives:</b> Habitats will be maintained over the short-term and continue to develop over the long-term with no known impacts on species currently present.</p> <p><b>Project 1 Density Management Action Alternative:</b> The proposed action would have no adverse effect on riparian dependent species. Although thinning activities may affect invertebrates within the treatment areas, adjacent non-thinned areas should provide adequate refugia for the species. In the long term, the treatments would restore elements of structural diversity to treatment areas in Riparian Reserves. These attributes would help to provide resources that are currently lacking or are of low quality, and over the long-term, would benefit both aquatic and terrestrial species.</p> <p><b>Project 2 Coarse Wood Development Action Alternative:</b> Creation of CWD would provide more habitat for populations of native invertebrate and vertebrate riparian-dependant species.</p>

## VII. CONCLUSION

### Finding of No Significant Impact

I have determined that change to the Finding of No Significant Impact (FONSI - December 2008) for the Moon Creek Projects (EA #OR086-08-05) is not necessary because I've considered and concur with information in the EA and FONSI. The comments on the EA were reviewed and no information was provided in the comments that would lead me to believe the analysis, data or conclusions are in error or that the selected action needs to be altered. There are no significant new circumstances or facts relevant to the selected alternative or associated environmental effects that were not addressed in

the EA. The selected alternative would not have effects beyond those already anticipated and addressed in the RMP/FEIS.

**Administrative Review Opportunities**

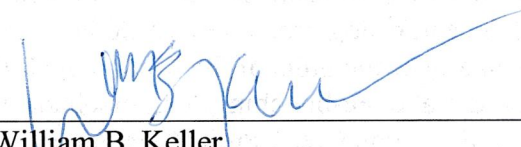
The decision to implement this forest management project may be protested under 43 CFR 5003 - Administrative Remedies. As outlined in 43 CFR 5003 (a) and (b), protests of a forest management decision may be made within 30 days of the publication date of the decision notice and shall contain a written statement of reasons for protesting the decision. The public notice will be in the *Wednesday December 31, 2008* edition of the Tillamook *Headlight Herald* Newspaper. In accordance with the regulations, a protest must be filed by close of business (4:30 p.m.) on *January 29, 2009*, with the Field Manager at the Tillamook Resource Area, 4610 Third Street, Tillamook, Oregon 97141. As interpreted by BLM, the regulations do not authorize acceptance by the BLM of protests in any form other than a signed, paper document that is delivered to the physical address of the BLM office within the 30-day period. Therefore, e-mail, verbal, or facsimile protests will not be accepted.

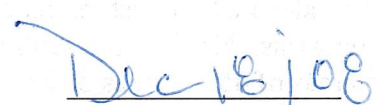
- Density Management Thinning Project: Any objection to the density management thinning project design or my decision to go forward with this project must be filed at this time in accordance with the protest process outlined above.

At the time of advertisement (notice of sale) what constitutes a protestable decision is limited to 1) whether there has been new BLM direction requiring a change from that in the Moon Creek Projects EA and/or 2) changes between the timber sale design as described in the Moon Creek Projects EA and that in the final timber sale contract.

- Coarse Wood Development Project: Any objection to the Coarse Wood Development 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.

Approved by:

  
\_\_\_\_\_  
William B. Keller  
Tillamook Resource Area Field Manager

  
\_\_\_\_\_  
Date

## APPENDIX A:

### RESPONSE TO PUBLIC COMMENTS RECEIVED ON THE MOON CREEK PROJECTS ENVIRONMENTAL ASSESSMENT AND DRAFT FONSI (EA#OR086-08-05)

On November 5 2008, a copy of the Moon Creek Projects EA (Environmental Assessment), including Appendices, was sent to 8 individuals, organizations and agencies (Project Record Document 20). As a result of this scoping effort, two letters providing comments were received - Project Record Document 25 from Jacob Groves at American Forest Resources Council and Project Record Document 26 from Chandra LeGue at Oregon Wild. The following are comments received and BLM's responses to those comments.

