

Rowell Creek Timber Sale

Decision Record

Environmental Assessment: DOI-BLM-ORWA-S050-2012-0001-EA

January 2016

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

Township 7 South, Range 8 West, Section 1, Willamette Meridian
Polk County, Oregon

Responsible Agency: USDI – Bureau of Land Management

Responsible Official: Paul Tigan, Field Manager
Marys Peak Field Office
1717 Fabry Road SE
Salem, OR 97306
(503) 315-5968

For further information, contact: Stefanie Larew, Project Lead
Marys Peak Field Office
1717 Fabry Road SE
Salem, OR 97306
(503) 375-5601



1.0 Introduction

The Bureau of Land Management (BLM) conducted an environmental analysis for the Rowell Creek timber sale, which is documented in the *South Yamhill River Watershed Enhancement Environmental Assessment* (EA) (DOI-BLM-ORWA-S050-2012-0001-EA¹), the Rowell Creek Timber Sale Determination of NEPA Adequacy (DNA), and the associated project file. This decision authorizes the implementation of those activities directly related to and included within the Rowell Creek timber sale. This timber sale is located within the Adaptive Management Reserve² (Adaptive Management Area with Late-Successional Reserve overlay) and Riparian Reserves land use allocations in the South Yamhill-Agency Creek fifth field watershed in Polk County, Oregon.

2.0 Decision

I have decided to implement the Rowell Creek timber sale, as described in the Alternative 2 of the EA, 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 EA, the supporting project record, management recommendations 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) (1995), which are incorporated by reference in the EA.

Decision Summary

The following is a summary of components of this decision. The Rowell Creek timber sale consists of timber harvest, road work, and post-harvest fuel reduction treatments on 367 acres³ of the 705 acres that the BLM manages in Section 1. Approximately 13.7 MMBF (million board feet) will be offered for sale, averaging 37.3 MBF (thousand board feet) per acre.

Density Management

Density management will occur on approximately 344 acres of 74–80 year old stands in the Adaptive Management Reserves (192 acres) and Riparian Reserves (152 acres) land use allocations. Density management in both land use allocations will be implemented by thinning from below to a variable basal area, leaving healthy dominant and co-dominant trees with the largest crowns. From the outer edge of the stream protection zone to the outer edge of the Riparian Reserve, canopy closure will be maintained at 50 percent. Pre-harvest stand basal areas range from approximately 160 to 290; basal area will be reduced to 110 to 130.

The BLM developed marking guidelines to ensure the prescription would be implemented as designed. Only Douglas-fir and western hemlock will be harvested within timber sale units.⁴ Douglas-fir represents approximately 83 percent of the trees to be harvest and the average tree to be harvested is 15.7 inches diameter at breast height (DBH). The average reserve tree is 22.6 inches DBH. Table 2–1 on the following page provides some information on pre- and post-harvest stand attributes.

¹ The EA was originally published with NEPA number DOI-BLM-OR-S050-2012-0001-EA.

² Within the LSR, silvicultural activities may only occur in stands up to 80 years of age. In the AMR, such activities may occur in stands up to the 110 year age class (106-115 years).

³ This represents 344 acres within harvest units and 23 acres of rights-of-way (ROW). ROW calculations include both new road construction (15 acres) and existing roads in which trees will be cut as part of renovation (8 acres). GIS was used to calculate acres; minor variances in rounding may occur.

⁴ Marking guidelines do not apply to road ROWs. Western red cedar within road ROWs will be harvested.

Table 2-1. Stand attributes: Pre- and post-harvest

EA Unit	EA Acres	Final Acres	Pre-treatment values			Post-treatment values		
			TPA ²	Basal Area (ft ² /acre)	Canopy Cover (%)	TPA	Basal Area (ft ² /acre)	Canopy Cover (%)
1A	370	309	192	293	88	47	130	59
1B	7	6	134	255	81	41	120	54
1C	33	29	103	244	76	38	110	51
Total¹	413	367						

¹Includes 23 acres of road ROWs, which remains unchanged in the final acreage. ROWs cross multiple units.

²Trees per acre. Includes all species greater than 7 inches DBH.

Timber Yarding

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

- Ground-based yarding – 127 acres (35 percent)
- Skyline yarding – 240 acres (65 percent)

Fuel Reduction Treatments

The BLM will conduct post-harvest fuel surveys and recommend fuel reduction treatments as described in the EA. Fuel reduction treatments may include pile construction, covering, and burning at landings, within treatment areas, along roads, or property lines. Other options include slash pullback, slashing, lopping and scattering, and firewood cutting (EA p. 21).

Road Construction and Decommissioning

Approximately 3.5 miles (18,687 feet⁵) of new road construction will occur. The BLM estimates the average clearing width to be 40 feet, resulting in clearing up to 15 acres of forests. These roads will be rocked to allow for year-round hauling.

Approximately 3.2 miles (16,904 feet) of road construction will occur in the AMR and 0.33 miles (1,783 feet) will occur in the Riparian Reserves. No road construction will occur within 75 feet of streams.

The EA stated that road decommissioning can entail many activities and the level would be determined on a site-specific basis (p. 21, A-5). Select roads (approximately 17,000 feet), as indicated on the Selected Action map in this DR, will be blocked to vehicular traffic, will have cross-drains and culverts pulled, and will have waterbars installed. This includes all road construction in the Riparian Reserves. The rocked surface will remain in place. This level of decommissioning (or long-term closure or storage) will result in the re-establishment of overland flow paths through the road prism and re-establishment of natural stream function where culverts are removed. Other roads (approximately 1,642 feet) will be left in place following harvest to allow for future management and administrative access. Table 2-2 displays the length and final disposition of each piece of new road construction.

⁵ This represents a reduction of approximately 1,000 feet analyzed in the EA.

Table 2-2. New road construction within the Rowell Creek timber sale

Road Number	Road length (ft)	New road to remain post-harvest (ft)	Road to be decommissioned post-harvest (ft)
P spur	2,575	0	2,575
P1	550	0	550
P2	1,562	0	1,562
P3	190	0	190
P4	700	0	700
P5	1,220	0	1,220
P6	1,735	0	1,735
P7	2,860	922	1,938
P8	1,310	0	1,310
P9	535	0	535
P10	1,845	0	1,845
P11	380	0	380
P12	1,400	0	1,400
P13	705	0	705
P14	400	0	400
36.0/1.0 tie	720	720	0
Totals	18,687	1,642	17,045

Road Renovation and Improvement

Renovation will occur on approximately 1.4 miles of existing roads and road improvement will occur on approximately 0.87 miles of existing road. 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. Improvement actions are those that improve the road over its original design standard and may include those actions described above.

