Rainbow Ridge Timber Sale

Decision Record

Environmental Assessment: DOI-BLM-OR-S050-2013-0002

May 2015

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

Township 14 South, Range 6 West, Section 29, Willamette Meridian
Benton County, Oregon

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BLM
Salem District

BLM/OR/WA/AE-15/020+1792

1.0 Introduction

The Bureau of Land Management (BLM) conducted an environmental analysis for the Rainbow Ridge timber sale, which is documented in the *Rainbow Ridge Timber Sale Environmental Assessment* (EA) (DOI-BLM-OR-S050-2013-0002-EA) and the associated project file. This decision authorizes the implementation of those activities directly related to and included within the Rainbow Ridge timber sale. This timber sale is located within the Matrix and Riparian Reserves land use allocations in the Marys River and Upper Alsea River fifth field watersheds in Benton County, Oregon.

2.0 Decision

I have decided to implement the Rainbow Ridge timber sale, as described in the Alternative 2 of the Rainbow Ridge Timber Sale EA, the Rainbow Ridge Timber Sale Determination of NEPA Adequacy (DNA), and as modified within this Decision Record, hereafter referred to as the "selected action" (Figure 1). This decision is based on site-specific analysis in the Rainbow Ridge Timber Sale EA, the supporting project record, management recommendations in the Benton Foothills (1997) and South Fork Alsea (1995) watershed analyses, as well as the management direction contained in the *Salem District Resource Management Plan* (RMP) (1995), which are incorporated by reference in the EA.

Decision Summary

The following is a summary of components of this decision. The Rainbow Ridge timber sale consists of timber harvest, road work, and post-harvest fuel reduction treatments on 135 acres[1] of the 240 acres that the BLM manages in section 29. Approximately 8.2 MMBF will be offered for sale.

Variable Retention Harvest

Variable retention harvest is a form of regeneration harvest that emphasizes aggregated (or grouped) retention over simple dispersed retention. This harvest will occur on approximately 101 acres[2] of 59–68 year old forest[3] within the Matrix (General Forest Management Area) land use allocation. Of these 101 acres, approximately 20 acres are no-harvest aggregates. Regeneration harvest would occur on the remaining 81 acres. No regeneration harvest will occur within the Riparian Reserves. Approximately 7.1 MMBF (88 MBF/acre) will be harvested.

Both aggregated and dispersed green tree retention will occur. Six aggregates[4], ranging from 1 to 6 acres in size and totaling 20 acres, will be reserved from harvest. These aggregates are within the Matrix land use allocation. Additionally, approximately one green tree per acre has been reserved from harvest.

Density Management and Commercial Thinning

Commercial thinning and density management will occur on approximately 30[5] acres of 42 year old stands in the Matrix and Riparian Reserves land use allocations. Approximately 700 MBF (22 MBF/acre) will be harvested.

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[1] 135 acres in total (81 acres regeneration harvest, 30 acres of thinning, 20 acres of aggregates, 4 acres of clearing for road building). Down from 144 acres in the EA.
[2] 81 acres of regeneration harvest (down from 87 acres analyzed in the EA).
[3] 2015 ages.
[4] Typographical error in EA (p. 10): there are six aggregates, not seven. EA maps accurately depict the aggregates.
[5] 6 acres in the Riparian Reserves, 24 acres in the Matrix. Down from 33 acres analyzed in the EA.

Timber Yarding
Timber will be yarded by ground-based and skyline yarding systems.

- Ground-based yarding – 28 acres (24 percent)
- Skyline yarding – 87 acres (76 percent)

Fuel Reduction Treatments
The BLM will conduct post-harvest fuel surveys and recommend fuel reduction treatments as described in the EA. Options include, but are not limited to, broadcast burning the regeneration harvest units and pile burning within thinning units.

Road Construction
Approximately 0.97 mile of new road construction will occur. The total clearing width will be less than 40 feet, resulting in clearing up to four acres of forests less than 70 years of age. Approximately 350 MBF will be harvested. All road construction will occur in the Matrix; no road construction will occur within the Riparian Reserves. Roads will be left in place following harvest to allow for future management and administrative access.

Road Renovation
Renovation will occur on approximately 2.75 miles of existing roads. Renovation actions are those needed to restore the road to original design specifications and may include blading, brushing, removing obstructions or trees within the right-of-way, reshaping drainage dips and the road bed, replacing and/or installing crossdrains and live water culverts, and spot aggregate placement where needed.

Post-harvest Monitoring
Monitoring is an important piece of project implementation, as it allows the BLM to assess whether the goals and objectives of the project were met. Such information can be used to assist in future project development. As described in the silviculture report (p. 20), the BLM will conduct monitoring to determine site preparation and fuel treatment needs, the extent of Phellinus weirii infection centers, reforestation needs and implementation, reforestation maintenance and success, and subsequent treatment needs.

Updated Information
The updated information described below is not substantially different from the proposed action described in the EA and does not alter the analysis or its conclusions.

Project Design Features
Project design features, best management practices, and seasonal restrictions described in the EA (pp. 18–26) have been incorporated into the timber sale contract, with the exception as noted below.

Project design features regarding treatment of snags will be slightly modified. Within areas unaffected by the 2014 ice and wind storms, the design features regarding the treatment of snags will be applied as described in the EA (pp. 21, 24). Generally, existing snags would be retained where operationally feasible, unless they pose a safety hazard.

The design features regarding the treatment of snags will be modified for the remaining 24 acres affected by the storms. Recently damaged or snapped out trees within the 24 acres may be harvested as

described in the February 2015 DNA. The IDT has determined that this limited modification will not result in significant impacts to current or future coarse woody debris or other resources and is substantially the same proposed action described in the EA, as documented in the February 2015 DNA.

