

Robb Mill Loader Timber Sale

Final Decision and Decision Rationale

Rickreall Creek Watershed Enhancement Environmental Assessment
DOI-BLM-OR-S050-2010-0004

April 2013

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

Township 7 South, Range 6 West, Section 22, Willamette Meridian
Polk County, Oregon

Responsible Agency: USDI – Bureau of Land Management

Responsible Official: Rich Hatfield, Field Manager
Marys Peak Resource Area
1717 Fabry Road SE
Salem, OR 97306
(503) 315-5968

For further information, contact: Stefanie Larew
Marys Peak Resource Area
1717 Fabry Road SE
Salem, OR 97306
(503) 375-5601



1.0 Introduction

The Bureau of Land Management (BLM) conducted an environmental analysis for the Robb Mill Loader Timber Sale, which is documented in the *Rickreall Creek Watershed Enhancement Environmental Assessment* (Rickreall Creek EA) (EA# DOI-BLM-OR-S050-2010-0004) and the associated project file. This EA analyzed the effects of six timber sales: C-9, Cedar Ridge, Gilmore, Rick-Line, Robb Mill Loader, and Waymire. This decision authorizes the implementation of only those activities directly related to and included within the Robb Mill Loader Timber Sale. This sale is located within the Adaptive Management Area (AMA) and Riparian Reserves land use allocations in the Rickreall Creek fifth field watershed in Polk County, Oregon.

2.0 Decision

I have decided to implement the Robb Mill Loader Timber Sale as described in the Proposed Action (EA pp. 15 to 26), hereafter referred to as the “selected action.” The selected action is shown on the maps included within this Decision Record (DR). This decision is based on site-specific analysis in the Rickreall Creek Watershed Enhancement EA, the supporting project record, management recommendations contained in the *Mill Creek, Rickreall Creek, Rowell Creek, Luckiamute River Watershed Analysis* (1998), as well as the management direction contained in the *Salem District Resource Management Plan* (RMP) (May 1995), which are incorporated by reference in the EA.

Decision Summary

The following is a summary of this decision

Density Management

- Variable density thinning on approximately 183 acres of 53 year old forest¹ within AMA and RR.
 - Within the AMA – 153 acres
 - Within the RR – 30 acres
- Approximately two acres of clearing for road construction and renovation (described below)
- Approximately 3,089 MBF of timber will be harvested.

Timber Yarding Methods

- Ground-Based yarding – 151 acres
- Skyline yarding – 32 acres

Fuels

- Post-harvest fuel hazard surveys and recommendations for treatments to reduce fuel loading.

Roads

- Construction of two temporary roads totaling approximately 0.36 miles (1,900 feet

¹ 2013 ages. Stands naturally regenerated over several years after harvest 1960. Few trees remain from the original stand. Such trees are often referred to as “legacy” trees.
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total: 1,640 feet is within the AMR, 260 feet is located within the Riparian Reserves.)

- Renovation of approximately 4.26 miles of existing road. Within existing roads spot rock application, blading, and brushing may occur.
- Following harvest, decommissioning will occur on all newly constructed roads and on the renovated 7-6-23 road (totaling 0.77 miles). Decommissioning entails installing waterbars or other sharing of roads for drainage, placing woody debris, and/or seeding with native species. Earth and debris berms, large boulders, or other methods determined to be effective for each site may be used to block these roads.

Trails

- Bicycle trails, as mapped in the EA and on the Selected Action Map in this DR, will be restored as described in the EA (p. 43)

Project Design Features

- Design features and mitigation measures described in the EA (pp. 36-43) will be incorporated into the timber sale contract.

Project Developments since the EA was published

Road Work: The interdisciplinary team (IDT) made minor modifications to the location of the temporary new road construction in the northern part of section 22. The original road construction consisted of a single road, much of which was located in the Riparian Reserves. The IDT determined that the road should be shifted slightly south of the original design for logging feasibility and resource protection purposes. The road was also split into two segments. Approximately 260 feet of temporary new road construction now occurs within the Riparian Reserves.