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. The BLM will conduct post-harvest monitoring to determine site-specific fuel treatment needs, the extent of *Phellinus weirii* infection centers, and subsequent treatment needs. Further, stand exams are recommended in years following treatment to collect data on trees, snags, coarse woody debris, and ground vegetation (silvicultural prescription p. 17).

Updated Information and Corrections

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. 21–33) have been incorporated into the timber sale contract, with the exception as noted below. Section 6.0 of this DR describes additional terms and conditions incorporated into the project design as a result of consultation with National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS).

Connectivity Corridors

The BLM worked with U.S. Forest Service researchers to establish three connectivity corridors in the Rowell Creek timber sale. These corridors were mistakenly described as being “unthinned” in the EA (p. 26), though the interdisciplinary team analyzed them to be thinned (EA p. 85). The BLM marked the corridors to be a lighter thin (higher retention). The BLM will fell trees along and across two of the three corridors post-harvest.

Seasonal Restrictions – Hauling

The period for hauling on Fire Hall road was inaccurate in the Table of Seasonal Restrictions (EA p. 22). The interdisciplinary team analyzed for year-round haul on this road.

Grass Seed Requirements

The BLM has updated the requirements for grass seeding. Instead of limiting contractors to seed that is Oregon Certified (blue tagged), the BLM will apply limits and thresholds that the seed must meet or exceed:

Percent germination rate: 85 percent minimum

Percent pure seed: 97 percent minimum

Crop and weeds: none

Noxious weed seed: none

If seed is not available, the project area will be sown with seed approved by the resource area botanist. Prior to applying seed, the contractor will supply the BLM with the seed label showing testing results listed above (BMP R 97).

Shade Sufficiency Analysis

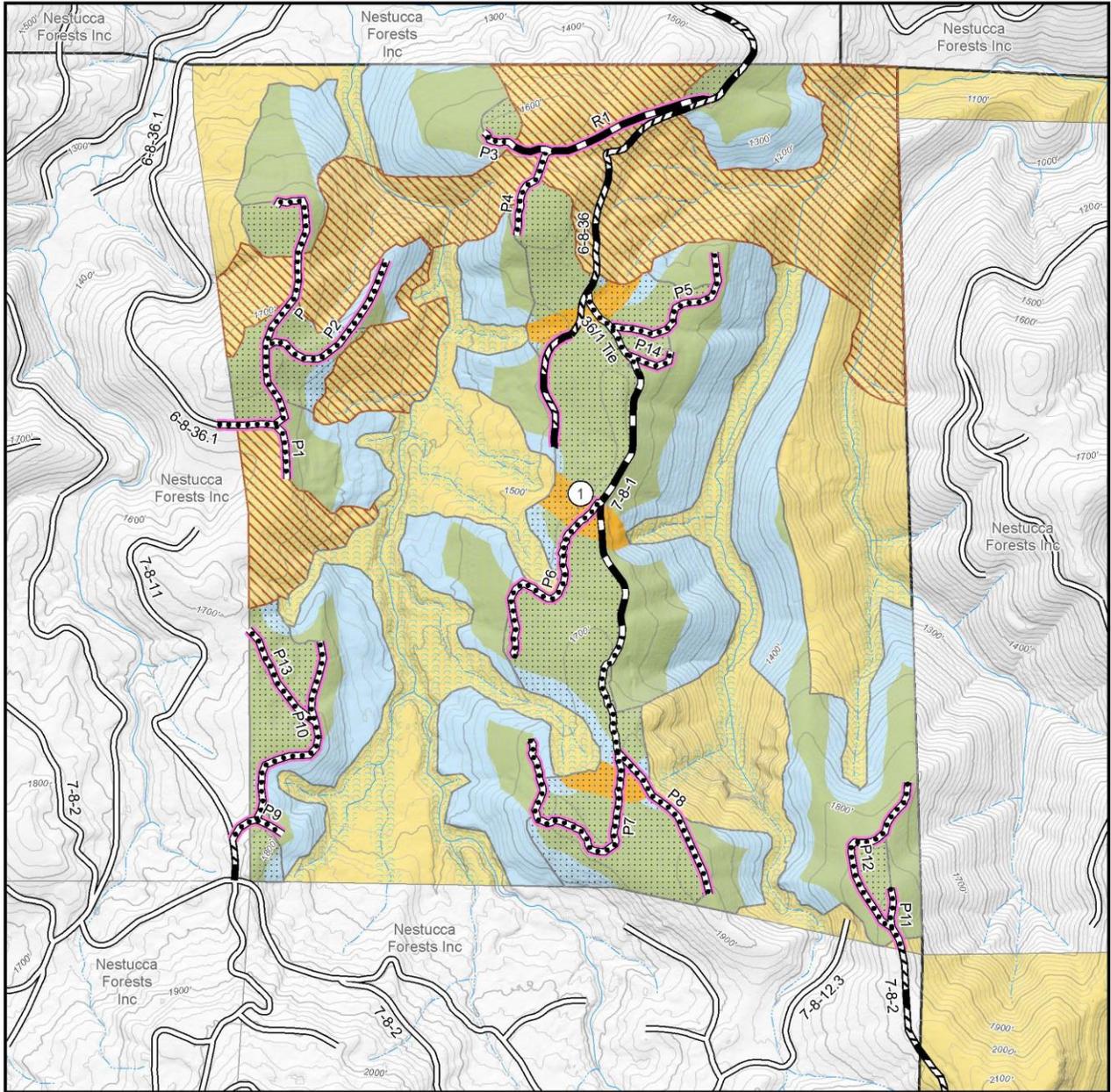
The shade sufficiency analysis described in the EA and referenced in the silvicultural prescription was cited incorrectly, claiming reference to the 2005 TMDL strategy. However, the table used in the silvicultural prescription reflects guidance from 2010 that updated the 2005 TMDL strategy. The BLM completed an Memorandum of Understanding in 2011 that adopted this update.