Other Wind and Ice Damage within the Marys River and Upper Alsea River Watersheds

As described in the February 2015 DNA, much of western Oregon was hit with severe ice and wind storms in late 2014. Scattered wind and ice damage occurred on lands within the Marys River and Upper Alsea River fifth field watersheds (the same watersheds in which Rainbow Ridge is located). The BLM pursued salvage in two previously managed forest stands in the Matrix land use allocation[6] in the Upper Alsea River fifth field watershed.

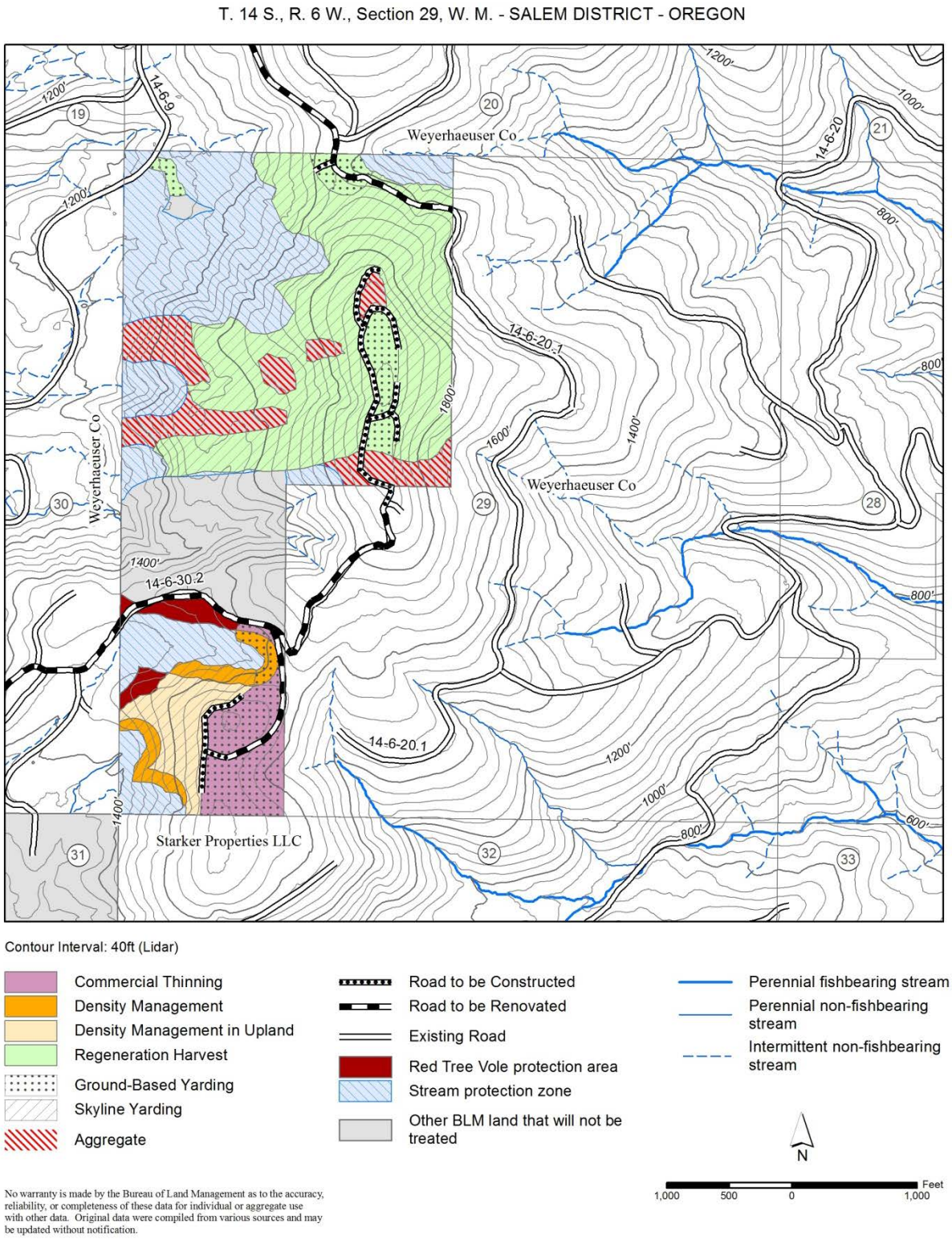
The BLM intends to leave many wind and ice damaged areas on BLM lands surrounding the project area. The BLM manages section 31 (640 acres of Late-Successional Reserves and Riparian Reserves) to the immediate southwest of Rainbow Ridge. This section was damaged in a comparable manner to that within Rainbow Ridge. No salvage harvest is being considered within this area. Any future management of ice and wind damaged areas would be subject to site-specific NEPA analysis or review.

Haul route: In 2014, an adjacent landowner contacted the BLM regarding concerns with a portion of a private road that BLM had planned to use for hauling timber. This portion of the road is currently slumping and several unsuccessful attempts to repair the slump have been made in recent years. The BLM decided to slightly modify the haul route to avoid this portion of road. This change adds approximately 2.5 miles to the haul route. Similar changes in haul routes have occurred under previous timber sales due to circumstances beyond the BLM's control. Predicted effects of hauling on the stream network, aquatic habitat, and fish would be substantially the same as those impacts previously analyzed under the original haul route proposal. There would be no changes in effects to soil or water resources.

Culvert replacement: Early in the planning process the BLM identified four stream crossing culverts for replacement along the original haul route. The culverts were initially identified as being located on BLM-managed lands. In February 2015, BLM staff completed field reviews of the culverts proposed for replacement and found that only two of the original four culverts are located on BLM-managed lands and remain part of the current haul route. The two culverts on BLM lands are currently in good condition; the culverts displayed no signs of erosion or sediment delivery. Some superficial rust is present, but the culverts appear to be functioning as designed with well-vegetated stable fill material. There will be no short term or long term effects to water quality by not replacing them at this time.

