

Rick-Line Timber Sale

Decision Record

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

April 2014

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

Township 8 South, Range 7 West, Section 5, Willamette Meridian
Polk County, Oregon

Responsible Agency: USDI – Bureau of Land Management

Responsible Official: Rich Hatfield, Field Manager
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1.0 Introduction

The Bureau of Land Management (BLM) conducted an environmental analysis for the Rick-Line 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 Rick-Line Timber Sale. This sale is located within the Adaptive Management Reserves¹ (AMR) 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 Rick-Line 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 315² acres of 51-95 year old forest³ within AMR and Riparian Reserves.
 - Within the AMR – 225 acres
 - Within the RR – 90 acres
- Of the 315 total acres, approximately 5 acres will be cleared road construction (described below).
- Approximately 5,165 MBF of timber will be harvested.

Timber Yarding Methods

- Ground-based yarding – 115 acres (37 percent)
- Skyline yarding – 200 acres (63 percent)

¹ The AMR is a portion of the Adaptive Management Area designated as Late-Successional Reserve in the RMP. In the AMR, silviculture activities may occur up to the 110 year age class (106 to 115 years).

² The BLM manages all 624 acres in this section. The Rick-Line Timber Sale will treat approximately half of the lands in this section.

³ 2014 ages. Stands naturally regenerated over several years after harvest between the 1920s and the 1960s. Very few older legacy trees remain in the stands. From the EA, nearly 80% of the harvest acres are less than 70 years old. Approximately 10% are 80-90 years old (Unit 5F) and 10% are approximately 95 years old (Unit 5I).

Fuels

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

Roads

- Construction of 9 temporary roads totaling 1.74 miles (9,205 feet):
 - Within the AMA: 8,730 feet
 - Within the Riparian Reserves: 475 feet
 - All newly constructed roads will be decommissioned after harvest.
- Renovation of approximately 1.91 miles (10,087 feet) of existing road. Within existing roads spot rock application, blading, and brushing may occur.
- Following harvest, decommissioning will occur on all newly constructed roads (1.74 miles) and on the renovated 7-7-32 road (0.14 miles) and 8-7-5 road (0.38 miles), for a total of 2.26 miles. Decommissioning entails installing waterbars or other shaping of roads for drainage, placing woody debris, and/or seeding with native species. Earth and debris berms, large boulders, stumps and root wads, or other methods determined to be effective for each site may be used to block these roads.

Project Design Features

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

Refinements to the Project since the EA was published

Project boundaries and acreage: The EA analyzed 377 acres for the Rick-Line Timber Sale: 240 in the AMR and 137 in the Riparian Reserves. These draft boundaries and fixed-width buffers provided an analysis area for the interdisciplinary team. Throughout the planning process, the boundaries were refined to reflect and address on-the-ground conditions, logging feasibility, and resource needs. The final project area was calculated using GPS and Geographic Information Systems data in 2013. The final timber sale unit area amounted to 315 acres. The 62 acre reduction occurred primarily within the Riparian Reserves (reduced by 47 acres), where no-harvest buffer widths often greatly exceeded the minimum requirement.

Red tree vole protection areas: The BLM completed protocol surveys at Rick-Line in the fall of 2012. Transect surveys were completed in units over 80 years of age, despite neither unit triggering survey requirements. Units did not exceed the minimum QMD⁴ requirement, nor have a sufficient abundance of predominant or legacy trees (both units had fewer than two per acre). The BLM chose to do surveys because this watershed is north of Highway 20, red tree voles are uncommon in this watershed and similar marginal habitat in C-9 had red tree vole presence.

Transect surveys were conducted on two of the oldest units, units 5F and 5I, or approximately 81 acres. Of the 17 trees marked for climbing, 5 trees in unit 5I had active RTV presence. The BLM created a

