Final Decision and Decision Rationale (DR)

For the

Sunday Morning Timber Sale

April 2015

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United States Department of the Interior

Bureau of Land Management, Oregon State Office

Salem District, Cascades Resource Area

Willamette Meridian,

T. 11 S., R. 1 E., Sections 15, 16, 17 and 27

Crabtree Creek 5th Field Watershed

Linn County Oregon

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BLM

Salem District

As the Nation's principal conservation agency, the Department of Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering economic use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

BLM/OR/WA/AE-15/026+1632

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FINAL DECISION AND DECISION RATIONALE (DR)

SUNDAY MORNING TIMBER SALE

1. INTRODUCTION

The Bureau of Land Management (BLM) has conducted an environmental analysis for the Sunday Morning Belly Twister (SMBT) timber management project which analyzed two action alternatives: the proposed action of 1500 acres of commercial thinning and an alternative action of 1435 acres of commercial thinning and 65 acres of regeneration harvest. This environmental analysis is documented in the Sunday Morning Belly Twister Environmental Assessment (EA). I presented an unsigned draft Finding of No Significant Impact (FONSI) for public review and comment with the EA and made it and the EA available for public review from December 17, 2014 through January 16, 2015 (DR section 5.3). The FONSI for the entire Sunday Morning Belly Twister Timber Management Project will be released concurrently with this Final Decision and Decision Rationale (DR) for the Sunday Morning Timber Sale. The EA and FONSI are incorporated by reference into this DR.

The BLM will issue separate Decisions for additional timber sales to implement the proposed or alternative actions for other units analyzed in the EA when decisions are made on each of those sales.

2. DECISION

THE SELECTED ACTION

I have decided to implement the Sunday Morning Timber Sale as a timber sale consisting of the following units analyzed in the EA, as adjusted by final layout and acreage determination: 15A,C,D,E; 16A; 17A; 27A&B (EA section 2.3.1.1) (DR Section 7, Table 3)[1]. The following is a summary of the decision, hereafter referred to as the "selected action" in this Decision Rationale (DR). The selected action:

Complies with Direction:

The analysis documented in the Sunday Morning Belly Twister (SMBT) EA is site-specific and supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS). The SMBT project, including the selected action, were designed under the *Salem District Record of Decision and Resource Management Plan*, May 1995 (1995 RMP) and related documents which direct and provide the legal framework for management of BLM lands within the Salem District (EA pp. 13- 16). All of these documents may be reviewed at the Cascades Resource Area office. The project also complies with authorities described in EA section 1.7 and the Revised Recovery Plan for the Northern Spotted Owl (USFWS 2011).

[1] DR Table 1 shows units of treatments in the selected action compared to the proposed and alternative actions. Table 3 (*DR section 7)* shows the selected action by section and the crossover between EA and Timber sale units. The Decision Maps (*DR section 9*) show the selected action.

The selected action (Sunday Morning timber sale), conforms to the Salem District Resource Management Plan/Forest Land and Resource Management Plan as amended by the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, other Mitigation Measures Standards and Guidelines* (2001 ROD), and the Pechman Exemption (October 2006, Exemption A, stand less than 80 years of age).