[6] Ice Damage Salvage in Benton County CX, published April 20, 2015.

Figure 1. Selected Action



3.0 Alternatives Considered

The EA analyzed the effects of the No Action, Proposed Action, and Regeneration Harvest with Dispersed Retention alternatives. No unresolved conflicts concerning alternative uses of available resources (section 102(2) (E) of NEPA) were identified. In the EA, the BLM included a thinning-only alternative as an alternative considered, but not analyzed in detail. Thinning would not meet the need for high quality early-seral habitat on BLM lands in the project area. Complete descriptions of the three alternatives are in the EA (pp. 14-20).

4.0 Decision Rationale

When writing this rationale, I consulted and reviewed the following documents and records:

- The EA and supporting project record (including public comments);
- Management recommendations within the Benton Foothills Watershed Analysis and the South Fork Alsea Watershed Analysis; and
- Management direction within the Salem District RMP

I have decided to implement Alternative 2, the selected action, as described in section 2.0 of this DR. My decision is consistent with the criteria described in the EA for selecting which alternative to implement (EA pp. 5–6). The Selected Action:

- Best meets the purpose and need of the project (EA section 1.3).
- Is consistent with the Salem District RMP.
- Will not have significant impacts on the affected elements of the environment beyond those already anticipated and addressed in the RMP FEIS.

Further, the Selected Action:

- Is economically viable. This sale will produce revenue for the Federal Government and provide jobs for Oregonians.
- Meets Aquatic Conservation Strategy Objectives (EA pp. 112–116).
- Has been adequately analyzed.

Of the three alternatives analyzed, Alternative 2 best meets project objectives. I did not select Alternative 1 (No Action) as the alternative does not meet the purpose and need. Alternative 1 does not create high quality early-seral habitat and does not provide timber products that contribute economic benefits to the local communities.

Although the two action alternatives are somewhat similar, Alternative 2 better meets project objectives than Alternative 3. The primary difference between Alternatives 2 and 3 is that Alternative 2 provides green tree retention in aggregates (clumps) while Alternative 3 provides primarily scattered green tree retention. Both alternatives are consistent with RMP direction, but for this project, Alternative 2 is expected to provide larger blocks of open, early-seral habitat. This alternative also contains elements that will allow the early-seral habitat to persist longer than Alternative 3. Alternative 2 will also leave additional biological legacies within the unit. As described earlier in the decision, six aggregates or clumped retention areas will be reserved from harvest and will be carried into the next stand. These aggregates range from one acre to six acres in size. Compared to a scattered retention

regime, these aggregates will provide better biological continuity between this stand and the next stand that will develop post-harvest. There is nothing particularly "experimental" about this project and the reliance on these aggregates. The Salem District RMP (p. 25) anticipated regeneration harvest and references a variety of retention strategies: scattered trees, clumps and strips. For this project, the aggregate approach will best meet project objectives.

I fully understand that Alternative 2, particularly the regeneration components, will not be popular with some members of the public. Appendix A provides responses to comments that we received on the EA. My decision rationale focuses on some issues that warrant additional discussion.

First, I must emphasize the relevance of the land use allocation (LUA) in play with this project. The Rainbow Ridge project is within the Matrix LUA. As described in the EA (pp. 3–4), the Matrix LUA is intended to provide a sustainable supply of timber. Within the 130,000 acre Marys Peak Resource Area, the vast majority of the acreage (more than 80 percent) is managed for late-successional objectives. The Matrix LUA does not have late-successional objectives. Some comments seem to suggest that we should manage Matrix and this project for late-successional objectives. This, however, is not the objective for the Matrix LUA.

In addition, the objective of the project is to correct a significant imbalance in age classes on BLM lands. As the EA points out in many places (pp. 32–34, 50–52), there is very little early-seral habitat on BLM lands. To suggest that adjoining private lands will provide this habitat is simply incorrect. As discussed in the EA (p. 39) and response to comment, private lands are not managed to provide high quality early-seral habitat. To suggest otherwise is simply false. Although it does not move the needle significantly, this project will convert about 90 acres of mid-seral stands (an age class that is quite plentiful in the resource area) to early seral.

Alternative 2 represents a balanced approach to providing a sustainable flow of timber while retaining sufficient biological legacies for the next stand. Currently, management activities for the Salem BLM are guided by the Northwest Forest Plan. The conservation objectives of the Northwest Forest Plan are well known. What is often forgotten, though, is that the plan also emphasized the human environment, economics, and a sustainable supply of timber. A review of the 1994 Record of Decision for the Northwest Forest Plan shows many references to these objectives. Thinning does not provide a sustainable supply of timber. Eventually, thinning opportunities will be exhausted. The Rainbow Ridge project is consistent with these economic objectives.

Despite being in the Matrix, this project includes a number of conservation features that are in excess of what our management plan calls for. As described earlier in this decision, far more trees are being reserved in the project than the minimum prescribed by the RMP (approximately 1,800–3,800 trees retained compared to 600–800 in Alternative 3). The treatment in the project area will create habitat that is not found in the area. The open, early seral habitat is expected to persist for 20–30 years after the treatment. Untreated areas, riparian areas, and aggregates (totaling 105 acres[7] out of 240 BLM-managed acres in the section), will provide additional opportunities for snags and downed wood. Regeneration harvest will only occur on one-third of the acres in this section.

Again, I sought to achieve a balance in this project. The EA (p. 27) describes a 110-year old stand that I dropped from the project. Plan mechanisms exist to harvest timber from this Matrix stand. We heard

[7] Or 135 acres, with the inclusion of 20 no-harvest aggregates.

from the public that this late-seral stand should not be harvested to create early-seral forest. What sets this small stand apart from the rest of the project is that it has hit a mature age (greater than 110 years). I see the value of retaining this stand in the project area, particularly as we regenerate 90 acres to the north[8]. So, despite the underlying timber-emphasis objective for this stand, I have chosen to remove it from the project.