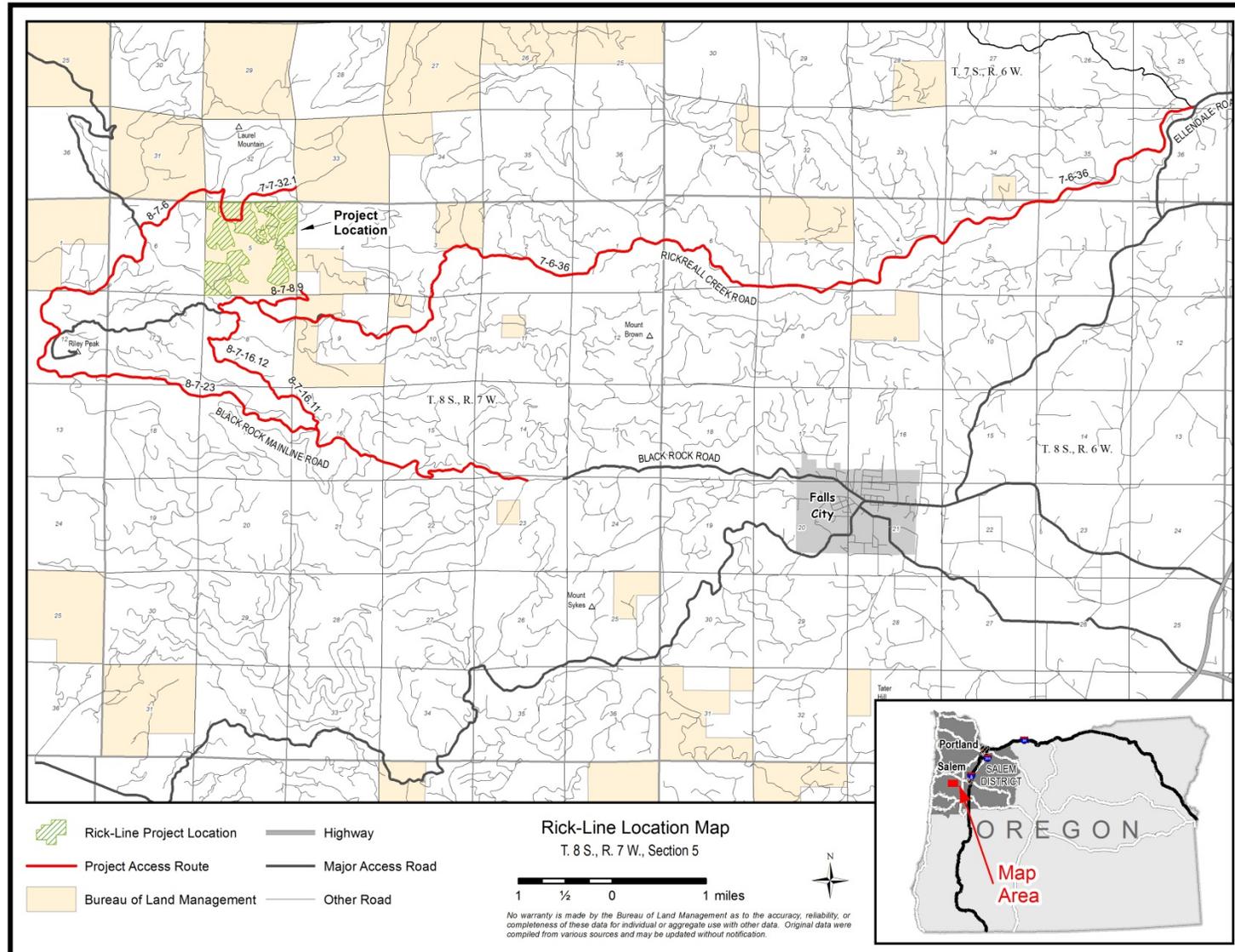
⁴ QMD is the quadratic mean diameter, a measure of the average tree diameter. QMD measures the mean diameter of trees in the stand at breast height.

buffer to exclude this site from harvest. The buffer dropped approximately 14 acres from Unit 5I and is contiguous with 45 acres of conifer forest to the east, creating a 59 acre Habitat Area to be managed for red tree vole conservation. The buffer is show on the Selected Action map in this DR.

Location and Selected Action maps appear on the following pages.