Is Consistent with the EA: *EA sections referenced include all subsections.*

- Answers the Need for Action described in the EA (EA section 1.3);
- Fulfills the Purposes (Objectives) for Project 1 (EA section 1.4). EA section 1.6 identifies that the decision factors for alternative selection are based on how well the alternative meets the objectives, both individually and collectively. EA section 3.12.2, Comparison of Alternatives with Regard to the Decision Factors, documents BLM's evaluation of the extent to which the proposed action, alternative action and No Action alternatives fulfill the project objectives as presented in the Decision Factors. DR section 3 - Decision Rationale, below, documents how the selected action fulfills the project objectives/decision factors;
- Complies with the four components and nine objectives of the Aquatic Conservation Strategy (ACS), as documented for the proposed action (EA section 3.12.1);
- Is consistent with the Salem District Record of Decision and Resource Management Plan (RMP)and related documents which direct and provide the legal framework for management of BLM lands within the Salem District (EA section 1.7);
- Complies with the relevant statutes and authorities (EA sections 1.7.1 and 3.12);
- Complies with current direction and court decisions for Survey and Manage species (EA section 1.7);
- Will not adversely affect spotted owls, is not likely to affect spotted owl Critical Habitat, and is not likely to diminish the effectiveness of the conservation program established under the NWFP to protect the spotted owl and its habitat (EA section 5.1.1 - US Fish and Wildlife Service (USFWS) letter of concurrence issued March 2015, reference #01EOFW00-2015-0147);
- Will not affect listed fish or their habitat (EA section 5.1.2);
- Will not have impacts on the affected elements of the environment beyond those already anticipated and addressed in the RMP/EIS (EA section 3.12);
- Is economically viable. This sale will produce revenue for the Federal Government and O&C Counties (Sunday Morning Timber Sale appraisal), and provide jobs for Oregonians;
- Addresses the issues raised in EA section 1.8.2;
- Uses existing roads and the minimum length of new roads for the transportation system to facilitate implementation of the project (EA section 2.3.1.1).

The selected action includes:

Table 1 Treatments This Action Compared to EA Actions

Item/Action	Units Used	Selected Action (DR) Acres	Sunday Morning Block EA Acres	Total Proposed Action (EA) Acres	Total Alternative Action (EA) Acres	Cumulative Acres Implemented[2], Sun. Morn.
Commercial Thinning, Matrix, 42-157 TPA retained	Acres	260	297	911	846	260
Commercial Thinning, Matrix, 20-25 TPA retained	Acres	23	26	26	26	23
Riparian Reserve Thinning, 42-157 TPA retained	Acres	73	143	521	521	73
Low Density Thinning Area, ~12 TPA retained	Acres	3	3	15	15	3
Right-of-Way Clearing	Acres	11	11	27	27	11
Regeneration Harvest	Acres	0	0	0	65	0
Subtotal Treatment	Acres	**371**	**481**	**1500**	**1500**	**371**
Road Construction	Miles	2.28		8.63	same	2.28
Road Renovation / Improvement	Miles	1.50		8.09	same	1.50
Road Maintenance (currently driveable)	Miles	11.17		33.41	same	11.17
Machine Pile, Cover and Burn	Acres	14		129	126	14
Hand Pile, Cover and Burn	Acres	4		22	22	4
Landing Piles	Piles	80		276	276	80
Broadcast Burn	Acres	0		0	65	0
Tons of slash burned (@ 40 tons/acre (EA section 3.9.2.1)	Tons	720		6,000	8,400	720

Commercial Thinning:

- Thin approximately 360 acres (DR Table 2). This harvest includes (EA section 2.3.1.1; Tables 1,2,13):
  - Thin approximately 334 acres (DR Table 2) to a density of approximately 52-157 trees per acre (TPA) (EA Table 13).
  - Thin approximately 23 acres to a density of approximately 20-25 TPA (DR Table 2, EA Table 13);
  - Low Density Thinning Patches: Thin approximately 3 acres in patches up to one acre in size to a density of approximately12 TPA (DR Table 3; DR section 9 – maps).
- Clear approximately 11 acres of right-of-way for constructing new roads. (EA Tables 1,2,3; DR Table 1,3; DR sec. 9, maps)

[2] Anticipated future projects: Belly Twister, Roaring Toads and Bent Beekman.

Logging Systems and Unit Layout: [3]

Approximately 75 percent (269 acres) of the 360 acres of harvest area, plus 11 acres of right-of-way clearing, is designed to be logged using ground based logging/yarding systems; 25 percent (91 acres) is designed to be logged with a skyline yarding system.