#### Project Record Document 25 – Jacob Groves – American Forest Resource Council

**Comment 1:** *“... AFRC supports the Action Alternative, as it meets the stated purpose and need of the Moon Creek Project. After AFRC staff made field visits to the project location, it appears that the Action Alternative has properly identified harvesting systems which should help the project be economically viable and increase the revenues to the government. AFRC also supports the road construction that will help the BLM offer economically viable timber sales.”*

**BLM Response:** Thank you for the comment.

**Comment 2:** *“We would also like to encourage the BLM to take a hard look at allowing mechanical harvesting and pre-bunching of processed logs where possible (slopes less than 45% in EA) on both ground based and skyline units. This will make all phases of the logging considerably more economical and can also treat the slash at the same time.”*

**BLM Response:** Table 1 on page 12 of the EA indicates that approximately 160 of the approximately 420 acre density management project would be harvested by ground-based equipment. Also, page 19 of the EA indicates that harvesters, feller bunchers and/or log processors could be used in ground-based yarding areas. None of the skyline areas in any of the units of the Moon Creek Project have appreciable areas of 45% slopes or less that would make pre-bunching with mechanical harvesters practical. We believe that the design features for the Moon Creek Project are generally consistent with your suggestion.

**Comment 3:** *“It is important on those units where mechanical felling is allowed, that units are identified in the Prospectus so purchasers can bid accordingly.”*

**BLM Response:** This is a good suggestion. While not explicitly a comment concerning the EA, it may have bearing, as you say, on the bidding process. The Tillamook BLM has for some time been allowing mechanical felling and harvesting and has been addressing that eventuality in the EA's while remaining somewhat silent on the matter in the Prospectus and Timber Sale Contract. Apparently we have assumed that Purchasers know that the use of mechanical felling equipment is a possibility on “ground-based” units. A review of a recent Prospectus alludes to the allowed use of “harvesters” but is not explicit about the use of mechanical felling.

**Comment 4:** *“AFRC would like to encourage the BLM to allow for winter harvesting and haul on improved roads for some units (such as skyline units). The blanket seasonal restrictions in the Moon Creek EA make it difficult to operate. Although the BLM may waive these restrictions, it is impossible for a purchaser to incorporate waivers into the bidding process and just assumes operations will not be allowed thus lowering stumpage paid to the BLM.”*

**BLM Response:** During team deliberations The Moon Creek Interdisciplinary Team discussed the possibility of providing for some winter time operational opportunity. However, the team found that the most likely candidate units (skyline units using rocked roads) were accessed via county road that the BLM has no control over, including maintenance associated with BLM timber sales. Unfortunately, these county roads have several crossings over and several long stretches within 100 feet of streams that are designated as critical habitat for Oregon Coast coho, an Endangered Species Act Threatened Species. In order for the project to proceed through the consultation process, one of the conditions that had to be met restricts hauling during wet weather over and near coho streams to extremely well maintained roads that do not increase road generated sediment into, or close to Critical Habitat. Since the county road in question is not an extremely well maintained road and has potential to generate road related sediment runoff into the stream during wet weather, the BLM has no discretion in this case since it cannot control road use or maintenance on this county road.

**Comment 5:** *“AFRC would still like to see the BLM have more flexibility in activity fuels treatments. Rather than specifying a specific method of accomplishing your objectives, you should instead identify the objectives you are trying to accomplish and any limitations to resource disturbance you require.”*

**BLM Response:** Fuels treatments in the Moon Creek Projects are expected to be fairly minor with landing piling/burning or scattering of slash (depending on amount of slash present) being done by machine and possibly some small areas of hand or machine piling and burning (depending on machine reach from roads) along roads or adjacent private property plantations in order to reduce the fire risk associated with public travel along roads or to private plantations. We feel there would be enough flexibility to allow for efficient reduction in fire risk from the harvest operations.