3.0 Location and Selected Action Maps

Map 1. Location Map



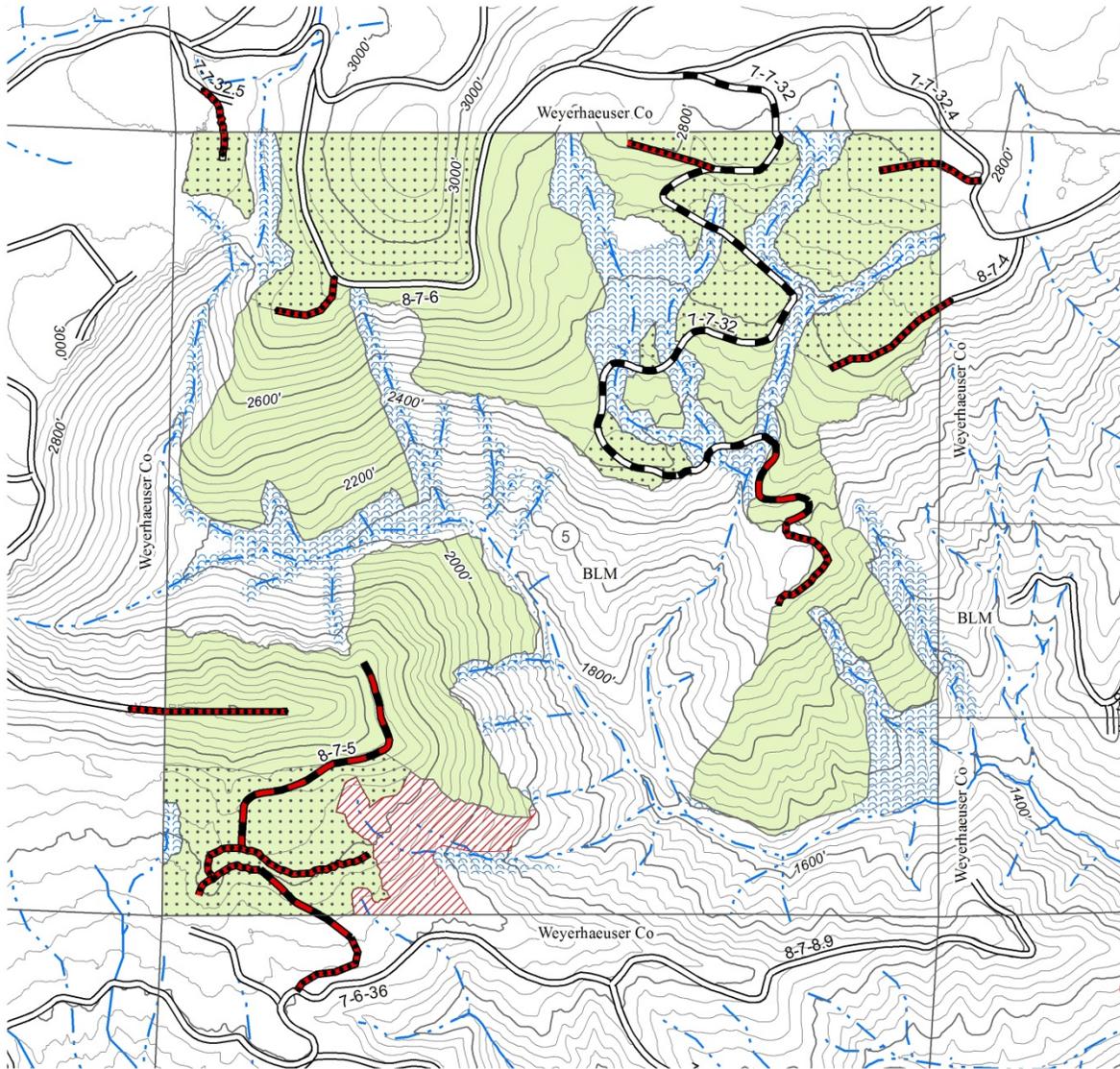
Map 2. Selected Action

United States Department of the Interior - BUREAU OF LAND MANAGEMENT

Selected Action

RICK-LINE TIMBER SALE

T. 8 S., R. 7 W., Section 5



Contour interval: 40 ft.

- | | | |
|--------------------------------|---|------------------------|
| Density Management - 310 acres | Road to be Constructed and Decommissioned | Non-fishbearing Stream |
| Ground-Based Yarding | Road to be Renovated | Fishbearing Stream |
| Skyline Yarding | Road to be Renovated and Decommissioned | Stream Protection Zone |
| Red Tree Vole Area | Existing Road | |

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. An alternative that utilized helicopter for a portion of the sale was considered but not analyzed in detail (EA p. 52). 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 pages.