Project design features for logging include (EA Table 5):

- Limit the area compacted by logging operations to no more than ten percent of the harvest area in each unit, not including road rights-of-way. (PDF 1, 4, 5, 13, 17, 18)
- Design logging and related operations to prevent: erosion, excessive soil disturbance and compaction, OHV access and impacts to streams and their associated stream protection zones. (PDF 2, 3, 6, 8, 10, 11, 12, 14-23)
- Design logging and related operations to prevent or manage impacts to retained trees to meet resource objectives for timber value (in Matrix) and stand structure such as snags, CWD and asymmetrical tops for habitat. (PDF 11-17, 23, 24, 29, 30, 31, 51-60)
- Locate unit boundaries to provide Stream Protection Zones to protect water quality and aquatic habitat. (PDF 12)
- Conditionally allow mechanized falling/processing in both ground-based and skyline yarding areas. (PDF 6)
- Reduce soil impacts by requiring suspension of the leading end of logs being skidded/yarded wherever feasible. (PDF 3, 23, 24)

Road Construction, Renovation, Closure, Use and Maintenance: (EA sec. 2.3.1.1, Tables 1 and 2, Table 5 [PDF 33-50], 3.5, 3.6., 3.7, 3.9, 3.10)

Construct approximately 2.28 miles of new road (out of 8.63 miles of new analyzed in the EA). New roads are designed to be the minimum amount needed to provide for safe and efficient logging while meeting other resource objectives. Roads will be constructed to prevent impacts to water quality and streams as described in the EA. 1.37 mile of new road will be rocked, 0.92 mile will be natural surface (due to rounding, categories of road add to 2.29 miles).

Road construction includes clearing approximately eight acres of vegetation within rights-of-way (generally averaging less than 30 feet wide), moving earth to shape the roadbed, compacting the road surface, and applying rock to designated roads. Road construction design features to prevent sedimentation include: drain surface water to stable slopes, avoid channeling road runoff to streams, construct roads only on stable ground, limit construction operations to soil and weather conditions that would not generate sediment, place surface rock, and stabilize roads prior to the wet season.

After logging and fuel reduction operations are complete, close all new natural surface roads and roads which were closed by the BLM prior to this decision and stabilize all closed natural surface roads.

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[3] Ground-based logging systems move logs to the landing with skidders, harvesters, shovels and other machinery that moves off-road with wheels or tracks on the ground. Skyline yarding systems use a carriage that moves up and down a cable suspended above the ground (a line in the sky) which pulls logs to the cable (lateral yarding), then under the cable to a tower on a landing (inhaul). Cable yarding is a generic term that includes skyline yarding as well as other systems that pull logs to a landing with cables. For convenience in this document, "skyline yarding" includes all forms of cable logging where the leading end of the log is suspended above the ground while being pulled to the landing. Special yarding (none specifically designated in the Sunday Morning timber sale, but may be used) is a site-specific combination of ground based and cable yarding systems designed by the operators (and subject to BLM review and approval) to use their particular equipment and capabilities to log the area efficiently and meet BLM resource objectives. A "swing" uses one type of logging system/equipment to move logs to an intermediate point where another piece of equipment or another logging system is then used to move the logs to a landing (none specifically designated in the Sunday Morning timber sale, but may be used).

Designated roads will be closed to vehicle traffic by site-appropriate techniques such as constructing earth/debris barricades, placing debris on road surfaces, and/or roughening road surfaces. Design features to stabilize roads include: closing natural surface roads to vehicles, draining water to stable slopes, seeding, mulching, covering with logging slash and/or other site-specific techniques.

Renovate approximately 1.50 miles of existing undrivable road on BLM managed land (out of 7.88 miles analyzed in EA) and maintain 11.17 miles of drivable roads on the haul route. Renovation and maintenance include: blading, roadside brushing, ditch cleaning, and cleaning the inlet, outlet and barrel of all existing culverts. Roads which are not currently drivable are shown on the DR maps (DR section 9) as "Renovation". Drivable roads are shown simply as "Roads".

Road use on 11-1E-8 east of the sections 16/21 quarter corner; 11-1E-15; 11-1E-21.1; segments of 11-1E-21.2 sections 15, 21 and 22; and 11-1E-22.4 will be restricted to dry season only and dry conditions (no water running off of the road surface) within the dry season to prevent generating sediment that would enter streams in quantities to exceed ODEQ water quality standards as described in the EA.