When the Rainbow Ridge project was originally designed, we sought to avoid most of the major issues that show up in our timber sales. So, this project area does not include any northern spotted owl or marbled murrelet critical habitat or listed fish habitat. It involves the harvest of relatively young stands (less than 70 years old). As I look across our landscape, there are few project areas without at least one of the issues above. As a public land manager in northwest Oregon, I am finding it increasingly difficult to implement the sustainability provisions in the Northwest Forest Plan. Once again, thinning is not sustainable. Our thinning opportunities will be exhausted in the not-too-distant future. Decisions that I make today on developing young stands will have profound impacts on public land managers 30–40 years in the future. Although the acreage is very modest, this project will provide additional thinning opportunities in the future.

Determination of NEPA Adequacy

As the decision describes on page 3, in February 2015 I issued a Determination of NEPA Adequacy (DNA) for this project. In November 2014, ice and wind storms hit western Oregon. Portions of the project area were impacted by this storm. Within the harvest units, there were a number of trees "snapped out" and some trees that were blown down during the storm. The damage was focused on the eastern portions of both the regeneration and thinning units. After the storm, timber staff assessed and catalogued the damage in and around the project area. Next, resource specialists reviewed the damage and considered whether this new information invalidated or changed their analysis in the EA. Our resource specialists determined that the effects analysis contained in the EA was still valid. With this information, I signed the DNA and shared it with the public before this decision. For a number of reasons, this DNA is the appropriate tool to assess and document changed conditions in the project area.

Changed conditions do not automatically trigger a need to supplement the NEPA. Rather, supplemental analysis is required if there are "substantial changes to the proposed action" or if "there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its effects" (NEPA Handbook H-1790-1, p. 29). In this case, the ice storm increased the amount of downed wood and snapped out trees in the units. But after a review by agency specialists, a determination was made that the effects analysis for the proposed action was still valid. Furthermore, the changed conditions did not necessitate a significant change to the proposed action for the project. Generally, the damaged trees are trees that were to be harvested in the project. These findings were documented in the DNA.

5.0 Compliance with Direction

This proposed action is in conformance with the Salem District's 1995 Resource Management Plan (RMP) as amended and with court orders relating to the Survey and Manage mitigation measure of the Northwest Forest Plan. This project implements (is tiered to) the Final Environmental Impact Statements for the Salem District RMP (1995), as amended, as well as all documents contained in the

[8] Rickard Creek timber sale, sold in 2012.

Rainbow Ridge Timber Sale EA project file. The EA is tiered to these documents as permitted by the National Environmental Policy Act (NEPA) (40 CFR 1502.20).

Survey and Manage Review

The Rainbow Ridge timber sale is consistent with the 2001 ROD and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, as incorporated into the District Resource Management Plan, as amended.

This project utilizes the December 2003 species list. This list incorporates species changes and removals made as a result of the 2001, 2002, and 2003 Annual Species Reviews (ASR) with the exception of the red tree vole. For the red tree vole, the Ninth Circuit Court of Appeals in *KSWC et al. v. Boody et a*l., 468 F3d 549 (9th Cir. 2006) vacated the category change and removal of the red tree vole in the mesic zone, and returned the red tree vole to its status as defined in the 2001 ROD Standards and Guidelines, which makes the species Category C throughout its range. None of the mollusks on the 2003 list fall within the range of the project area; thus, mollusk surveys were not required. Details of project surveys for the red tree vole are described in the wildlife section of the EA (section 3.2).

Compliance with the Aquatic Conservation Strategy

This BLM reviewed the alternatives against the ACS objectives at the project scale. The Selected Action does not retard or prevent the attainment of any of the nine ACS objectives (EA pp. 97–104). Only 6 acres to be thinned are within the Riparian Reserves. These acres would be thinned to promote structural and species diversity, consistent with RMP and ACS objectives.

6.0 Public Involvement, Consultation, and Coordination

Public Scoping

The BLM provided opportunities for the public to provide input throughout the planning process. On October 5, 2012 the BLM sent a scoping letter to 24 potentially affected or interested individuals, groups, and agencies. In addition, the BLM hosted a public meeting and field trip on October 29, 2012. The Rainbow Ridge timber sale has appeared in the quarterly BLM publication Project Update since 2012.

EA and Draft FONSI Comment Period and other Public Involvement

The BLM made the EA and draft FONSI available for public review from November 5, 2014 to December 5, 2014 and received five comment letters during this period. Responses to the substantive public comments relevant to the Rainbow Ridge timber sale can be found in Appendix A of this DR. The BLM published a Determination of NEPA Adequacy (DNA) in late February 2015 and provided it to those who submitted comments on the EA.

Comment letters and e-mails are available for review at the Salem District BLM Office.

Consultation and Coordination

Wildlife: United States Fish and Wildlife Service (USFWS)
Consultation concerning listed wildlife species has been addressed by inclusion of this action within a 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 2015 and 2016. This action has been designed to incorporate all appropriate design standards included in the BA. A Letter of Concurrence (#01EOFW00-2012-I-0124) was received from the USFWS (dated 9/23/2014) confirming their concurrence that the activities included within the Rainbow Ridge timber sale are not likely to adversely affect any listed wildlife species or their critical habitat.

Fish: National Marine Fisheries Service (NMFS)
No effects are anticipated to Upper Willamette River Spring Chinook salmon, Upper Willamette River steelhead, Oregon chub, and Oregon Coastal coho salmon in either watershed due to distance to occupied habitat; therefore, no ESA consultation is warranted.