Table 1 provides a thorough comparison of Alternative 2 and 3 in terms of responding to the Purpose and Need. In the EA (p. 17), Alternative 2 includes 1.75 miles of road construction and treats 376 acres. Alternative 3 drops the road construction and treats 118 acres. An alternative was considered (but not analyzed in detail) that would utilize helicopter to harvest additional acres in the Rick-Line Timber Sale. This alternative was dropped from analysis as it was found to be unnecessary from an environmental standpoint and costly from an economic standpoint.

I carefully reviewed the effects analysis related to road construction in Alternative 2. In particular, I looked at the soils, fisheries, and hydrology analysis. Several sections include a discussion on potential effects related to the new road construction:

- The proposed road construction is unlikely to increase the drainage network in the watershed as the majority of new road is located on ridge tops, generally outside riparian reserves, and no new construction would cross any existing stream channels. Thus, impacts to aquatic habitat downstream would not be anticipated. (EA p. 65).

- Based on location of new roads and seasonal restrictions road construction is unlikely to increase sediment which may alter stream channels and fish habitat (EA p. 66).
- The five miles of proposed new construction [for all five timber sales] would occur on moderate to low gradient slopes, with no stream crossings (EA p. 82).

As I weighed the additional acres that would be treated in Alternative 2 with the relatively negligible effects of the new road construction, it was clear to me that Alternative 2 best meets the purpose and need and does not involve unacceptable environmental risks or effects that are inconsistent with our regulations and management plan.

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 Limited 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 variability (gaps and clumps), minor reduction and disturbance to existing CWD material (snags and down logs). Reduced recruitment of small CWD would be partially offset by immediate creation of larger CWD, and augmentation of decadence processes, retention of hardwood tree and shrub diversity.</p> <p>Long-term: the gradual transition in structural characteristics to more closely resemble late-seral forest (larger diameter trees and limbs, sub-canopy development, greater tree species diversity, greater volume and size of 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 AMA.</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>Retained trees 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>Similar to 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 1.74 mile of new roads and renovates 1.91 miles of existing roads. Following harvest, the new construction and portions of the renovated 7-7-31 and 8-7-5 roads will 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 would be reduced, though benefits would be comparable to Alternative 2.</p>

6.0 Compliance with Direction

The Rick-Line 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 Rick-Line 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 Rick-Line 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.

In December 2009, the District Court for the Western District of Washington issued an order on partial summary judgment in favor of the Plaintiffs finding inadequacies in the National Environmental Policy Act (NEPA) analysis supporting the “Record of Decision to Remove the Survey and Manage Mitigation Measure Standards and Guidelines from Bureau of Land Management Resource Management Plans Within the Range of the Northern Spotted Owl” (BLM et al. 2007)(2007 ROD). The District Court did not issue a remedy or injunction at that time.

Plaintiffs and Defendants entered into settlement negotiations that resulted in the 2011 Survey and Manage Settlement Agreement adopted by the District Court on July 6, 2011.

The Defendant-Intervenor subsequently appealed the 2011 Settlement Agreement to the Ninth Circuit Court of Appeals. The April 25, 2013, ruling in favor of the Defendant-Intervener remanded the case back to the District Court.

On February 18, 2014, the District Court vacated the 2007 RODs. Vacatur of the 2007 RODs resulted in returning the BLM to the status quo in existence prior to the 2007 RODs, which includes the use of the 2006 “Pechman” exemptions.

The District Court and all parties agreed that projects begun in reliance on the Settlement Agreement should not be halted. The District Court order allowed for the Forest Service (FS) and Bureau of Land Management (BLM) to continue developing and implementing projects that met the 2011 Settlement Agreement exemptions or species list as long as certain criteria were met. These criteria include:

- (1) projects in which any Survey and Manage pre-disturbance survey has been initiated (defined as at least one occurrence of actual in-the-field surveying undertaken according to applicable protocol) in reliance upon the Settlement Agreement on or before April 25, 2013;
- (2) projects, at any stage of project planning, in which any known site (as defined by the 2001 Record of Decision) has been identified and has had known site-management recommendations for that particular species applied to the project in reliance upon the Settlement Agreement on or before April 25, 2013; and
- (3) projects, at any stage of project planning, that the BLM and FS designed to be consistent with one or more of the new exemptions contained in the Settlement Agreement on or before April 25, 2013.