Road use (timber haul, equipment and personnel transport) on the remaining roads in the haul route will be permitted whenever weather and road conditions and operating practices prevent transporting sediment to streams in quantities to exceed ODEQ water quality standards as described in the EA.

Operating practices include: BLM monitoring of turbidity at stream crossings, suspending hauling when weather and road conditions potentially generate and transport sediment that would increase turbidity as analyzed, sediment traps, rock and other site specific techniques designed as needed.

The following culverts will be replaced or installed:

- 1 culvert replaced at a stream crossing;
- 1 new culvert added at a stream crossing;
- 6 cross drains/ditch relief culverts replaced; and
- 7 new cross drains/ditch relief culverts added.

Culvert replacement will be done during the in-water work season (July 15 through August 31) using work practices that prevent sediment from exceeding ODEQ water quality standards, as analyzed in the EA.

Approximately 7,400 cubic yards of pit run rock (PRR) will be available for use on roads and landings. All rock will be obtained from commercial sources.

Permanent BLM roads will be maintained according to standard operating procedures. Private roads will be maintained according to the owner's policies and road use agreements.

Fuels Treatment:

Reduce fuels by:

- Machine piling, covering and burning on 14 acres, including: 3 acres[4] of low density thinning (LDT) area, 8 acres in unit 2 adjacent to sensitive property lines (with recent harvest or young plantations on private land), and 3 acres immediately adjacent to sensitive property lines;

[4] Due to rounding of fractional acres in the timber sale contract, piling in the low density thinning (LDT) areas totals 4 acres, even though there are actually only 3 acres of LDT.

- Hand piling, covering and burning on 4 acres, including: 1 acre LDT and 3 acres adjacent to sensitive property lines;
- Piling, covering and burning approximately 80 landing piles.

The total amount of slash debris expected to be piled for burning is estimated to be between 720 tons, at 40 tons per acre piled. Burning will be done after the fall rains begin and soils are damp. All burning will be done in compliance with Oregon Smoke Management requirements.

There are two potential scenarios that could reduce the amount of slash and woody debris burned in landing piles:

- Some of the slash may be used as mulch to cover roadbeds during stabilization (see EA Table 5, PDF 8, 10, 44, 45).
- Some of the material may be removed as biomass for energy production, though the BLM considers this to be unlikely because there is little or no foreseeable market for this material during the time of the Sunday Morning Timber Sale project.

Snag and CWD recruitment:

Initiate snag recruitment within thinning units by retaining up to an average of two per acre reserved trees (trees which are designated for retention) that must be felled to facilitate logging which will be left on site as CWD (not sold or removed) and trees that are broken or otherwise damaged by logging operations.

Special Forest Products:

Make permits available for collecting Special Forest Products (SFP) (1995 RMP p. 49) from the harvest units if there is a demand for the products and collection will not interfere with project operations. Special Forest Products are salable natural products that can be found in the forest and may include: edible mushrooms, firewood, posts and poles. Transplants of native plants from road rights-of-way, skid trail locations and landings will be available for permit. Access to the area will be controlled through the Special Forest Products permit requirements.

Project Layout and Project Design Features

The project layout implements the unit boundaries, general logging plan and road design for the units I have chosen as the selected action. The project design features described in *EA* section 2.3.1.1 (EA pp. 18-36) and standard contract provisions are incorporated into the Timber Sale contract.