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 and coho salmon. The treatment area is at least 1.5 miles from nearest habitat utilized by coho salmon in the South Fork Alsea River and 26 miles from nearest habitat utilized by Chinook and coho in the Marys River. Based on the distance of the proposed action from occupied habitat, there would be no effects on EFH. Consultation with NMFS on EFH is not required for these projects.

7.0 Conclusion

Review of Finding of No Significant Impact

I have updated the Finding of No Significant Impact (FONSI, May 2015) from the draft that was published with the EA in November 2014. This update includes a description of the storm damage and provides additional justification as to the determination of insignificance. Further change is not necessary because I have considered and concur with information in the EA and FONSI. I reviewed the comments on the EA and DNA 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 Benton County Gazette-Times newspaper on May 27, 2015.

To protest this decision a person must submit a written protest to the Marys Peak Field Manager, 1717 Fabry Rd SE, Salem, Oregon 97306 by the close of business (4:30 p.m.) on June 10, 2015. 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 of notice of publication of this Decision Record, this decision will become final. The planned sale date is June 24, 2015. For additional information, contact Stefanie Larew, NEPA Coordinator, at (503) 375-5601 or slarew@blm.gov.

Approved by: /s/ Andy Frazier 5/20/2015

Andy Frazier Date

Acting Marys Peak Field Manager

Appendix A: Response to Public Comments Received on the Rainbow Ridge Timber Sale Environmental Assessment (EA#: DOI-BLM-OR-S050-2013-0002)

The BLM received five comment letters during the 30 day public comment period for the Rainbow Ridge EA. It is the BLM's intent in this DR to respond to substantive comments directly related to the Rainbow Ridge timber sale. Many comments are statements of opinion, generic in nature, or do not pertain to the Rainbow Ridge timber sale. 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. *BLM's practice of averaging retention areas is in violation of the green tree retention requirements in the Salem Resource Management Plan…BLM can retain aggregates if they choose, but they must also provide well-distributed leave trees on every acre as required by the RMP.*

The BLM is in compliance with direction in the Salem District RMP for green tree retention within the Rainbow Ridge timber sale. Direction for regeneration harvest and green tree retention within the Matrix (General Forest Management Area) is provided in the RMP. The RMP (p. 21) states to "Conduct timber harvest so as to provide a renewable supply of large down logs well distributed across the Matrix landscape in a manner that meets the needs of species and provides for ecological functions."

The RMP also addresses green tree retention requirements for regeneration harvest areas. "Retain six to eight green conifer trees per acre after regeneration harvest to provide a source of snag recruitment and a legacy bridging past and future forests. Retained trees will be distributed in variable patterns (e.g., single trees, clumps and strips) to contribute to stand diversity" (p. 48).

The Rainbow Ridge timber sale includes approximately 20 acres of "aggregates"; aggregates are clumps of trees that will be reserved from harvest. The BLM designed the aggregates to "minimize the potential deficit of large hard snags and down logs" and "provide for structural diversity and wildlife values" in the post-harvest stand (EA p. 10). Six aggregates, ranging from one to six acres in size and totaling 20 acres, will be reserved from harvest. No harvest will occur within or through these reserved clumps (EA p. 22). In addition, the BLM will reserve approximately one green tree per acre in the regeneration harvest units (81 acres).

The combination of aggregated tree retention and dispersed retention in the Rainbow Ridge timber sale is designed to achieve the variability described in the RMP. This combination of retention methods provides greater diversity than dispersed-only retention would have achieved.

The RMP does not require that six to eight green trees must be reserved on each acre; rather, this requirement can be achieved and diversity can be enhanced by implementing a combination of single tree and clumped retention. Tree density in the variable retention harvest units ranges from 91 to 191 trees per acre (TPA) (EA p. 30, Table 3-1). This means that the aggregates (20 acres) contain between 1,820 and 3,820 total trees[9]. Using the lower estimate and adding to it the one TPA of dispersed retention in the regeneration harvest units (81 acres) would provide a total green tree retention of over

[9] Beyond the range identified above, the BLM attempted to further quantify the trees in aggregates based on stand data. Conifer TPA in each stand were multiplied by the acres of aggregates in that stand: EA unit 29D: 11.5 acres at 136 TPA (1,564 trees), 4.3 acres at 189 TPA (813 trees), and 29G: 4.2 at 105 TPA (441 trees), for a total of 2,818 trees.

1,900 trees (or nearly 19 TPA) on 101 acres. On the high end of the range, green tree retention would be in excess of 3,900 trees (or 38 TPA) on the 101 acres. Therefore, Alternative 2 would easily exceed the RMP requirements of retaining 6–8 trees per acre.

Had BLM pursued simple dispersed green tree retention, it would have resulted in approximately 606–808 reserved trees (at 6–8 TPA) across the 101 acre unit[10] or 909–1,111 reserved trees (at 9–11 TPA as in Alternative 3).

The BLM finds that the aggregated and dispersed retention adequately satisfies the requirements for green tree retention in the RMP. Additional dispersed green tree retention of six to eight trees per acre is not required.

2. *Retaining 6-8 green trees may not be enough…The RMP (p. 48) also indicated that the BLM should be retaining more than 6-8 trees per acre in areas where snags are deficient, such as in this project area.*

The BLM has appropriately designed the Rainbow Ridge timber sale to provide for future snag recruitment. See response to #1.

For Alternative 2 (proposed action), the EA (p. 10) states that one of the objectives for the project is to "minimize the potential deficit of large hard snags and down logs in the post-harvest stand"; and on page 22 state that "aggregates would meet or replace the need for two conifer trees per acre to minimize the potential deficit of large hard snags and down logs in the post-harvest stand." The BLM does not identify a current snag deficiency as the comment suggests, but designed the project to minimize the chance of a future potential deficit.