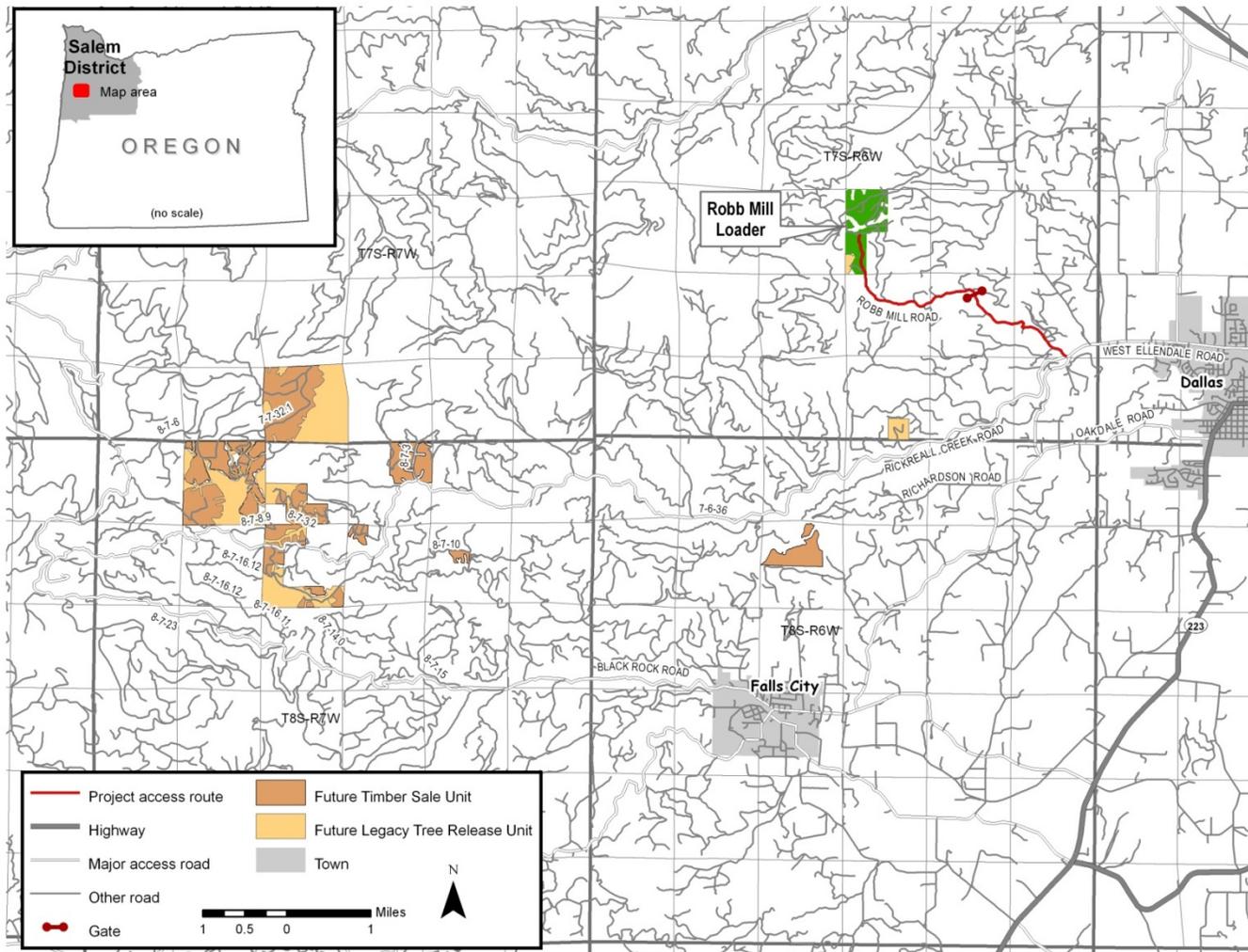
Project Boundaries: The EA analyzed 197 acres for the Robb Mill Loader Timber Sale: 151 in the AMA and 46 in the Riparian Reserves. These draft boundaries and fixed-width buffers (100 feet) provided an area for analysis for the IDT. Throughout the planning process, the boundaries were refined to reflect on-the-ground conditions, logging feasibility, and resource needs. The final project area was calculated using GPS and Geographic Information Systems data in 2012. The final timber sale unit area amounted to 183 acres. The 14 acre reduction occurred within the Riparian Reserves, where no-harvest buffer widths often greatly exceeded the 100 foot average requirement.

Location and Selected Action maps appear on the following pages.

3.0 Location and Selected Action Maps

The map below shows the location of the Robb Mill Loader Timber Sale in relation to neighboring communities and other projects analyzed in the Rickreall Creek Watershed Enhancement EA.