Comments submitted to me in response to the EA addressed some specific topics related to implementing the selected action. Responses to these and other EA comments are found in DR section 10. The following EA project design features (PDF) and contract provisions directly address the topics raised in these comments:

The selected action:

- Provides for use of a variety of ground-based and skyline / cable logging systems to meet the BLM resource objectives analyzed in the EA while providing flexibility for the operator to log safely and efficiently. (EA section 2.3.1.1)
- Provides for protection of water resources (including fish and aquatic habitats) while allowing roads to be used for logging and log hauling from much of the contract area during at least part of the wet season as well as dry season (EA section 2.3.1.1, especially Table 5 PDF 33-50; sections 3.5, 3.6 and 3.7) by:

    - Renovating selected existing roads and constructing new spur roads to provide access for modern logging systems. Selecting roads for renovation or construction is based on field

evaluations of logging feasibility, economic efficiency and potential impacts to resources. Each road to be renovated or constructed was individually assessed by the IDT to determine whether it should be rocked, may be rocked or natural surface as needed, or required to be natural surface only. Rocked roads may be used during the wet season; natural surface roads are restricted to dry season and dry conditions only. (EA Table 3)
  - Allowing optional rocking of some spur roads and landings to provide for efficient logging and resource protection (prevent erosion) (EA Table 3).
  - Allowing wet season/wet weather hauling on well designed and maintained roads (as described on the previous page) that access some of the timber sale units based on actual conditions and monitoring to prevent sediment from entering streams.
  - Restricting wet season/wet weather hauling on roads which would channel sediment directly to streams if used during the wet season or wet conditions (as described on the previous page).
  - Replacing seven culverts and installing eight new culverts.
  - Closing and stabilizing new natural surface roads and roads which are currently closed.

- Immediately introduces elements of structurally complex forest habitat across the landscape by:
  - thinning 360 acres in 6 units that range from 21 to 141 acres in size (DR map);
  - creating 3 low density thinning areas of up to one acre each within those thinning units (DR map, EA Table 5 PDF 60);
  - creating coarse woody debris (CWD) by retaining some reserve trees 21 inches diameter and larger on site when they must be cut to facilitate logging in Riparian Reserve stands (Snag and CWD Recruitment connected action, EA p. 25; PDF 56, 59); and
  - creating snag and asymmetrical topped trees habitat within thinning units incidental to logging operations (contract provision based on PDF 58, 59; within thinning units it also implements the initial pulse of Snag and CWD Recruitment connected action, EA p. 25).

- Unit boundaries were located to provide stream protection zones (SPZ): (EA Table 5 PDF 12, 14, 15; sections 3.5.2.1, 3.6.2.1; DR section 9 - Maps)
  - Units which are more than 1mile from ESA listed fish habitat and have SPZ minimum widths of 30 feet on intermittent streams and 60-85 feet on perennial streams.
  - Units which are less than one mile from ESA listed fish habitat and have SPZ minimum widths of 50 feet on intermittent streams and 100 feet on perennial.

Table 2 Project, Untreated Area and Yarding Systems Acres and Percentages

LUA	Project Vicinity *	LUA Percent of Project Vicinity	Untreated Area	Project Area*	LUA Percent of Project Area	Yarding Systems - Acres		
						Ground-Based	Skyline	Special
GFMA	296	14	188	108	29	95	13	0
CONN	705	33	515	190	51	140	50	0
RR	1153	53	1080	73	20	45	28	0
Total	2154	100	1783	371	100	280	91	0
Percent			**Percent of Project Vicinity Acres**			**Percent of Project Area Acres**		
			83	17		75	25	0

*Project Vicinity is BLM managed lands in the sections that contain the Project Area. The Project Area is the area proposed/selected for treatment. Acres determined from BLM GIS data. Project Area acres include right-of-way clearing.

3. Decision Rationale

I selected the alternative that best individually and collectively meets the objectives for timber management described in EA section 1.4.1 in the Sunday Morning Block of the SMBT Timber Management Project.

I am not including these alternatives in the comparison of alternatives, below:

- The proposed action analyzed in the EA is substantially similar to the selected action, so it is not discussed separately in this section.
- The IDT considered other alternatives and variations of the proposed action but dropped them from further analysis as described in EA section 2.3.1.4. These alternatives are not discussed in this section of the DR because I concur with the IDT rationale for dropping them from further analysis as described in EA section 2.3.1.4.