For Alternative 3, the EA (p. 22) states that "a target of 10 trees per acre (ranging from 9–11) would be retained within the regeneration harvest units to provide for green tree retention, future snags and down logs, and habitat diversity…" This alternative was designed to minimize any snag deficit by adding two trees per acre to the six to eight trees for green tree retention. Across an 87 acre regeneration harvest unit, this amounts to approximately 783–957 reserve trees.

As stated in the previous response, tree density in the variable retention harvest units ranges from 91 to 191 trees per acre (TPA) (EA p. 30, Table 3-1). This means that the aggregates (20 acres) contain between 1,820 and 3,820 total trees. Using the lower estimate and adding to it the one TPA of dispersed retention in the regeneration harvest units (81 acres) would provide a total green tree retention of over 1,900 trees (or nearly 19 TPA) on 101 acres. On the high end of the range, green tree retention would be in excess of 3,900 trees (or 38 TPA) on the 101 acres. Therefore, Alternative 2 would easily exceed the RMP requirements of retaining 6–8 trees per acre.

The BLM has appropriately provided retention trees for potential future snag deficits beyond what is required in the RMP. Additional reserve trees are not required or necessary to meet the purpose and need for the project, RMP direction, or current and future CWD needs.

[10] To illustrate how dispersed green tree retention would look at Rainbow Ridge (without aggregated retention), the BLM is assuming that all 101 acres would be available for regeneration harvest (81 acres of the Alternative 2 regeneration harvest and 20 acres of Alternative 2 aggregates).

3. *Cascadia urged in its scoping comments for an alternative with no new road construction or at a minimum no new net road construction given the density of roads in the Coast Range…where are the thinning and "No New Roads" alternatives? Public lands are too heavily roaded.*

The BLM has included an adequate range of alternatives in the EA. The Salem District RMP provides guidance on road construction on BLM-managed lands. The RMP (p. 62) states to "Develop and maintain a transportation system that serve the needs of users in an environmentally sound manner." As stated in the purpose and need, there is a need to provide timber than can be efficiently and economically harvested (EA p. 4). Road access is needed for harvest operations (EA p. 5).

The topography and underlying land use allocation, Matrix (General Forest Management Area), were factors for pursuing alternatives with road construction. Road construction is identical between the two action alternatives. Road construction within Rainbow Ridge is limited to gentle topography outside of the Riparian Reserves (EA pp. 75–76). New roads will not cross any streams. Due to their location, design, and application of design features which limit work to dry periods, it is unlikely that the new roads would result in sediment delivery to streams.

The IDT determined that the planned road construction is the minimum that would be needed to support an economically viable timber sale. A "no new roads" alternative would not have been technically or economically feasible to support the project. The IDT determined that only 24 acres would be available for harvest without road construction; thus, a no-roads alternative would not have viable or reasonable means for achieving the purpose and need for the project. The record shows that the BLM considered, but did not analyze in detail, an alternative without road construction. The BLM noted that this was inadvertently omitted from the EA in early 2015, but decided not to revise and reissue the EA because it was not critical to the analysis or ultimate decision as to which alternative best meet the purpose and need for action.

The EA (p. 27) explains why a thinning alternative was considered, but not analyzed in detail. A thinning-only alternative would partially meet the purpose and need by supporting local economies and providing lumber to mills, but it would not meet the primary objective to create high quality early-seral habitat and create a desired distribution of age classes across the landscape.

The BLM has analyzed an adequate range of alternatives and has adequately planned and analyzed the effects of road construction in the EA.

4. *Cascadia urges alternatives with no new road construction partly because road construction can introduce harmful noxious species…concerned the BLM's early seral forest will simply be Scot's broom.*

The BLM has adequately assessed the potential impacts of road construction on Scot's broom and other noxious weeds. The Salem RMP (p. 64) states to "contain and/or reduce noxious weed infestation on BLM-administered lands using an integrated pest management approach." The EA describes the current status of noxious weeds in the project area and how the BLM plans to treat and minimize the spread of noxious weeds.

The EA (p. 42) describes the conditions in which the establishment of noxious weeds is favored:

> "Exposed mineral soil often creates environments favorable for the establishment of non-native plant species. Exposed mineral soil areas (e.g., road construction and maintenance

operations, landing construction, culvert installation sites, and yarding corridors) pose the greatest risk of exposing mineral soil with the implementation of this project."

Noxious weeds that are known to occur within the project area are regionally abundant and are widespread throughout western Oregon (EA p. 43). The Marys Peak Resource Area has an integrated non-native plant management plan in place for the control of non-native plant species and is active in its control of Oregon listed noxious weeds.

The BLM determined the risk rating to be low for the long-term establishment of noxious weeds species based on project-specific design features (to minimize potential habitat for establishment) and the Marys Peak integrated non-native plan management plan (to actively manage and allow for early detection of non-native plant species). Project design features (EA p. 20) to minimize the risk of new establishment or spread include requiring soil-disrupting equipment and other equipment to be clean and free of dirt and vegetation prior to arrive on BLM-managed lands, and requiring areas of exposed mineral soil to be grass seeded with Oregon Certified (blue tagged) red fescue or other native species. These features have been incorporated into the timber sale contract and will be enforced during project implementation through the Authorized Officer. Further, the areas would be monitored post-harvest to detect noxious weed infestations. For the reasons described above, the BLM has adequately designed and analyzed for new road construction and the potential effects related to noxious or invasive species. No modification to the project or additional analysis is required.

5. *The BLM refuses to analyze in any detail the degree of early-seral habitat being provided in the immediately surrounding private lands. Even private land clearcutting can provide early seral habitat for 5-10 years after logging…Agencies should take into consideration the thousands of acres of early seral habitat surrounding the project area.*

The BLM considered all relevant, appropriate, and available information in the EA. The BLM must use information of high quality and scientific integrity in its NEPA analyses, including information provided as part of the public involvement.