Map 1. Location Map



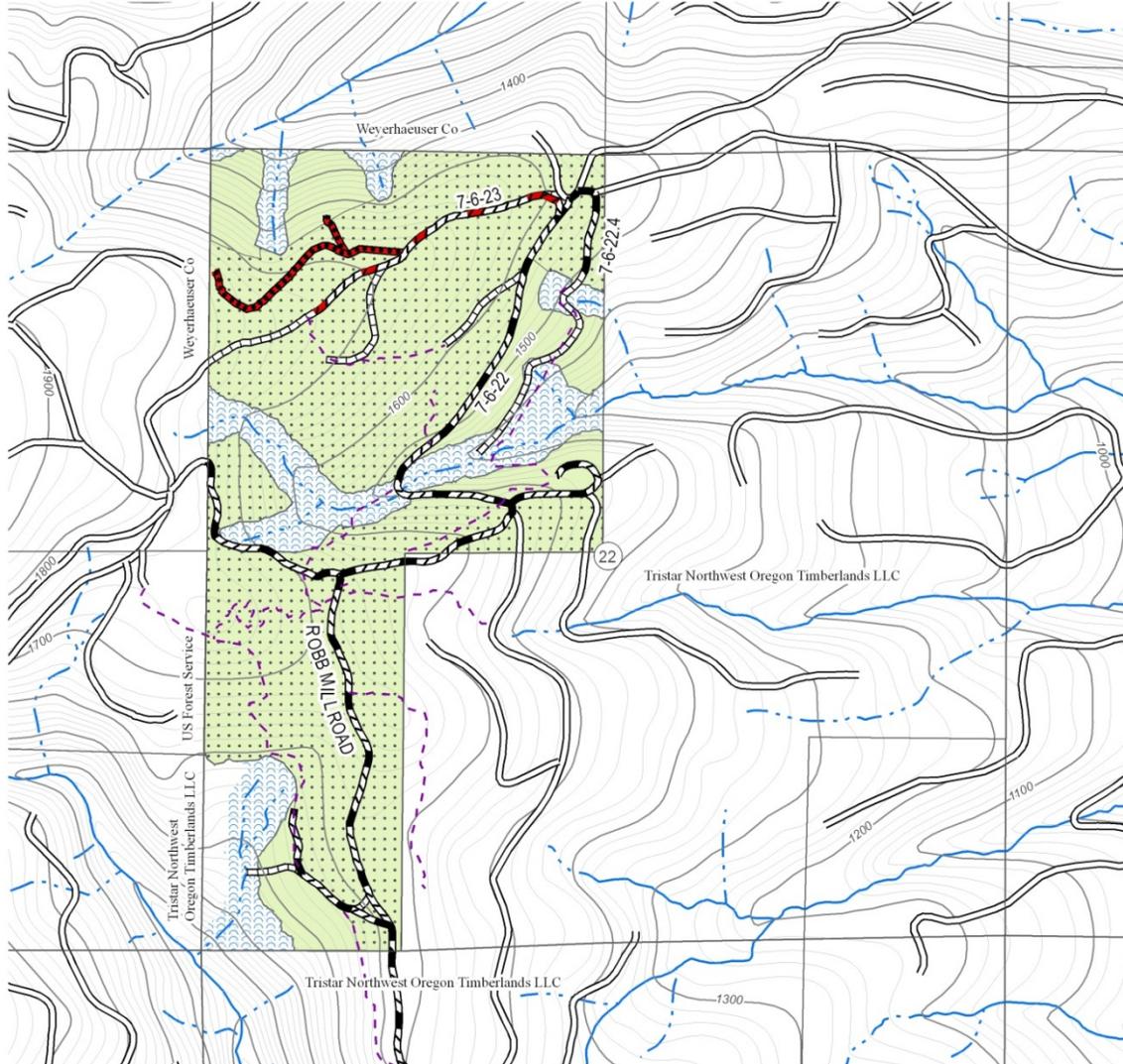
Map 2. Selected Action

United States Department of the Interior - BUREAU OF LAND MANAGEMENT

Selected Action

ROBB MILL LOADER TIMBER SALE

T. 7 S., R. 6 W., Section 22



Contour interval: 20 ft.



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Data was compiled from multiple sources and may not meet U.S. National Mapping Accuracy Standard of the Office of Management and Budget.



4.0 Alternatives Considered

The EA analyzed the effects of the No Action, Proposed Action, and No New Road Construction alternatives. No unresolved conflicts concerning alternative uses of available resources (section 102(2) (E) of NEPA) were identified. No alternatives were considered, but not analyzed in detail for the Robb Mill Loader Timber Sale. Complete descriptions of the three alternatives are contained in the EA, pp. 15 to 36.

5.0 Decision Rationale

Considering public comment, the content of the EA and supporting project record, the management recommendations contained in the *Mill Creek, Rickreall Creek, Rowell Creek, Luckiamute River Watershed Analysis* and the management direction contained in the RMP, I have decided to implement Alternative 2, the selected action, as described in section 2.0 of this DR. The following is my rationale for this decision.

The Selected Action:

- Best meets the purpose and need of the project (EA section 1.6), as shown in *Table 1*.
- Complies with the Salem District's Record of Decision and Resource Management Plan (1995 ROD/RMP)
- Will not have significant impact on the affected elements of the environment (2012 FONSI) beyond those already anticipated and addressed in the RMP FEIS.
- Is economically viable. This sale will produce revenue for the Federal Government and provide jobs for Oregonians.
- Meets Aquatic Conservation Strategy Objectives (EA, pp. 128-138).
- Has been adequately analyzed.

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 as shown in *Table 1* on the following page.