Citation: Northwest Forest Plan Temperature TMDL Implementation Strategies – Evaluation of the Northwest Forest Plan Aquatic Conservation Strategy and Associated Tools to achieve and maintain stream temperature water quality standards. USFS and BLM. Update of September 5, 2005 DEQ Conditionally Approved Version November 15, 2010.

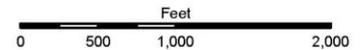
Figure 1. Selected Action



UNITED STATES DEPARTMENT OF THE INTERIOR
 Bureau of Land Management
 Salem District - Oregon
ROWELL CREEK TIMBER SALE
 T. 7 S., R. 8 W., Section 1, W. M. - SALEM DISTRICT - OREGON



- | | | |
|---------------------------|-------------------------------------|----------------------|
| Road to be Constructed | Rowell Creek Density Management | Ground-Based Yarding |
| Road to be Improved | Riparian Reserve Density Management | Skyline Yarding |
| Road to be Renovated | Connectivity Corridors | BLM Land |
| Road to be Decommissioned | Red Tree Vole Habitat Area | |
| Existing Road | Stream Protection Zone | |
| Fishbearing | | |
| Non-Fishbearing | | |



Contour interval: 20ft.
 Date: 12/31/2015

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

3.0 Alternatives Considered

The EA analyzed the effects of the No Action, Proposed Action, and Limited Road Construction alternatives. No unresolved conflicts concerning alternative uses of available resources (section 102(2) (E) of NEPA) were identified. In the EA (p. 36), the BLM discussed a “no new road construction” alternative as an alternative considered, but not analyzed in detail. Within the “no new road construction” alternative, the acres available for density management areas would either be substantially reduced or would require helicopter logging. The interdisciplinary team completed a cost-analysis in stands that would require helicopter logging and determined that the value of the timber would be unlikely to offset the high logging costs. This would likely result in a no-bid sale. Further, the interdisciplinary team determined that the planned road construction, located appropriately and with relevant PDFs and BMPs applied, is unlikely to result in significant negative resource impacts (EA p. 36). Complete descriptions of the three alternatives are in the EA (pp. 14–33).

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 Mill Creek, Rickreall Creek, Rowell Creek, Luckiamute River Watershed Analysis (1998), the Late Successional Reserve Assessment, Oregon Coast Province – Northern Portion (1998); 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 p. 7). The selected action:

- Best meets the purpose and need of the project (EA Section 1.3);
- Is consistent with the Salem District RMP; and,
- 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 and efficient. This sale will produce revenue for the Federal Government, provide jobs for Oregonians, and minimize waste while meeting the purpose and need; and
- Meets Aquatic Conservation Strategy Objectives (EA pp. 116–127); and
- 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. Taking no action would fail to address the need to accelerate the late-successional old growth forest conditions within the project area; our current understanding indicates that managed forests in the project area have declining growth rates and limited structural diversity. Applying density management via the Rowell Creek timber sale will improve conditions for long-term increases in fish and late-successional wildlife species, especially northern spotted owl and marbled murrelet populations.

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 consists of traditional ground-based and skyline yarding systems while Alternative 3 would reduce the amount of road construction, in favor of aerial yarding. The environmental analysis describes in detail the differences in impacts between the two alternatives. It is clear from that analysis, and the totality of the project record, that while both alternatives can achieve the purpose and need for the project, the overall differences in resource impacts between the alternatives are minimal.

A review of the EA shows a few examples of the differences between the impacts from the alternatives:

- In the wildlife section, impacts to special status species, marbled murrelets, Birds of Conservation Concern, and red tree voles would be “unchanged” or “nearly identical” (EA, section 3.2.2). Alternative 3 would provide “slightly greater benefit” to big game species.
- Under fisheries (section 3.3.2, the EA states, for effects from falling and yarding, in Alternative 3, “[a]n additional 31 acres of proposed treatment in Rowell Creek timber sale would occur as a result of helicopter yarding. Flow, sediment, temperature, and LWD effects would be similar in scope and nature as described under Alternative 2.” For road construction, changes from selecting Alternative 3 “would be unlikely to affect fish habitat.”
- For hydrology (section 3.4.2), the EA contains roughly the same assessment of impacts for each alternative. For peak flow cumulative effects, “none of the proposed harvest activities in Alternative 2 or 3 would result in a measurable impact to water yields.” For sedimentation, “the creation of new roads on ridge tops, temporary skidding roads, yarding corridors and the removal of trees are unlikely to measurably increase sedimentation into project area streams because the established stream buffers will filter out potential sediment that might enter the buffer.” For road work and hauling, under Alternative 2, “New road construction, use, and decommissioning will result in no expected additions of sediment to stream channels in the project area...[and] Drainage improvements would likely improve water quality over existing conditions.

So while it would not be fair to call the level of impacts between the two Alternatives identical, a review of the EA does not show an overwhelming difference that would necessitate choosing Alternative 3 based solely on the impacts. With this in mind, I reviewed the economic feasibility and efficiency of the project, another component of the decision criteria outlined in the EA.

For Rowell Creek, we would anticipate a slightly larger harvest under Alternative 3 (approximately 8 percent, by acreage), but the overall efficiency of the operation would decrease greatly because of the much higher stump-to-truck costs (an estimated 125 percent increase to conduct aerial yarding). As was described in Section 1.4 of the EA, economic viability and efficiency is a decision criterion for the project. Not only would increasing the cost of the logging by such a substantial amount put the overall viability of the project at risk, such a remarkable decrease in efficiency – that is, the cost of the inputs to complete the project versus the expected output – would result in an unjustifiable loss to the taxpayers.

For all of the reasons outlined above, I selected Alternative 2 for this project.

Determination of NEPA Adequacy (DNA)

As mentioned on page 1, I issued a DNA regarding the Rowell Creek timber sale’s compliance with

Survey and Manage. At the time the EA was published, all project stands were eligible for exemption from the Survey and Manage standard, because the projects entailed only thinning in stands less than 80 years of age. Some stands within Rowell Creek are now 80 years of age and are thus no longer eligible for this exemption. However, the BLM remains in compliance with Survey and Manage.