The BLM described the land surrounding the project area in the EA. The EA (p. 50) states that private forest lands in this part of the Oregon Coast Range are now dominated by early-seral and mid-seral forest stands that are currently being managed on short harvest rotations of 40–60 years.

The EA (p. 57) states that while some recent clearcut harvests on adjacent private lands also provide open habitat for early seral wildlife species, these private clearcuts generally lack the biodiversity potential provided by variable retention harvest (Franklin and Johnson 2012). This is because typical clearcut practices on private lands leave few biological legacies (e.g., snags, down logs, broad-leafed shrubs), are quickly and densely reforested, and frequently use herbicides to limit the growth of native shrubs that complete with the desired conifer seedlings (Swanson et al. 2011). Early-seral conditions may exist, but they are not the high quality conditions that early-seral species depend upon.

The comment states that private land clearcutting provides early-seral habitat for 5–10 years, but no evidence is provided to support the claim. The BLM has appropriately considered the conditions of both BLM lands and surrounding private lands. The analysis is sufficient to support that high quality early seral habitat is lacking in the project area.

6. *There is no need for this patch of BLM lands to be logged to create early-seral habitat.*

The BLM has properly defined the purpose and need in the EA. The RMP provides direction on how to manage land within the Salem District. The regeneration harvest portion of the Rainbow Ridge timber sale is located entirely within the Matrix (General Forest Management Area) land use allocation.

One of the objectives of the project is to create high quality early-seral habitat. The Salem RMP supports this objective by calling for a "…well distributed pattern of early, mid, and late successional forest across the Matrix[11]" (p. 46). The EA clearly demonstrates that this condition is not being met, considering the limited amount of early seral habitat on BLM lands in the project area watersheds. Only 16 percent of BLM lands in the area are in an early seral condition and only 0.03 percent is under 20 years old (EA pp. 5, 33). Regeneration harvest will convert 81 acres of mid-seral forest (which is abundant in the project area, EA pp. 33–34) to early seral forest, increasing the amount of early-seral habitat in the project watersheds by one percent. While small, it is nevertheless an important habitat to provide for on BLM lands. The BLM has defined an appropriate need for the early-seral habitat on BLM-managed lands.

7. The Salem BLM needs to develop a full EIS if it is going to implement variable retention harvest, a new harvest model.

The BLM has appropriately determined that preparation of an EIS is not necessary. The determination of whether or not to prepare an EIS rests on whether the proposed major federal action will have a significant effect on the quality of the human environment. 42 U.S.C. 4332(2)(C). One element that is weighed in determining significance is the intensity, or severity, of the potential impact. 40 C.F.R. 1508.27(b).

The IDT completed a comprehensive analysis of the potential effects of the Rainbow Ridge timber sale in the EA and determined that there would not be significant impacts associated with the project activities as documented in the associated FONSI (May 2015). Any potential adverse effects of the selected action would not exceed those analyzed within the RMP. Further, the variable retention harvest is not a new harvest model as the comment suggests. The RMP anticipated a variety of retention strategies, including both dispersed and clumped methods that Rainbow Ridge incorporates. The BLM has satisfied the requirements of NEPA in its completion of an Environmental Assessment; an EIS is not required.

8. BLM should forgo the implementation of broadcast burning and its associated activities and instead implement whole tree yarding.

The BLM has appropriate prescribed and analyzed a range of fuel reduction treatments for the Rainbow Ridge timber sale. The fuels section in the EA analyzes for a range of alternatives and impacts. The first objective of this variable retention harvest project is to create complex, early-seral habitat that would function as such for up to 30 years. Reforestation would follow harvest and utilize both planting and natural regeneration. Within 100 feet of aggregates, only natural regeneration would occur. Outside of these areas a mixture of trees would be planted. The use of prescribed fire would help prepare the areas to be planted and would prepare the seedbed adjacent to the aggregates for natural regeneration as well as retarding the growth of brush for several years to improve the likelihood for natural regeneration to be successful. Since the objective is to create early seral habitat, objectives would still be met if the project areas were not burned for several years.

[11] Early seral is typically described as 0–39 years, mid-seral is 40–79, and late-seral is 80 years and older.

The EA states that the BLM would conduct post-harvest fuel hazard surveys and would recommend site-specific treatments as needed for fuel reduction. Fuel treatment strategies would be implemented to reduce both the intensity and severity of potential wildfires in the long term (after fuel reduction has occurred) and for site preparation.

The BLM has historically implemented a wide variety of fuels reduction treatments on thousands of acres across the Salem District. These treatments have included lopping and scattering of slash, slash pullback, utilization of slash for firewood or removal for energy production from biomass. Other treatments have included landing piling, machine piling, or handpiling and burning, swamper burning, as well as broadcast burning. All of these treatments have been successfully utilized regularly in the past and remain viable options following harvest depending on site specific conditions.

Smoke management issues arise whenever there is potential for smoke to impact the air shed. The project area is close to the Willamette Valley Smoke Sensitive Receptor Area. The analysis concludes that there will be approximately 35 tons of slash per acre following harvest. This amount of slash is on the low end of tonnages for broadcast burning when compared to broadcast burns in clear cuts of the past that had 75 to 150 or more tons of slash per acre. Burn days are limited, but not impossible to obtain.

Prior to any type of burning, a prescribed fire burn plan must be initiated by a fuels specialist or prescribed fire burn boss, reviewed by a prescribed fire burn boss and the Fire Management Officer, and signed by the Authorized Officer. The burn plan is a site-specific prescription that takes into account all of the factors necessary to successfully implement the burn. The Oregon Department of Forestry and Oregon Smoke Management are consulted prior to ignition. The fire behavior prescription describes the range of fire behavior needed to achieve the fire behavior and resource objectives. Any combination of weather and fuels parameters that results in an acceptable fire behavior range is considered to be within prescription.