Table 1. Comparison of the Alternatives with Regard to the Purpose of and Need for Action

Purpose and Need (EA Section 1.6)	Alternative 1 No Action	Alternative 2 Proposed Action	Alternative 3 No New Road Construction
<p>Restore and maintain late-successional forest conditions which serve as habitat for late-successional forest species, which can be consistent with marbled murrelet guidelines (RMP p. 19).</p>	<p>Understory regeneration, shrubs etc. would be lacking. The current pattern of habitat use by wildlife species within these project areas would be expected to continue unchanged. Dispersal habitat conditions for spotted owls would remain unchanged.</p> <p>No timber harvest would occur consequently no spatial and structural diversity would occur.</p>	<p>Short-term, increases horizontal spatial variability (gaps and clumps), minor reduction and disturbance to existing CWD material (snags and down logs) resulting from project activities. Reduced recruitment rate of small sized CWD would be partially offset by immediate creation of larger CWD of desirable size, and augmentation of decadence processes; retention of hardwood tree and shrub diversity.</p> <p>Long-term, the gradual transition in structural characteristics would more closely resemble late-seral forest (larger diameter trees and limbs, sub-canopy development, greater tree species diversity, greater volume and size of hard CWD, canopy gaps), and extends persistence of hardwood tree and shrub cover diversity.</p>	<p>Similar to Alternative 2 except fewer acres would receive treatment in the AMR.</p>
<p>Accelerate growth of trees to restore large conifers to RR (RMP p. 7).</p>	<p>Without treatment stand structure would remain relatively uniform, except for gaps created by disturbance.</p>	<p>Retains trees which would reach larger diameters earlier compared to the no treatment option, creating natural opportunities for higher quality LWD recruitment in the long-term.</p>	<p>Similar to Alternative 2, but would occur on fewer acres of Riparian Reserve.</p>
<p>Enhance or restore habitat for populations of native riparian-dependent plants, invertebrates, and vertebrate species (RMP p. 7).</p>	<p>Maintains existing forest conditions which are lacking CWD and snags, particularly in decay class 1 and 2.</p>	<p>Increases snags and CWD; providing habitat for amphibians, small mammals, invertebrates, bryophytes and fungi.</p>	<p>Same as in Alternative 2 except fewer acres would acquire desired vegetation characteristics.</p>

<p>Provide appropriate access for timber harvest and silvicultural practices used to meet the objectives above.</p>	<p>No change. Maintains existing road densities.</p>	<p>Constructs 0.36 mile of new roads and renovates 4.26 miles of existing roads. Following harvest, the new construction would be decommissioned. Renovations would improve drainage and road surface conditions, resulting in less road surface erosion into streams.</p>	<p>Constructs no new road. Renovation work and benefits would be comparable to Alternative 2.</p>
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6.0 Compliance with Direction

The Robb Mill Loader Timber Sale has been designed to conform to the following documents, which direct and provide the legal framework for management of BLM-managed lands within the Salem District:

- *Salem District Record of Decision and Resource Management Plan (RMP)*, May 1995: The RMP has been reviewed and it has been determined that the Robb Mill Loader Timber Sale conforms to the land use plan terms and conditions (i.e.: complies with management goals, objectives, direction, standards and guidelines) as required by 43 CFR 1610.5 (BLM Handbook H1790-1). Implementing the RMP is the reason for doing this project (RMP p.1-3);
- *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl* (the Northwest Forest Plan, or NWFP), April 1994;
- *Record of Decision and Standards and Guidelines for Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (S&M ROD)*, January 2001).

The analysis in the Rickreall Creek EA is site-specific and supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement (RMP/FEIS)*, September 1994. The RMP/FEIS includes the analysis from the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl (NWFP/FSEIS)*, February 1994. In addition, the EA is tiered to the *Final Supplemental Environmental Impact Statement For Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (S&M FSEIS)*, November 2000).

Survey and Manage Review

The Robb Mill Loader Timber Sale is consistent with court orders relating to the Survey and Manage mitigation measure of the Northwest Forest Plan, as incorporated into the Salem District RMP.

On December 17, 2009, the U.S. District Court for the Western District of Washington issued an order in *Conservation Northwest, et al. v. Sherman, et al.*, No. 08-1067-JCC (W.D. Wash.), granting Plaintiffs' motion for partial summary judgment and finding 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.

The Robb Mill Loader Timber Sale is consistent with the Salem District RMP/Forest Land and Resource Management Plan as amended by the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (2001 ROD), as modified by the 2011 Settlement Agreement.