The BLM surveyed for vascular plants, bryophytes, and lichen species (regardless of listing status) for the entirety of section 1 in summer 2010. The EA specifically addressed three lichen species present on the 2001 species list (EA pp. 40, 44, 49, and 51): *Chaenotheca chrysocephala*, *Calicium viride*, and *Platismatia lacunosa*. Only one of these species, *Chaenotheca chrysocephala*, remains a Category B species on the December 2003 species list; the other two species were removed during the 2002 Annual Species Review. All known sites will be protected, but no specific management recommendations exist for the species. The known site in Rowell Creek is protected from its inclusion within the SPZ. It will be reserved from disturbance. These findings were documented in the DNA.

5.0 Compliance with Direction

This proposed action is in conformance with the Salem District 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 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

As stated above, the Rowell Creek 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.

The Rowell Creek timber sale utilizes the December 2003 species list. This list incorporates 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 al.*, 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 existed in the 2001 ROD Standards and Guidelines, which makes the species Category C throughout its range. Details of the project surveys were included in the EA (pp. 57–60).

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. 116–127). Approximately 152 acres (44 percent) to be thinned are within the Riparian Reserves. These acres will 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 April 4, 2012 the BLM sent a scoping letter to 24 potentially affected or interested individuals, groups, and agencies. The BLM received three letters during the formal scoping period and used these in the development of the project. The South Yamhill River Watershed Restoration EA (which covers the Rowell Creek timber sale) has appeared regularly 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 May 14, 2014 to June 12, 2014 and received four comment letters during this period. Responses to the substantive public comments relevant to the Rowell Creek timber sale can be found in Appendix A of this DR. The BLM published a Determination of NEPA Adequacy (DNA) in January 2016.

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)

Due to potential effects to spotted owls, marbled murrelets and their designated critical habitat, as outlined in Table 6, 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 units 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 proposed action has been designed to incorporate all appropriate design standards included in the BA. A Letter of Concurrence (#01EOFW00-2014-I-0234, dated September 23, 2014) was received from the Service confirming their concurrence that the projects within this proposed action are not likely to adversely affect any listed wildlife species or their critical habitat.

Fish: National Marine Fisheries Service (NMFS)

Consultation with National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) is required for all actions which “may affect” ESA listed fish species and critical habitat. The area where the proposed action is located contains tributaries to streams and rivers where Upper Willamette River (UWR) winter steelhead trout and UWR Spring Chinook salmon are listed as threatened under the Endangered Species Act.

UWR Winter Steelhead Trout – A determination has been made that the proposed Rowell Creek Timber Sale Project “may affect, likely to adversely affect” UWR Winter Steelhead trout as well as its designated critical habitat. The determination is primarily due to the proposed timber hauling that is expected to have negative effects on several habitat indicators. Consultation was therefore initiated with NMFS in December 2014. The NMFS returned a completed Biological Opinion (BO) with terms and conditions for project implementation and monitoring on October 22, 2015, completing the

consultation process. These terms and conditions are non-discretionary:

- Hauling – Timber hauling is avoided when road conditions would generate excessive sediment.
- Monitoring plan – A monitoring plan is developed that includes the measurement of the number of miles of aggregate-surfaced road that are used for wet-season hauling and can deliver sediment to streams. This monitoring will be reported annual through the duration of the timber sale.

The actions in this decision contribute to the “may affect, likely to adversely affect” determination for UWR Winter Steelhead trout, and are bound by the BO terms and conditions. In the BO, NMFS concludes that the proposed action is not likely to jeopardize the continued existence of the species and will not result in the destruction or adverse modification of its designated critical habitat.

UWR Spring Chinook salmon – A determination has been made that this proposed project will have “no effect” to UWR Spring Chinook salmon. Generally, the “no effect” determination is based on the distance upstream of project activities (approximately 65 miles) from ESA listed Chinook critical habitat.

Essential Fish Habitat (EFH) – Protection of 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 proposed project may affect EFH of coho salmon due to proximity of the proposed haul route. Effects of the proposed action on EFH were assessed concurrently with the ESA consultation with NMFS.

7.0 Conclusion

Review of Finding of No Significant Impact

I have updated the draft Finding of No Significant Impact that was published with the EA in May 2014. This update 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 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-Observe newspaper on January 27, 2016.

To protest a decision, a person must submit a written protest to the Marys Peak Field Manager at 1717 Fabry Road SE, Salem, Oregon, 97306. 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 and must be received by the Marys Peak Field Manager by the close of business (4:30 p.m.) on February 11, 2016. For additional information, contact Stefanie Larew, project lead, at (503) 375-5601.

Appendix A: Response to Public Comments Received on the South Yamhill River Enhancement Environmental Assessment (DOI-BLM-OR-S050-2012-0001-EA)

The BLM received four comment letters during the 30 day public comment period for the EA. It is the BLM's intent in this DR to respond to substantive comments directly related to the Rowell Creek timber sale. Many comments are statements of opinion, generic in nature, or do not pertain to the Rowell Creek 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. **Comment:** *We would like to see all timber sales be economically viable...We encourage the BLM to implement the alternative that utilizes the proposed road construction to treat as much of the stands in need in an economical manner.*

Response: Economic viability is one of the many objectives of this project. The EA considered logging costs for both action alternatives (EA p. 111). A no-roads alternative would result in significantly more helicopter yarding, which is more expensive than traditional yarding methods. The BLM noted that market conditions fluctuate throughout the year and that the estimate in the EA may or may not be accurate at the time of sale offering (EA p. 111). In the time since the EA was published, the value of timber has decreased slightly and estimated logging costs have increased. On paper, Alternative 3 appears to remain an economically viable option, though the 124 percent increase in costs to conduct the sale would represent a large decrease in the government's receipts for the sale of the timber.

2. **Comment:** *Look to the right mix of treatments in the Riparian Reserves: some areas left unthinned, some areas thinned non-commercially, and some patches thinned.*

Response: The BLM has appropriately designed Riparian Reserve treatments within the Rowell Creek timber sale. Approximately 152 acres of the 344 acres of harvest units are within the Riparian Reserves. The Rowell Creek timber sale, as designed, includes large, contiguous swaths of Riparian Reserves that will remain unharvested. Incidentally felled trees (e.g., those felled for yarding corridors) within the Riparian Reserves will likely remain onsite. This comment fails to explain how the Rowell Creek timber sale represents an inappropriate mix of treatments in the Riparian Reserves. The BLM specifically selected the stands for their suitability to meet the purpose and need and not to meet an arbitrary threshold or mix of treatments.