**Comment 6:** *“AFRC would like to voice support for thinning treatments in the riparian areas of the Moon Creek Project. By prescribing small no cut buffers (25-60 feet) to be left to maintain stream temperatures and thinning the remaining acres inside the riparian reserves you can achieve the management objectives of moving them into late seral habitat faster.”*

**BLM Response:** The proposed action for the Density Management Thinning has 60-foot buffers on non-fish bearing streams and will be thinning within about 148 acres of riparian reserve. This is consistent with your suggestion.

## **Project Record Document 26 – Chandra LeGue -- Oregon Wild**

**Comment 1:** *“In general, Oregon Wild is supportive of the proposed action as analyzed. We appreciate the detailed EA and the inclusion of detailed maps and appendices that give a response to comments, an ACS analysis, and a list of past, present, and foreseeable future actions. We also appreciate the detailed Project Design Features listed to describe the way the projects will be undertaken.”*

**BLM Response:** Thank you for the comment.

**Comment 2:** *“While we wish fewer roads needed to be reopened, renovated, and built, we understand the need for economically viable access to the units. We are supportive of the proposed full decommissioning of the new temporary roads and 2 miles of old roads after renovation. We hope the Project Design Features related to road decommissioning – such as blocking access to OHVs – can be fully implemented and monitored for effectiveness.”*

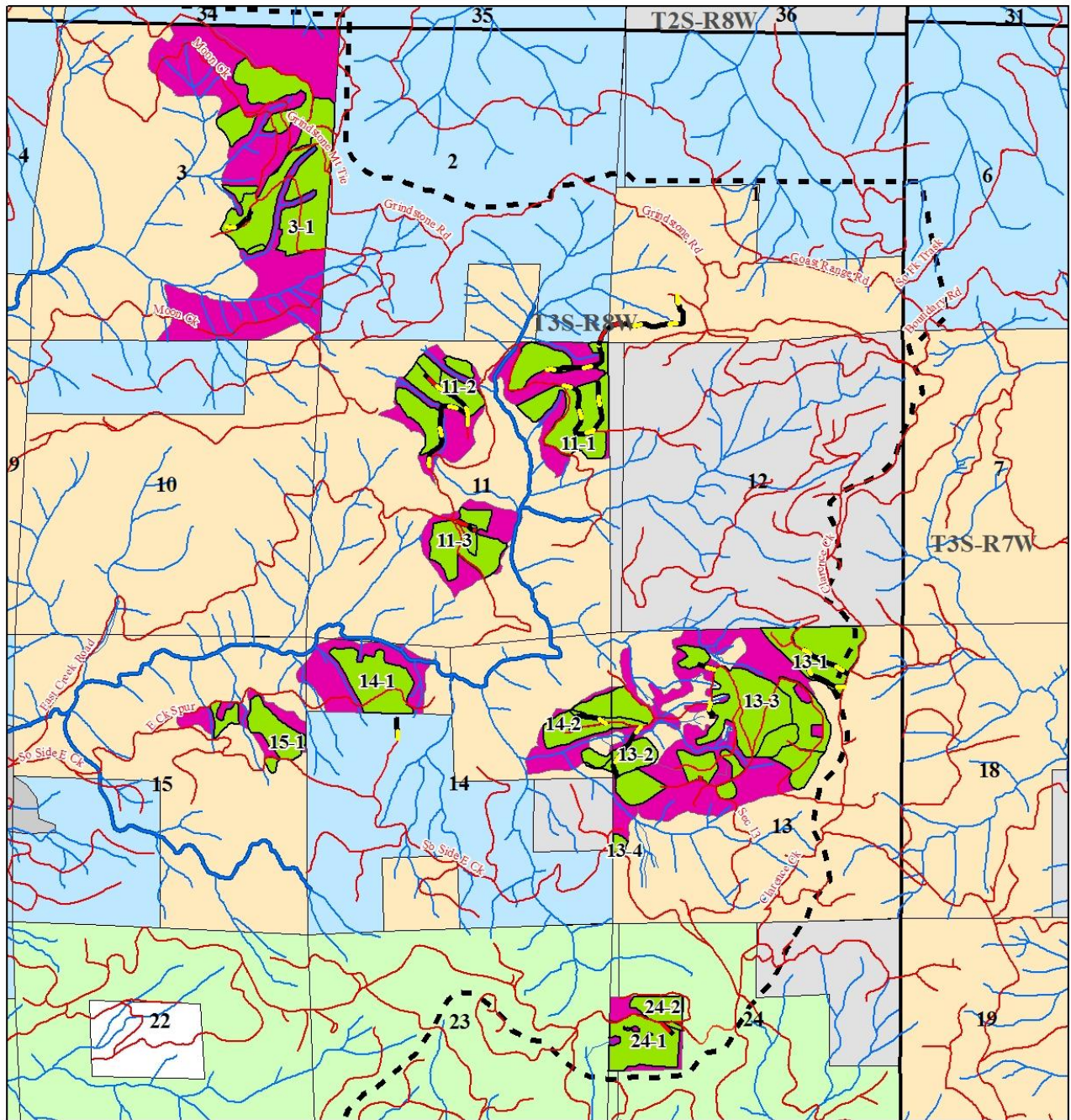
**BLM Response:** Thank you for your support of our full decommissioning strategy. It is our intention to fully implement the Proposed Action, including blocking access to OHV use where intended. OHV use in the area of the proposed Moon Creek projects is currently light and we do not expect any increase as a result of implementing the proposed project. Most of the roads that would be decommissioned and blocked are short spurs and would not offer an attractive riding experience for OHV users, consequently in the event that riders do find a way around the barricades, continued use would not be expected, thus resulting in little or no resource damage