The Robb Mill Loader Timber Sale applies a 2006 Exemption from a stipulation entered by the court in litigation regarding Survey and Manage species and the 2004 Record of Decision related to Survey and Manage Mitigation Measure in *Northwest Ecosystem Alliance v. Rey*, No. 04-844-MJP (W.D. Wash., Oct. 10, 2006). Previously, in 2006, the District Court (Judge Pechman) invalidated the agencies' 2004 RODS eliminating Survey and Manage due to NEPA violations. Following the District Court's 2006 ruling, parties to the litigation entered into a stipulation exempting certain categories of activities from the Survey and Manage standards and guidelines, including both pre-disturbance surveys and known site management. Also known as the Pechman Exemptions, the Court's Order from October 11, 2006 directs:

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

- A. Thinning projects in stands younger than 80 years old;*
- B. Replacing culverts on roads that are in use and part of the road system, and removing culverts if the road is temporary or to be decommissioned;*
- C. Riparian and stream improvement projects where the riparian work is riparian planting, obtaining material for placing in-stream, and road or trail decommissioning; and where the stream improvement work is the placement of large wood, channel and floodplain reconstruction, or removal of channel diversions; and*
- D. The portions of projects involving hazardous fuel treatments where prescribed fire is applied. Any portion of a hazardous fuel treatment project involving commercial logging will remain subject to the survey and management requirements except for thinning of stands younger than 80 years old under subparagraph a. of this paragraph.”*

Per the 2011 Settlement Agreement, the 2006 Pechman Exemptions remain in force:

“The provisions stipulated to by the parties and ordered by the court in Northwest Ecosystem Alliance v. Rey, No. 04-844-MJP (W.D. Wash. Oct. 10, 2006), shall remain in force. None of the following terms or conditions in this Settlement Agreement modifies in any way the October 2006 provisions stipulated to by the parties and ordered by the court in Northwest Ecosystem Alliance v. Rey, No. 04-844-MJP (W.D. Wash. Oct. 10, 2006).”

The Robb Mill Loader Timber Sale meets Pechman Exemption A, because it entails no regeneration harvest and entails thinning only in stands less than 80 years old (EA, p. 93). Therefore no pre-disturbance surveys or known site management would be required for any Survey and Manage species within the Robb Mill Loader Timber Sale. Also, survey protocol requirements for most Survey and Manage species (including the red tree vole) would not be triggered, due to the overall young forest conditions and the lack of older forest legacy structure in the proposed units.

Compliance with the Aquatic Conservation Strategy

This BLM reviewed the No Action and Proposed Action alternatives against the ACS objectives at the project scale. 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 (EA, pp. 130-138). The Proposed Actions do not retard or prevent the attainment of any of the nine ACS objectives.

Over the long-term, this project would aid in meeting ACS objectives by speeding the development of older forest characteristics in the Riparian Reserves. In addition, more open stands would allow for the growth of important riparian species in the understory. The Robb Mill Loader Timber Sale promotes stand diversity, provides more light to accelerate growth of conifers, and promotes species diversity. The creation of snags and CWD will restore watershed conditions by providing a gradual transition in structural characteristics of the treated stands that more closely resembles a late-seral forest (EA, p. 138).

7.0 Public Involvement, Consultation, and Coordination

Public Scoping

The BLM mailed a scoping letter, dated August 19, 2010, to 19 potentially affected or interested individuals, groups, and agencies. The BLM received two responses during the scoping period and utilized comments in the responses to develop issues and refine the action alternatives (EA, pp. 7-8).

EA and FONSI Comment Period and Comments

The BLM made the EA and FONSI available for public review from March 8, 2012 to April 6, 2012. Three comment letters were received during the EA comment period. Responses to the substantive public comments relevant to the Robb Mill Loader Timber Sale can be found in Appendix A of this Decision Record. The scoping and EA comment letters and emails are available for review at the Salem District BLM Office.

Consultation and Coordination

Wildlife: United States Fish and Wildlife Service (USFWS)

Due to potential affects to spotted owls, marbled murrelets and their designated critical habitat, Section 7(a) of the Endangered Species Act requires that this proposed action receive consultation with the U.S. Fish and Wildlife Service. Consultation has been addressed by inclusion of the proposed action within a batched Biological Assessment (BA) that analyzed all projects that may modify the habitat of listed wildlife species on federal lands within the Northern Oregon Coast Range during fiscal years 2013 and 2014. All projects of the proposed action have been designed to incorporate all appropriate design standards included in the BA. A Letter of Concurrence (#01EOFW00-2012-I-0124, dated July 17, 2012) was received from the Service that concurred that the proposed action was not likely to adversely affect any listed species or their designated critical habitat.

The original BA included an analysis of impacts to the proposed revised critical habitat for spotted owls which was included to meet the requirements for conferencing. Following the publication of the final rule for revised critical habitat (Federal Register, vol. 77, 71875-72068), the BLM requested that the Service provide confirmation that their conferencing opinion meets the requirements for consultation as addressed in the final rule. On January 3, 2013, the Service

provided formal concurrence that the proposed actions (including the Robb Mill Loader Timber Sale) which were covered by the Letter of Concurrence would not likely adversely affect the revised critical habitat for the spotted owl.