This decision is limited to the Rowell Creek timber sale, though Project 2 in the EA would include non-commercial treatment in the AMR and the Riparian Reserves. A decision has not yet been made on that project. The BLM has found that the Rowell Creek timber sale, as designed, provides the appropriate mix of treatment to meet the purpose and need for the project and management direction.

3. **Comment:** *Logging will reduce the number of dead trees recruited to the Riparian Reserves...The EA needs to recognize the long-term effects of captured mortality...Thinning generally has adverse effects on snags and dead wood. Logging does not increase the recruitment of large wood...We urge the BLM to apply wider no cut buffers on all streams.*

Response: This comment addresses concerns to dead wood in both the Riparian Reserves and the Adaptive Management Reserves (upland). The BLM has adequately analyzed the effects of the proposed action on large woody debris (LWD) and coarse woody debris (CWD) recruitment.

Significant impacts are not expected due to the large amount of land that will remain untreated, sufficient no-harvest buffers in harvest units, and the long-term increases in growth of remaining trees.

Approximately 152 acres (or 44 percent) of the Rowell Creek timber sale is within the Riparian Reserves. The BLM determined that these stands could benefit from treatment to meet RMP objectives (EA p. 4). The BLM analyzed the effects of the proposed action on ACS objectives, which includes impacts to LWD recruitment (EA pp. 116–127). 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).

Stream protection zones (SPZs) are stream buffers in which no harvest will occur. These no-cut buffers were determined by shade sufficiency analysis, which considers the average hillslope and average tree height (as determined by stand exam data) to define the primary shade zone. For Rowell Creek, the average hillslope ranges from 30–60 percent and the average tree height is 140 feet, yielding a 75 foot SPZ on all streams in the section. The SPZ width is greater than this woody debris recruitment zone, and would be anticipated to maintain instream wood recruitment rates (EA pp. 75–76, 120).

With treatment, trees would reach large diameters earlier compared to the no-treatment option, creating opportunities for high quality LWD recruitment. Larger wood will be recruited from farther up the slopes as the treated stands reach heights of 200 feet. Thus, wood with a larger range of sizes would potentially be recruited into streams in the long term (EA p. 118).

Of the 705 acres of BLM-managed land in the section, 367 acres will be treated within the Rowell Creek timber sales (344 of harvest units and 23 of road rights-of-way). Approximately 338 acres, just under half of the section, will be left untreated; smaller trees will continue to fall within these untreated stands (EA p. 118). Many of these acres are within the no-harvest buffers along streams. These acres are not aggregated in one area; rather, they are distributed throughout section in large, contiguous swaths. The no-harvest buffers, greater than 75 feet on each side of the stream, provide places where competition-related mortality will continue and natural LWD recruitment processes will be maintained. These untreated acres will allow for continued biotic and abiotic processes (regardless of stand density) that provide all sizes of CWD and LWD independent of active management. The BLM finds that the proposed harvest will meet RMP objectives for the Adaptive Management Reserve and Riparian Reserves land use allocation and will not result in significant impacts to LWD and CWD.

4. Comment: *To obtain a better mix of treated and untreated areas, we urge BLM to drop portions of the project that require road construction. Rowell Creek appears to treat too large a fraction of that section...agency should consider alternatives with different mixes of treated and untreated areas.*

Response: As stated in Section 1 of this DR, the Rowell Creek timber sale will occur on approximately 367 of the 705 acres (or 52 percent) of the acres BLM manages. This comment implies that this is inappropriate, but fails to define a “better mix.” The RMP does not set restrictions on the fraction of an area that can be harvested. The BLM completed a site-specific analysis of the stands at Rowell Creek to determine their suitability for forest management actions to meet the purpose and need of the project. As stated in the previous response, dropped areas are not aggregated in one area; rather, they are distributed throughout the whole section in large, contiguous swaths. When compared to the landscape scale, the South Yamhill projects account for approximately one-third of the lands that the BLM manages in the fifth-field watershed. The variability in treatment types and harvest levels

(e.g., Section 1 with a higher fraction treated and Section 7 (T. 7 S., R. 7. W.) with a lower fraction treated) contribute to overall greater diversity at the landscape scale.

5. **Comment:** *Thinning in harvest units that are less than 50 years old is more likely to have significant environmental impacts...The agency should refocus its efforts on younger stands where the results are likely to be on balance more beneficial...BLM should re-evaluate every unit older than 50 years (especially Rowell Creek and Lucky Rowell) to determine whether the net ecological benefits are likely.*

Response: The South Yamhill EA analyzed forest management opportunities at a landscape scale. This scale was the South Yamhill-Agency Creek fifth-field watershed, in which the BLM manages approximately 3,600 acres. The six timber sales analyzed in the EA account for 1,168 acres in stands that range from 42 to 80 years (2016 ages). The BLM completed a site-specific analysis of the proposed action on these forest stands and found that no significant impacts are anticipated.

The silviculture prescription describes the current condition of stands in Rowell Creek and how the planned harvest can help meet RMP objectives for the AMR and Riparian Reserves land use allocations. The forest stands are overstocked; the weighted-average stand relative density is .80. Above relative density index of about 0.55 competition is strong and tree growth and vigor declines (prescription p. 6). Under such conditions, crowns recede from below due to shading, growth slows in response to the loss of crown, and stems become taller and more slender as height growth continues (prescription p. 8). Density must be reduced to meet specific RMP objectives identified in the purpose and need (EA pp. 3-4). This project is designed to maintain, enhance, and accelerate the development of late-seral/old-growth forest conditions to benefit terrestrial wildlife and aquatic habitats and to develop desired vegetation characteristics needed to attain ACS objectives. The BLM determined that treatment of the Rowell Creek stands, ranging from 74-80 years of age, is appropriate and consistent with RMP direction.

6. **Comment:** *The EA is unclear on how the age of forest stands was determined...If trees over 80 years exist in the late-successional reserve designation, the Northwest Forest Plan proscribes harvest of any kind in forest stands containing trees over 80 years old.*

Response: The BLM has appropriately designed the Rowell Creek timber sale to be in compliance with all law, regulation, and policy. The RMP describes limitations on harvest within the Late-Successional Reserves (LSR); within the LSR, no harvest can occur in forest stands over 80 years of age. Age determinations are made at the stand level; there is no restriction for individual trees over 80 years of age. As described in the EA (p. 1), the Rowell Creek timber sale is within the Adaptive Management Reserves (AMR) and Riparian Reserves land use allocations. Within the AMR, silvicultural activities may occur in forest stands up to the 110 year age class (106–115 years) to create or maintain late-successional forest conditions (RMP p. 20). The Rowell Creek stands range from 74–80 years of age and are appropriate for forest management.