While whole tree yarding would reduce the fuel load on the regeneration harvest unit, it would at the same time reduce the nutrient cycling capability of down and rotting wood. In addition, this type of yarding removes larger diameter wood that would be better suited to remain on site for wildlife habitat. Burning would occur in the spring and be more likely on the low end of the prescription with generally cooler temperatures and higher fuel moistures. Much of the slash if left in the unit and not whole tree yarded would remain following burning. Further, this lower-heat type of burn does not kill the shallow roots of shrubs and forbs and the short-term flush of nutrients from the ash helps to generate a healthier understory component in the unit which is the major objective of the project. For the reasons described above, the BLM has adequately provided for a range of fuel reduction treatments.

9. *Forgo the design features to treat laminated root rot…treating areas of laminated root rot would be counter-productive in maintaining and improving wildlife habitat.*

The BLM adequately described the need to treat laminated root rot within the Matrix. The thinning treatments are designed to meet many objectives based on RMP direction and current stand conditions. The RMP provides direction for the Matrix land use allocation. The RMP (pp. 46-48) state to “promote tree growth and survival” and “manage timber stands to reduce the risk of loss from fires, animals, insects, and diseases.” Leaving the laminated root rot untreated would be inconsistent with management direction for this land use allocation. It is not the BLM’s intent to eradicate laminated

root rot from the landscape. With over 100 acres in the project area being left untreated, laminated root rot will persist in the area. The BLM has appropriately prescribed for the treatment of laminated root rot within the timber sale boundaries.

10. *Variable retention harvest may enhance barred owl populations while shrinking habitat for the northern spotted owl.*

The BLM adequately analyzed the potentially effects to northern spotted owls in the EA. The EA (p. 52) states that planned harvest units may only provide "...dispersal habitat for spotted owls since these units lack older forest structure that would provide suitable nesting, roosting, and foraging habitat for this species"; the BLM further mentions that there are "...no active spotted owl sites within 1.5 miles of this project area." Therefore, no suitable habitat would be lost and no resident owls would be affected as a result of this proposed action. Further, the BLM received a Letter of Concurrence (#01EOFW00-2012-I-0124) from the USFWS (dated 9/23/2014), confirming their concurrence that the activities included within the Rainbow Ridge timber sale are not likely to adversely affect any listed wildlife species or their critical habitat.

The relevant science (Dugger et al. 2011) suggests that spotted owl sites that exist in a landscape with less older forest habitat (suitable habitat) are more likely to suffer local extinction when barred owls are also present, as compared with spotted owl sites that have more abundant older forest in the local landscape. The BLM action is not modifying any older forest and is not affecting any resident owl sites. The BLM has appropriately considered effects to the northern spotted owl and no further analysis is necessary.

11. *For decades there will be far fewer snags than would result from naturally occurring mortality… Cavity dwellers or cavity nesters, like flying squirrels and woodpeckers, evolved in forested habitats. The claim that they would choose to nest in a clearcut is questionable at best.*

The BLM is in compliance with RMP requirement for snag and coarse woody debris in the Matrix (General Forest Management Area) land use allocation. There is no requirement for the BLM to maximize standing and down coarse woody debris.

The BLM conducted surveys to determine the quantity and size of standing and down wood in the project area (EA p. 31). Over the majority of the regeneration harvest unit, snags average 12 inches DBH and occur at a rate of approximately 13 per acre.

The BLM designed the aggregates to serve many functions. Aggregates were designed to "minimize the potential deficit of large hard snags and down logs" and "provide for structural diversity and wildlife values" in the post-harvest stand (EA p. 10). Within these no-harvest areas, natural processes (including density mortality) will continue. Alternative 2, which includes both aggregated and dispersed retention, will reserve more trees for future standing and down coarse woody debris than Alternative 3. Further, no harvest areas in the section (greater than half the 240 acres BLM manages) will continue to provide for naturally occurring mortality.

The BLM appropriately analyzed the effects of the proposed action on wildlife species. The EA (p. 57) acknowledges that the context for snags and down log conditions would change from "…low amounts within a closed canopy mid-seral forest, to moderate amounts within an open early-seral habitat patch." The majority of naturally occurring tree mortality within a closed canopy mid-seral forest occurs in the

smaller diameter trees. The BLM made no claim that forest dwelling species (like flying squirrels) would nest within snags in the early seral forest stage that is created by regeneration harvest. Snags within the early seral habitat conditions created by the harvest action would be available to those cavity nesting species that prefer open habitat conditions. The BLM has sufficiently provided for future snags and CWD and analyzed the potential impacts to wildlife species.

12. Comment: *The southwest corner of unit 29D should be reserved from harvest to allow red tree voles to disperse across the untreated area into the proposed aggregates.*

The BLM has appropriately provided for red tree voles and analyzed the potential effects to the species in the EA. The proposed action maintains a corridor of untreated stands that includes aggregates 1 and 2 and the untreated stream protection zones along the west edge of Section 29 (EA p. 13, Map 2). The only active red tree voles were detected within a 10 acre patch of older which has been reserved from harvest as shown on the selected action map in this DR. The current management recommendations for red tree voles (USDA-FS and USDI-BLM 2000a) suggest a minimum reserved habitat area of at least 10 acres. All of the aggregates are smaller than 10 acres and they currently do not contain older forest habitat conditions that could support red tree vole population persistence (Huff et al. 2012). It is unnecessary to maintain a corridor of untreated stands to join all the aggregates in which no active red tree vole nests were detected. The BLM has sufficiently analyzed the effects to red tree voles and designated areas for their protection.