Fish: National Marine Fisheries Service (NMFS)

A determination has been made that the proposed project will have “no effect” on UWR steelhead trout, Chinook salmon and Oregon chub. Generally, the ‘no effect’ determination is based on the distance of the project to ESA listed fish habitat. The distance from ESA habitat is approximately 2.4 miles from treatment activities. In addition, the incorporation of dry season hauling restrictions over the unpaved stream crossings of the haul route eliminates the potential to generate sediment that would reach listed fish in Ellendale Creek. Due to the “no effect” determination this project will not be consulted upon with the NOAA NMFS.

Consultation with NOAA NMFS is required for projects that “may affect” listed species. Protection of Essential Fish Habitat (EFH) as described by the Magnuson/Stevens Fisheries Conservation and Management Act and consultation with NOAA NMFS is required for all projects which may adversely affect EFH of Chinook salmon. The Robb Mill Loader Timber Sale is not expected to affect EFH due to distance of all activities associated with the project from occupied habitat.

8.0 Conclusion

Review of Finding of No Significant Impact

I have determined that change to the Finding of No Significant Impact (FONSI, April 2012) for the Robb Mill Loader Timber Sale is not necessary because I have considered and concur with information in the EA and FONSI. I reviewed the comments on the EA and no information was provided in the comments that leads 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 action or associated environmental effects that were not addressed in the EA.

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 of decision will be published in the Polk County Itemizer-Observer newspaper on April 24, 2013.

To protest this decision a person must submit a written protest to Rich Hatfield, Marys Peak Field Manager, 1717 Fabry Rd SE, Salem, Oregon 97306 by the close of business (4:30 p.m.) on May 8, 2013. A written protest electronically transmitted (e.g., email, facsimile, or social media) will not be accepted as a protest. A written protest must be on paper.

The protest must clearly and concisely state the reasons why the decision is believed to be in error. Any objection to the project design or my decision to go forward with this project must be filed at this

time in accordance with the protest process outlined above. If a timely protest is received, this decision will be reconsidered in light of the statements of reasons for the protest and other pertinent information available and the BLM shall serve a decision in writing on the protesting party (43 CFR 5003.3).

Implementation

If no protest is received within 15 days after publication of this Decision Record (Robb Mill Loader Timber Sale) this decision will become final. The planned sale date is May 22, 2013. For additional information, contact Stefanie Larew (503) 375-5601, Marys Peak Resource Area, Salem BLM, 1717 Fabry Road SE, Salem, Oregon 97306.

Approved by: Rich Hatfield Date 4/22/13
Rich Hatfield
Marys Peak Field Manager

Appendix A: Response to Public Comments Received on the Rickreall Creek Watershed Enhancement (EA# DOI-BLM-OR-S050-2010-0004)

The BLM received three comment letters during the comment period for the Rickreall Creek EA. It is the BLM's intent in this DR to respond to substantive comments directly related to the Robb Mill Loader Timber Sale. Many of the comments are opinions, generic in nature, or do not pertain to the Robb Mill Loader Timber Sale. The BLM will address project-specific comments in their respective DRs. In some cases the comments have been quoted directly from commenter's responses and in some cases they have been paraphrased. Comments are in *italics*. The BLM response follows each comment.

- 1. Comment:** *"It appears all of the proposed timber sales are within the LSR. Therefore, stands within the LSR that are over 80 years of age cannot be logged in any fashion...Road construction in Late-Successional Reserves for silvicultural, salvage, and other activities generally is not recommended unless potential benefits exceed the costs of habitat impairment."*

Response: You are correct that timber harvest is restricted in LSRs over 80 years of age. However, no timber sales are proposed within the Late-Successional Reserves. As stated on page 17 of the EA, the six timber sales are located within the Adaptive Management Area (AMA) and Riparian Reserves. A portion of the AMA is "designated as Late-Successional Reserves within the Adaptive Management Area" (RMP, p. 19), referred to in the EA as Adaptive Management Reserves (AMR). Within the AMR, timber harvest may occur up to the 110 year age class (106 – 115 years) to meet LSR objectives.

The stands at Robb Mill Loader are 53 years of age and are within the AMA and Riparian Reserve land use allocations. No road construction is proposed within the LSR. Approximately 0.36 miles (1,900 feet) of road construction will occur. All new road construction will be fully decommissioned following harvest activities.

- 2. Comment:** *Logging in the Riparian Reserves isn't needed. Logging captures mortality and will reduce recruitment of snags and large wood over a long period of time. Without logging more wood will be available over time for recruitment as snags, dead wood, and instream woody structure.*

Response: Approximately 30 acres (or 16 percent) of the Robb Mill Loader Timber Sale is within the Riparian Reserves. The BLM developed the purpose and need for the Riparian Reserves portion of the sale based on guidance in the Salem RMP, NWFP, and the applicable watershed analyses (EA, section 1.6). The BLM is directed to apply silvicultural practices to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics for attaining ACS objectives (RMP, p. 11).