The BLM completed stand exams at Rowell Creek in 2009 and determined the age on a stand by stand basis and at an acre-weight average (EA p. 39). Individual stands range in age between 74 and 80 in 2016; the weighted-average of these stand ages is 79. This age accounts for the scattered legacy trees (at less than two per acre in the largest unit). Stands regenerated naturally in the late 1930s to the early 1940s after harvest. As such, the Rowell Creek timber sale is consistent with RMP direction.

7. **Comment:** *The EA fails to distinguish between human created plantations and fire regenerated stands... We encourage the agency to defer from logging fire regenerated stands.*

Response: The project area does not contain any fire regenerated stands. The Salem District RMP, which the BLM designed the South Yamhill timber sales to be in compliance with, does not limit treatment based on stand origin. The RMP (p. 16) states that thinning operations to create and maintain late-successional forest conditions should occur regardless of stand origin (e.g., planted after logging or naturally regenerated after fire or blowdown). Stands in the project area are not fire regenerated. Stands in the project area originated over several decades from natural regeneration after clearcut harvest (EA p. 38).

8. **Comment:** *We would like to see an alternative that buffers residual old-growth clumps or legacy trees to reduce chances of windthrow after thinning and to provide connectivity for wildlife.*

Response: As stated in previous responses, stand exams identified fewer than two trees per acre larger than 30 inches. These trees were retained in past harvest (late 1930s to early 1940s), likely because of their poor timber value at time of harvest (prescription p. 6). The EA and marking guide include design features to limit the likelihood of these trees being cut. Additional trees would be cut around the largest diameter trees with fullest live crowns to maintain their open-grown, wolf-tree structure (EA p. 26). Full-crowned, large-limbed, “wolf” trees and trees with broken tops, forks, deep crowns, and trees with evidence of wildlife use were prioritized for reserving (prescription p. 24).

The BLM excluded areas with greatest legacy tree presence from the Rowell Creek timber sale. These areas were analyzed as Project 2 (Legacy Tree Release and Coarse Woody Debris Creation) in the EA (Map 2, p. 13). This DR is limited to the Rowell Creek timber sale; the BLM has not yet made a decision on Project 2. Approximately half of the section will remain unharvested and can provide connectivity for a large diversity of species. The potential for windthrow from winter storms will be higher the first decade following harvest, though the risk would be reduced by selecting leave trees with deep, healthy crowns (EA p. 46). With their deep crowns, and low height-diameter ratio, legacy trees are not a great risk for windthrow. An additional alternative to specifically buffer legacy trees is not necessary.

9. **Comment:** *The BLM should strive to develop an alternative which only uses existing road structure, existing old spurs, and minimizes new construction... This will also help reduce the cost of implementing the project.*

Response: The BLM described alternative development in the EA. The BLM considered but did not analyze in detail an alternative void of new road construction (EA p. 36). The BLM analyzed the Proposed Action, which included road construction and traditional ground-based and skyline yarding methods, and Alternative 3 (Limited Road Construction), which reduced the amount of new construction and relied heavily on helicopter yarding. Other comments regarding new road construction are addressed elsewhere in Appendix A of this DR.

This comment represents a misunderstanding of timber sale costs. A limited road construction alternative would reduce road construction costs; however, these savings would be entirely offset (and more) by the substantial increase in cost to use helicopter yarding. The BLM determined that helicopter yarding alternative is approximately 124 percent more expensive than the proposed action. Timber sale contracts span three years and market fluctuations are unpredictable. Even if the BLM

deems an alternative economically feasible at a given point in time, it still may represent too great a risk to potential purchasers and compromise the viability of the sale. If the sale does not receive any bids, the purpose and need of the project are not met.

10. Comment: We especially oppose the two spur roads within Rowell Creek that are anticipated to impact large woody debris recruitment due to their possible effect to aquatic habitat (EA p. 76).

Response: The BLM completed a site-specific analysis of the proposed road construction and determined that significant impacts to LWD recruitment are not expected. This comment cites the EA improperly. The referenced excerpt demonstrates that all other spur roads were not expected to impact large woody debris (Fisheries Report p.16 for supporting analysis). Further, the intent in the EA sentence was to show that additional analysis was needed on the excepted spurs. The sentence was not intended to mean that the excepted spur roads were likely to have “anticipated” impacts.

The excepted spurs were then specifically addressed in the next paragraph of the EA (pp. 76-77). The only spur relevant to Rowell Creek timber sale is the P8 which is located in the lower south half of the section as shown on the Selected Action map in this DR. The other spur referenced in the EA is the “P3” and is part of the Lucky Rowell timber sale (sale date TBD). The text that appears in the EA stating this other spur (P3) “occurs within that sale” appears to be an error made in the EA to avoid using the P road numbers.

The analysis considered short-term and long-term effects of proposed road construction within the Riparian Reserves. The BLM conducted an analysis to determine the average tree height (on a per-unit basis) and the distance of new road construction to the stream channel. Approximately 380 feet of Spur P8 was within Riparian Reserve and was approximately 111 feet from the stream at its closest point (EA p. 76). The average tree height of the unit is 140 feet. If the distance to the stream channel exceeded 140 feet, the BLM assumed there would be no short-term effects to large woody debris recruitment. If the distance to the stream was less than 140 feet, as was the case with P8 at 111 feet, the BLM determined that a short-term impact to LWD would be possible. The literature referenced in the EA shows the vast majority (approximately 99 percent) of wood recruitment occurs closer to the stream than 111 feet. The fisheries report, which was incorporated by reference into the EA, references indicate the majority (70 percent) of wood recruitment occurs within 36 feet of a stream (McDade et al 1990, Van Sickle and Gregory 1990, Meleason et al 2002). The BLM determined that short-term wood recruitment rates would not be impacted, as described in the EA, based on the distance of the road from the stream and very small percentage of wood (less than 1 percent) that could be recruited to the non-fish bearing stream.