**Comment 3:** *“We are concerned about the loss of snag recruitment for a period of 20-30 years in the density management units. We suggest that you do more to leave weakened and deformed trees in the units (in excess if necessary) and to create at least 2 snags per acre by girdling and topping within the thinning units. This will help make up the snag gap and provide interim habitat as the rest of the stand responds to thinning.”*

**BLM Response:**

During team deliberations The Moon Creek Interdisciplinary Team discussed including a coarse woody debris creation element to the proposed density management project but elected to not carry it forward for the following reasons. As presented in the EA, the stands to be thinned are young and contain relatively small trees (approximate quadratic mean diameters of less than 14 inches) which do not have the ability to provide snags at the time of harvest that would contribute effectively to the ecological health of the stand considering the cost for creating those snags. Additionally, the ID team originally looked at thinning over 800 acres of stands of similar age and composition in the vicinity of the Proposed Action that, except for extenuating circumstances, would also have been good candidates for thinning (see map from the Silvicultural Prescription below). These forested areas were excluded from the Proposed Action due to access problems, logging difficulties, stream buffers, slope stability, high windthrow risk, sensitive species exclusions, etc. In the excluded areas suppression mortality would continue and considering the adjacent proximity to the thinning units would contribute adequate snag production from the smaller diameter classes for the next couple of decades. Lastly, included in the design features for the proposed density management is the requirement to leave some damaged, suppressed and intermediate crown class trees at a rate of 10%-15% per acre in the thinning units (EA pg. 17) with the expectation that some of those would die before the stand again closes and suppression mortality again results in snag habitat development, thus providing some new coarse wood habitat during the post thinning stand response.

## Moon Creek Treatment Units With Untreated Portions of FOI's



Roads	Activity Planning Unit Boundary	Untreated Portions of Treated FOI Units	Ownership
Streams	Treatment Units	BLM	USFS
Proposed Road Work		STATE	PVI
New Construction		PV	
Renovate			

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