Desired vegetation characteristics required for proper Riparian Reserve function include large trees, abundant and well-distributed mature and understory conifers, diverse shrub species, and large woody debris in stream channels and on floodplains. The Riparian Reserves stands in the proposed project area lack many of these characteristics (Robb Mill Loader prescription, p. 2). The planned variable density thinning will address these deficiencies. A moderate-intensity thinning within the Riparian Reserves (but outside the minimum 100 foot no-cut buffer on

streams) will allow more light to the understory, which will stimulate the growth of a diversity of understory shrub and tree species.

The density management is a “thin from below” treatment in which trees in the smaller diameter classes are cut and the larger, more vigorous trees are left standing. This type of thinning captures smaller, suppressed trees that would likely succumb to density mortality at some point in the future, though the timing is hard to predict. Density management would delay the input of small diameter CWD; however, to prevent a future shortage of CWD, the project includes provisions for monitoring and future activities to create downed logs and snags to meet ACS objectives (Robb Mill Loader prescription, p. 10).

The BLM found that the implementation of project design features would be adequate for protecting future wood recruitment. Wood recruitment studies conducted in the Pacific Northwest have shown the majority of woody debris recruitment occurs within 18 to 20 meters (59 to 65 feet) of the stream edge (McDade et al. 1990, Van Sickle and Gregory 1990, Meleason et al. 2002) (EA, p. 70). The no-harvest buffers along streams within the timber sale were designed to be an average of 100 feet wide on each side of the stream. After collecting GPS data of actual harvest boundaries, the BLM found an average of nearly 123 feet for the no-harvest buffers.

3. **Comment:** *Because this project involves thinning in stands over 80 years old, this is not a project within the purview of the Pechman exemption and every individual sale involved needs to be surveyed and discovered sites managed when required by the 2001 ROD.*

Response: The Robb Mill Loader Timber Sale entails thinning in stands under 80 years of age. The stands selected for thinning are 53 years of age (EA, p. 93). The BLM has properly applied Pechman Exemption A to this project.

4. **Comment:** *We believe that logging would adversely affect marbled murrelet habitat and the northern spotted owl.*

Response: The stands within the Robb Mill Loader Timber Sale, at 53 years of age, do not currently contain suitable habitat for the marbled murrelet or northern spotted owl. Density management harvest was designed to accelerate the development of late-successional forest conditions such that the area may provide for late-successional habitat dependent species such as the marbled murrelet and northern spotted owl in the future.

5. **Comment:** *“You state that a growing body of literature supports the fact that this gap creation ensures the survival of legacy trees. NEPA requires you reveal and discuss this literature.”*

Response: By clearing around legacy trees, we are applying, in some degree, basic forestry text book concepts. Thinning around dominant and co-dominant trees reduces competition for resources thereby increasing the residual trees' vigor, diameter, crown size, and height to diameter ratio (wind firmness), extending the life of the larger trees. If competition was not removed from around the larger trees, their diameters will not increase as much. They will lose their lower branches from shade

(reduce crown size) and increase their chance of windthrow. With more advance analysis, "Trees with less competition maintain deeper live crowns, maintaining a lower center of gravity and decreasing their height/diameter ratios, reducing susceptibility to wind damage. Latham and Tappeiner (2002) concluded that the old-growth trees responded positively to a range of density reduction treatments. Their results showed even small reductions in density improved growth and vigor. Crown ratios are predicted to fall to an average of .20 within 30 years without treatment, but remain higher, at a ratio of .34 in treated stands. Research indicates that wind firmness and individual tree stability are factors in a tree reaching age 300 and over. With treatment, the tree ratios of height to diameter would be maintained. Epicormic branching often develops on large Douglas-fir trees after removal of competition increasing the crown length over time.

Tappeiner, et al (1997) concluded that thinning 40- to 100-year-old Douglas-fir stands in the Coast and Cascade ranges of western Oregon promotes tree regeneration, shrub growth, and multi-storied stand development, and thinning that incorporates retention of large remnant trees, snags, and down wood, and hardwoods accelerate the development of old-growth characteristics.

6. **Comment:** *We urge BLM to avoid new road construction, especially in reserves. The adverse effects of road construction offset any restoration benefits.*

Response: Approximately 1,900 of new construction will occur. Within the Riparian Reserves, only 260 feet of new road construction will occur. All new road construction will be fully decommissioned following harvest activities. The IDT determined that the road construction is necessary for an economically viable timber sale that will meet the purpose and need to accelerate the development of late-successional forest conditions. Application of Project Design Features and Best Management Practices will reduce the potentially negative effects associated with road construction.

7. **Comment:** *We urge the BLM to find the optimal mix of treated and untreated stands. In order to achieve all the objectives for optimal late successional forest conditions, restoration projects must contain both thinned and unthinned patches.*

Response: Scoping comments on the Rickreall EA encouraged the inclusion of gaps and clumps within the harvest units: "gaps should not be clearcut but rather should retain some residual structure in the form of live or dead trees...even small clumps and patches of trees are desirable." The BLM agreed and included both clumps and gaps within the design of the Robb Mill Loader Timber Sale. Clumps and gaps, at up to one-half acre in size, may occur at a rate of 1 per 20 acres. Within the 183 timber sale, that equates to approximately 4.5 acres each of gaps and clumps.