The EA summarized the Fisheries Report long-term effects analysis for road construction within one site potential tree width of a stream, stating effects to LWD would not be expected. The Fisheries Report (pp. 16–17) provides the supporting analysis stating, “The total area of road within the riparian impacted within one site potential height of streams is very small, less than 1.6 acres. Proposed roads are located on or near ridge tops, all of which are located on low gradient slopes. New construction is located in areas considered low-risk in susceptibility to mass movement (BLM 1998). As only a small fraction of the recruitable wood source near the stream may be affected, the effected soils are considered stable, and the scale of the project treatments is limited to 1.6 acres within one SPT from the stream, predominately on the outer edge of the 1 SPT zone, thus impacts to large wood is anticipated to be undetectable in the adjacent streams over the long-term. Undetectable changes to wood and wood recruitment in stream channel is not expected to measurably effect aquatic habitat at

the site or downstream where fish reside. Thus the long-term impacts of road construction would be undetectable to fish and aquatic habitat downstream.”

11. Comment: The BLM should forgo its plans to build new road or renovate existing road in the Riparian Reserves...It is important to integrate the analysis of road access and the optimal mix of treated and untreated areas.

Response: Approximately 10 percent (less than 1,800 feet) of the planned road construction is within the Riparian Reserves. No road construction would occur within the 75 foot SPZ. New road construction will not cross any streams and will not occur adjacent to listed fish habitat (EA pp. 75, 89). All new road construction in the Riparian Reserves will be left in a state of long-term storage post-harvest; entrances will be blocked, culverts will be pulled, exposed soils will be grass seeded, waterbars will be installed, and the road will be left in a hydrologically stable condition.

The BLM considered many environmental factors in determining final road placement, including topography, proximity to streams, and stability, among other factors. New roads are located on moderate to low gradient slopes in a stable geologic landform, where there is no risk of road-related landslides from roads on BLM lands (EA p. 89).

The proposed road construction represents the minimum amount of road construction necessary to best meet the purpose and need of the project. Road construction in the Riparian Reserves occurs on five spurs in the timber sale; without this road construction, these pieces would drop from the sale. The EA clearly states that the no-action alternative would not meet the purpose and need to create and maintain late-seral forest conditions in an economically sound manner (EA p. 41). As designed, the Rowell Creek timber sale will occur on only half of the BLM-managed land in the section. As described in the EA, Alternative 3 (limited road construction), would actually increase the acreage harvested by nearly 10 percent (approximately 32 acres) (EA p. 34).

12. Comment: In general, road construction has a myriad of impacts, including acting as vectors for noxious weed dispersal, creating destructive OHV routes and trash dump sites, and modifying animal behavior.

Response: The EA fully analyzed and disclosed the predicted effects of the proposed road construction. Public access to the six timber sales analyzed in the EA varies. While some areas are accessible to the public, access to the Rowell Creek timber sale is restricted by a privately-owned gate at the bottom of Fire Hall road. The Rowell Creek timber sale lies approximately five miles beyond this locked gate. There is little evidence of recreational use in the area; there are no designated recreation sites and the area is not considered a destination point for recreational users (EA p. 110). For these reasons, OHV routes and dump sites are unlikely to increase as a result of the proposed action.

The EA acknowledges that exposed mineral soil creates environments favorable for the establishment of non-native plant species (EA p. 47). Noxious weed species known to the area are regionally abundant and widespread throughout western Oregon. The risk rating for the long-term establishment is low because of project design features included in project design (e.g., requiring equipment to be clean and weed free), the Marys Peak integrated non-native management plan allows for early detection and rapid control of non-native species, such species that establish post-harvest often quickly decline as native vegetation increases in density and size (EA p. 48).

The proposed action (including road construction) would result in altered forest stand conditions, such that expected use by some wildlife species may decline while other species would increase or stay the same (EA p. 62). The proposed action may temporarily displace some wildlife species, but it is not expected to significantly affect or contribute to the need to list any special status species.

13. Comment: *The BLM should consider the opportunity to decommission existing roads.*

The BLM has considered opportunities for decommissioning of existing roads in the project areas. In addition to decommissioning the majority of new road construction (as described in Section 2.0 of this DR), the BLM will decommission approximately 0.3 miles of an existing road located within Section 1 (EA pp. 89, Appendix C-6). This road will not be used as part of the timber sale and thus will be decommissioned independently of the timber sale. As this DR is limited to the Rowell Creek timber sale, other decommissioning opportunities will be discussed in future timber sale-specific DRs.

14. Comment: *The BLM should do all it can to promote the survival and recovery of the red tree vole. This includes excluding all known red tree vole sites from any form of disturbance, which includes any thinning activities.*

Response: The EA describes how the BLM has appropriately provided protections for the red tree vole. The BLM conducted red tree vole surveys in portions of Rowell Creek EA Units 1A and 1B which showed the highest potential for red tree vole presence (having clusters of large wolfy trees lying adjacent to small late-seral old-growth patches) (EA p. 59). Eighty-four trees were climbed (EA p. 66); a total of 16 active and 5 inactive red tree vole nests were found. Additionally, a portion of Project 2 treatment unit in Section 1 (in Section 1 adjacent to Rowell Creek harvest units) was also surveyed as part of a long-term monitoring program to track red tree vole distribution and persistence within the resource area (EA pp. 59–60).

All trees found to have evidence of active red tree vole nests have been excluded from harvest units and will be managed in reserved habitat areas as specified in the Survey and Manage recommendations (EA p. 60). The four established habitat areas are of sufficient size (ranging from 10 to 79 acres) and are connected by corridors of untreated forest, such that they are likely to ensure the long-term persistence of red tree voles in this vicinity (EA p. 66). The habitat areas are shown on the selected action map in this DR. While no harvest will occur in these habitat areas, road renovation and construction may occur through these habitat areas. The interdisciplinary team adjusted the alignment of the roads to ensure that the largest trees would not be cut. Road activities will not impact any red tree vole nests (active or inactive).