This project is consistent with Criteria 1 and 2 above, because surveys for Survey and Manage species (red tree voles and fungal species) we initiated prior to April 25, 2013 using the 2011 Settlement Agreement (Criteria 1), and known site buffers for red tree voles were established prior to April 25, 2013 (Criteria 2).

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 Rick-Line 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 Rick-Line 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.

In May 2012, the BLM hosted a field trip with interested members of the public to the Rickreall Creek project area. Timber sale units in the C-9 and Gilmore sales were reviewed and discussed.

Consultation and Coordination

Wildlife: United States Fish and Wildlife Service (USFWS)

Due to potential effects to Critical Habitat that has been designated for the spotted owl and marbled murrelet, 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 for the spotted owl (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 Rick-Line 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 Upper Willamette River (UWR) Winter Steelhead trout, UWR Chinook Salmon and Oregon Chub nor their designated Critical Habitats. Generally, the 'no effect' determination is based on the distance of a project to ESA listed fish habitat. The distance from ESA habitat is approximately 5 miles to project activities. 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 EFH (Essential Fish Habitat) 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 and coho salmon. The proposed Rick-Line Timber Sale Project 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 Rick-Line 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 23, 2014.

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 7, 2014. 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 (Rick-Line Timber Sale) this decision will become final. The planned sale date is May 21, 2014. For additional information, contact Stefanie Larew (503) 375-5601, Marys Peak Resource Area, Salem BLM, 1717 Fabry Road SE, Salem, Oregon 97306.

Approved by: /s/ Rich Hatfield
Rich Hatfield
Marys Peak Field Manager

 4/21/14
Date

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 Rick-Line Timber Sale. Many of the comments are opinions, generic in nature, or do not pertain to the Rick-Line 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 Rick-Line are 51 to 95 years of age and are within the AMR and Riparian Reserves land use allocations. No road construction is proposed within the LSR. Approximately 1.65 miles (8,730 feet) of temporary road construction will occur within the AMA and 0.09 miles (475 feet) within the Riparian Reserves. All new road construction and the renovated 7-7-32 road (0.14 miles) and 8-7-5 road (0.38 miles) will be decommissioned following harvest activities.

The BLM thoroughly analyzed the proposed actions and their potential impacts in the Rickreall Creek Watershed Enhancement EA. The BLM disagrees that the effects of logging are adverse and has instead determined that the treatments designed for the Rick-Line Timber Sale will result in long-term benefits and accelerate the development of late-successional forest conditions.

- 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 90 acres (or 29 percent) of the Rick-Line 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 (Rick-Line and Cedar Ridge prescription, pp. 6, 11, 12). The planned variable density thinning will address these deficiencies. A moderate-intensity thinning within the Riparian Reserves (but outside the minimum 50 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 (Rick-Line and Cedar Ridge prescription, pp. 16, 17, 20, 21).

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 50 to 75 feet wide on each side of the stream. The SPZ widths of Rick-Line are greater than this woody debris recruitment zone, and would be anticipated to maintain instream wood recruitment rates (Rickreall EA pp. 71, 134, 136).

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 Rick-Line Timber Sale is in compliance with Survey and Manage. As stated in section 2.0 of this DR, the BLM completed protocol surveys for the red tree vole, a Category C species. The BLM encountered a single active red tree vole site and, in conformance with management recommendations, applied a habitat buffer to protect this site (as shown on the map included in this DR). Approximately 14 acres were dropped from the planned harvest unit and were added to the adjacent 45 acre patch of untreated conifer forest to the east, which allowed for the creation of a 59 acre Habitat Area to be managed for red tree vole conservation.

Botanical species: No know sites of any threatened and endangered botanical species were found during surveys, nor were any known prior to conducting surveys. A bureau strategic moss species, *Plagiothecium piliferum* was found on the rock cliffs within the original portion of the sale area. This area was withdrawn from consideration and is protected. No other bureau special status botanical or fungal species are known from the project area. Two Survey and Manage Category F species, which do not require protection, were found during surveys. They include: *Chaenotheca furfuracea* and *Nephroma bellum*. One Survey and Mange Category B species, *Chaenotheca chrysocephala* was found in the sale area. These known sites are protected by reserving the host trees which are almost exclusively larger than stand mean diameter conifers. In addition, these known sites often occur on trees with open canopies

allowing for direct sunlight to the base of the tree. Thinning around these known sites may enhance the sites and would provide for additional habitat by thinning around other large diameter trees.