Robb Mill Loader Timber Sale Prescription (p. 12)

"Clumps will be located surrounding natural features (snags, rock outcrops, steep slopes), or to reduce risk of windthrow (near boundaries with private land or ridgetops) and to be well-distributed and avoid likely yarding corridors. Gaps would be sited at existing understory, vigorous shrub understory, or legacy trees. Within gaps, up to 5 trees of the largest

diameter would be retained.”

The Robb Mill Loader Timber Sale, as designed with variable density harvest and gap and clump creation, will meet the purpose and need to accelerate the development of late-successional forest conditions.

- 8. Comment:** *Thinning captures mortality and results in a long-term reduction in recruitment of functional down wood. The BLM needs to provide a more rigorous analysis to prove that the harvest activities will not harm future CWD and LWD recruitment. Don't discount the value of large quantities of small-diameter wood. BLM must account for the effects of logging on both the quantity and the quality of wood.*

Response:

The Robb Mill Loader Timber Sale will not result in long-term negative impacts to down wood. The BLM has addressed the “quality vs. quantity” issue as it relates to CWD. The EA directly states that with treatment there would be a reduction in the *quantity* of available future CWD. The BLM did not state nor imply that this volume would be offset by growth of remaining conifers; however, the future wood available for CWD would be of higher *quality*.

Thinning dense stands would capture some density-dependent suppression mortality; however, the recruitment of dead wood within treated stands and adjacent untreated habitat is an ongoing and age-independent natural process involving biotic and abiotic forces. Biotic mechanisms, in addition to density-dependent suppression mortality, include disease, insects, and animal damage. Abiotic processes include fire, wind, ice glazing, snow loading, flooding, landslides, debris torrents, and crushing (trees falling on trees). Abiotic processes, unrestricted by tree densities, provide a constant supply of dead wood by damaging or destroying individual trees, patches of trees within stands, stands within watersheds, and entire watersheds themselves (Bauhus et al., 2009).

Of the 240 acres of BLM land in section 22, 183 will be treated within the Robb Mill Loader Timber Sale. Approximately one-quarter of BLM's ownership in the section (57 acres) will be left untreated. Many of these acres are within the no-harvest buffers along streams. These acres are not aggregated in one area; rather, they are distributed across section, injecting into and bisecting the unit. The no-harvest buffers, greater than 100 feet on each side of the stream, provide places where competition-related mortality will continue and natural LWD recruitment processes will be maintained.

The effects on wood recruitment of thinning adjacent to no-treatment zones and compliance with ACS objectives were discussed in the Rickreall EA (pp. 128-138). Wood recruitment studies conducted in the Pacific Northwest have shown the majority of woody debris recruitment occurs within 18 to 20 meters (59 to 65 feet) of the stream edge (McDade et al. 1990, Van Sickle and Gregory 1990, Meleason et al. 2002). The SPZ width, which accounts for at least 85 percent of this woody debris recruitment zone, is anticipated to maintain wood recruitment rates (Rickreall EA, pp. 71, 134, 136).

Additionally, the silviculturist prescribed unthinned clumps (up to one-half acre in size) within the timber sale units at a rate of 1 clump per 20 acres. Within Robb Mill Loader, this equates to

an additional four acres of untreated acres. These untreated acres will allow for continued biotic and abiotic processes that provide all sizes of CWD and LWD independent of active management intervention.

9. **Comment:** *The BLM does not disclose that the No Action alternative will provide continued diameter growth on far more stems and greater total future recruitment of large wood compared to the logging alternatives.*

Response: See response to Comment 7, above. Approximately one-quarter of the area will be left unharvested and will continue to provide for uninterrupted biotic and abiotic processes that produce CWD and LWD of all sizes (including much of the smaller diameter material that succumbs to density mortality).

The Robb Mill Loader Silviculture Prescription, which was incorporated by reference into the Rickreall EA, provided a description of the affected environment and the predicted effects of selecting the No Action alternative (Robb Mill Loader prescription, pp. 8-9). The prescription (p. 8) indeed discloses the predicted effects of the No Action alternative:

“Without treatment, density mortality would continue and increase...quantity of trees dying are expected to be greater than if the stands were thinned...density mortality is hard to predict”

The BLM adequately analyzed and disclosed the predicted effects of the No Action alternative and determined it does not meet the purpose and need to accelerate the development of late-successional forest conditions. The BLM determined that the benefits of density management, which include stimulation of understory development, increased health, stability, and vigor of remaining trees, and immediate creation of CWD, outweigh the loss of small-diameter CWD associated with harvest.