15. Comment: *The presence of one known occupied marbled murrelet site extremely near the Jackpot units, coupled with observed suitable nesting structure in the Rowell Creek unit, create a large potential for murrelet habitat expansion in the project area...BLM should exclude all thinning operations in and around suitable marbled murrelet habitat trees as this would violate marbled murrelet direction in the Salem RMP (p. 32).*

Response: The Jackpot and Rowell Creek harvest units were designed in full compliance of the Salem RMP (RMP p. 32) as well as the Policy for the Management of Potential Marbled Murrelet Nesting Structure within Younger Stands, issued by the Level 2 Streamlined Consultation Team for the North Coast Planning Province, Oregon (USDI-FWS et al. 2011). Murrelet surveys were conducted in 2011 and 2012 at Rowell Creek where clusters of legacy trees provided potential nesting structure (EA p. 58). There is no requirement in the RMP to exclude thinning in stands where surveys have not detected

any murrelet use. Also, the planned thinning harvests in young plantations that lack any suitable habitat (Jackpot units) adjacent to the occupied marbled murrelet site would observe seasonal and daily operating restrictions to avoid noise disturbance to murrelets that may be using the occupied site (EA p. 29). The Rowell Creek project area was included in a batched Biological Assessment prepared by the Interagency Level-1 Streamlined ESA Consultation Team for evaluation by the U.S. Fish and Wildlife Service. The Service concurred that the Rowell Creek thinning harvest is not likely to adversely affect marbled murrelets or their critical habitat (EA p. 129). For these reasons, the BLM determines that the treatments are Rowell Creek are appropriate.

16. Comment: There is a large body of science which suggests that thinning is not beneficial to the marbled murrelet, but only serves to increasing fragmentation.

Response: The BLM agrees that harvests, including thinnings, within occupied suitable marbled murrelet habitat can increase fragmentation that could have short-term impacts to marbled murrelets. However, the proposed action has excluded all of the occupied suitable habitat from treatment. Also, nearly all of the suitable nesting structure that was surveyed and found unoccupied has been excluded from harvest due to buffers to protect red tree vole sites in the north half of Section 1 (Rowell Creek). The EA found that the risk of adverse effects to marbled murrelets in the short-term is negligible, since marbled murrelets were found to be absent from the Rowell Creek project area, and nearly all of the suitable nesting structure has been excluded from treatment units (EA Appendix C-6).

17. Comment: *The proposed seasonal restriction limiting harvest actions within 300 meters of the owl nest site March 1 to July 15 is inadequate mitigation. The dispersal habitat that BLM claims provides corridors of connectivity is not adequate protection to the survival of the Rowell Creek resident owl pair. The BLM should talk all precaution as to not “take” any of the species during its consultation with the Fish and Wildlife Service. No thinning should occur within the nest patch so as to prevent disturbance to the species.*

Response: All of the Rowell Creek harvest units are well beyond the 300 meters from the resident owl site. Only portions of the Jackpot units are within 300 meters of the resident owl site and will be addressed in a separate decision record. The Rowell Creek timber sale has no units within core habitat or nest patch of the resident owl site and the U.S. Fish and Wildlife Service has concurred that this proposed harvest action is not likely to adversely affect spotted owls (EA p. 129).

18. Comment: *The BLM should consider the most recent iteration of the proposed critical habitat designations because forests over 70 years old, especially those with legacy structure, will provide good nesting, roosting, and foraging habitat for the northern spotted owl.*

Response: Approximately 10 percent of the stands analyzed for treatment in the South Yamhill EA are within critical habitat designated for spotted owls; however, all of the Rowell Creek harvest units are outside of this critical habitat (EA p. 65). The BLM agrees that the presence of scattered or clustered legacy trees within a mid-seral 70-year old forest can enhance dispersal habitat such that it may provide suitable foraging and nesting opportunities for spotted owls (EA p. 57). In the Rowell Creek project area, nearly all of the legacy trees have been excluded from harvest by their inclusion within red tree vole buffers (EA Appendix C-6). Also, surveys for spotted owls in 2013 only detected barred owls in the Rowell Creek units. Because of the absence of spotted owls on recent surveys, the lack of critical habitat, and the exclusion of most of the trees with legacy structure, the Rowell Creek project is not likely to adversely affect spotted owls.

19. Comment: Due to the intensive impacts of commercial logging and especially 5 miles of road construction in the already terrible degraded coast range, an EIS is required to fully analyze the impacts of this project.

Response: 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 Rowell Creek 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 (January 2016). Any potential adverse effects of the selected action would not exceed those analyzed within the RMP. The BLM has satisfied the requirements of NEPA in its completion of an Environmental Assessment; an EIS is not required.

20. Comment: The BLM should retain all incidentally felled or topped trees greater than 20" DBH (i.e., tail trees, corridor trees, intermediate supports, guyline anchors, and landing swing trees) intended to be part of the residual stand to function as CWD to meet LSRA objectives.

Response: Incidentally felled trees are a routine part of timber sale harvest operations that the BLM considers during project development. As is customary for BLM timber sale contracts, the BLM reserves the discretion to approve or deny purchaser-requested corridors. Further, the BLM reserves the discretion as to whether incidentally felled trees within approved corridors and adjacent to landings will be sold or will remain on site.

The terms and conditions of the contract include the ability to mark additional trees to be felled for safe harvest operations. Typically during skyline yarding, trees are felled to facilitate yarding (create skyline corridors). Whether these trees are left in place, set aside for another purpose, or sold depends on many factors (EA p. 46). Typically, the largest trees, or those with unique features (i.e., forks or other defect) will be left on site. Trees cut nearest the landing pose the greatest safety concern and are often removed, regardless of species, size, or condition.

Further, the BLM Authorized Officer will consider CWD conditions described in the EA when reviewing corridors. The EA included CWD strategies for Project 1 timber sales (EA pp. 26–27). For Rowell Creek EA Unit 1A, which comprises approximately 90 percent of the sale, Strategy 2 applies. Strategy 2 balances immediate CWD needs with future CWD recruitment. For this unit, the desired CWD input is three to six trees per acre (EA p. 27). Desired Input includes the number of trees per acre of all CWD that would be newly recruited during or after harvest activities. Incidentally felled or topped trees (i.e., tail trees, intermediate supports, guyline anchors, hang-ups, etc.) that are left by harvest operations would be counted toward this target. If such incidentally felled trees are removed or sold, additional trees would be felled, girdled, or topped to meet this target (EA p. 26). The EA further provides provisions for post-harvest monitoring to ensure that desired CWD inputs are met (EA p. 26). For these reasons, the BLM has found that the Rowell Creek timber sale has been adequately designed to provide for CWD conditions to meet the purpose and need of the project.