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

Response: The BLM consulted with the USFWS on the projects analyzed in the Rickreall Creek Watershed Enhancement EA. As stated in section 7.0 of this DR, the BLM received a Letter of Concurrence (#01EOFW00-2012-I-0124, dated July 17, 2012) from the USFWS that concurred that the proposed action was not likely to adversely affect any listed species or their designated critical habitat. Project actions are likely to maintain habitat conditions for both the northern spotted owl and the marbled murrelet.

The stands within the Rick-Line Timber Sale are designated as critical habitat for the marbled murrelet, although none of the selected action harvest units contain any nesting habitat. About 206 acres of the selected action harvest units are designated as critical habitat for the spotted owl (Federal Register, vol.77:71876-72068). As presented in the EA (page 115-117), there are no occupied marbled murrelet sites and no active spotted owl sites within the vicinity of the selected action harvest units. Density management harvest was designed to accelerate the development of late-successional forest conditions such that the area would 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 textbook 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 (windfirmness), 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 potentially increase their chance of windthrow. 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 (Poage 2001) that windfirmness and individual tree stability are factors in a tree reaching age 300 and over. With treatment, the ratio of height to diameter on remaining trees would be maintained or increased, such that stability and windfirmness would improve over time. 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 8,730 feet of temporary new construction will occur within the Adaptive Management Area. Approximately 475 feet (or 0.09 miles) of temporary road construction is located on the outer edges of the Riparian Reserves. These shorts segments are both located in areas that are not hydrologically connected to a stream channel. All new road construction and the renovated 7-7-32 road (0.14 miles) and 8-7-5 road (0.38 miles) will be 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. The BLM analyzed the project activities and determined that Aquatic Conservation Strategy objectives would be met (EA pp. 128-138). 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 Rick-Line Timber Sale. Clumps, up to one-half acre in size, and gaps, at up to one acre in size, may occur at a rate of 1 acre of clump and 1 acre of gap per 20 acres of Rick-Line units 5A, 5C, 5F, and 5I. (These units, totally 232 acres, have the highest stand-average ages in the Rick-Line Timber Sale at over 80 years of age.) Within these 232 acres, that equates to up to 23 acres (approximately 11.5 acres of gaps and 11.5 acres of clumps).

Rick-Line Timber Sale Prescription (pp. 14, 20):

“In stands greater than 80 years of age (Rick-Line 5F, 5I), and selected younger stands (Rick-Line 5A, 5C, and Cedar Ridge 33B): un-thinned clumps up to 0.5 acre in size, and gaps up to 1.0 acre in size would be retained within contiguous treatment areas of greater than 20 acres at a rate of 1 acre of clump and 1 acre of gap per 20 acres. Clumps would 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.”

“In all stands, clumps up to 0.1 acre in size would be retained. Other areas would remain untreated due to logging infeasibility and riparian buffers.”

In addition to the clumps and gaps that occur within the Rick-Line boundaries, approximately 309 acres of BLM managed lands in the section will remain untreated (as addressed further in response to comment #9).

The Rick-Line 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 Rick-Line 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 624 acres of BLM land in section 5, 315 will be treated within the Rick-Line Timber Sale. Approximately 309 acres, approximately half of BLM's ownership in the section, 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 50 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 widths in Rick-Line are greater than this woody debris recruitment zone, and would be anticipated to maintain instream wood recruitment rates (Rickreall EA pp. 70-71, 134, 136).

Additionally, the silviculturist prescribed unthinned clumps (up to one-half acre in size) within

the selected timber sale units at a rate of 1 acre of clumps per 20 acres. Within Rick-Line, this equates to up to an additional 11.5 acres of untreated area. 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 half of BLM's ownership in section will be left untreated 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 Rick-Line 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 (Rick-Line and Cedar Ridge prescription, pp. 12-14). The prescription (p. 12) indeed discloses the predicted effects of the No Action alternative:

“Without treatment, stand structure would become increasingly uniform, except for gaps created by disturbance. Hardwood tree species would become overtopped and most of them lost from the stand. The main input of coarse woody debris would come from density mortality, disturbance events and endemic levels of insects and disease, resulting in more snags and downed logs than with treatment. In general, the quantity of mortality would be much greater than if the stands were thinned, but dead trees would be smaller in size”

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.