The following is a comparison of the selected action and the No Action alternative with regard to five Decision Factors (EA section 1.6) which embody the project objectives (EA section 1.4). For the Sunday Morning timber sale, the selected action is essentially the same as the corresponding portion of the proposed and alternative actions, differing only in adjustments to final boundaries and acres reflecting actual layout of the units. The selected action was designed to meet all of the objectives for this project.

Decision Factor 1

Provide timber resources to support local communities and industries, and to provide revenue to the government and the O&C Counties (objectives 4,7,8,12):

The No Action alternative does not contribute to meeting the objectives which contribute to this decision factor in the short term and potentially partially contributes to it in the long term. The No Action alternative does not provide timber to mills and other industries that provide jobs in the local communities in the near (<5 years), nor would it contribute to the supply of timber sold to provide direct revenues to the government or the O&C Counties. In the long term, timber in these forest stands would still be in place and would continue to grow without management actions. It would potentially be available for future timber according to management plans in place at that time.

The selected action meets the objectives that contribute to this decision factor by providing approximately 6.8 million board feet (MMBF) of timber to the market place with an appraised value of $2,000,931 within the next five years. In the Matrix LUA the selected action contributes to providing a sustainable supply of timber in the long term (decades to centuries) because it implements proven silvicultural practices to do so. It is not expected to increase harvest of other forest products, though such harvest may be allowed.

In forest stands in Riparian Reserve LUA (RR), the silvicultural prescriptions designed to develop specific stand characteristics that will increase habitat variability in the watershed would contribute to meeting the near term objectives that contribute to this decision factor by providing timber to the marketplace.

The timber sale will be economically viable because it uses standard logging practices that can be accomplished with a variety of equipment and techniques while meeting RMP and interdisciplinary team (IDT) resource protection objectives. Economic viability is objectively demonstrated by the BLM's appraised price, and BLM experience with offering similar timber sales has shown that competitive bidding for this type of sale results in a sale price higher than the appraised value

The project design and layout, and the contract stipulations which implement specific project design features (PDF) analyzed in the EA are designed to accomplish the non-timber objectives, as analyzed in the EA.

Decision Factor 2

Provide for a sustainable supply of timber and other forest products on a predictable and long-term basis (objectives 1, 4, 7, 8, 9, 10, 11, 16, 17).

The No Action alternative would potentially partially meet long term (decades to centuries) objectives for a sustainable supply of timber and other forest products. Forest stands in the area would continue to grow and accumulate volume at a somewhat predictable rate. They would potentially be available for harvest as timber under a future management plan. Other forest products such as mushrooms and moss would be available, but difficult to predict.

The selected action would provide for a long term sustainable supply of timber by implementing silvicultural practices which have been proven to do so. Other forest products would be available but difficult to predict.

In RR forest stands, under current management direction these lands would not contribute to long term timber production because it is unlikely that additional treatments which could be accomplished by logging would be needed to accomplish Riparian Reserve LUA objectives in the future.

Decision Factor 3

Contribute to a healthy forest ecosystem with habitat that will support populations of native plant and animal species (objectives 6, 13, 14, 18, 20).

Both the No Action alternative and the selected action meet this objective. The No Action alternative maintains current habitat and development trajectories throughout the project vicinity, including both natural processes and non-commercial silvicultural actions. However, the overstocked conifer plantations which would be treated in the selected action but maintained under the No Action alternative are overrepresented in these watersheds. (EA sections 3.4.1, 3.4.2.3, 3.8.1, 3.8.2.3, Figure 29). It also protects riparian areas and waters by maintaining current conditions, which are stable.

The selected action improves habitat diversity and complexity across the landscape. In RR the selected action accelerates development of some late-successional and other desired characteristics such as large diameter trees and deep crowns. The selected action also protects riparian areas and waters by maintaining an untreated stream protection zone which is stable and maintaining at least 50 percent canopy cover in RR to provide shade and slope stability.

The selected action maintains current habitats and trajectories on most (83 percent, see Table 2 above) of the project vicinity and provides additional diversity in both the short and long terms (EA sec. 3.4.2.1, 3.8.2.1). Selection of treatment areas (units) and project design features (PDF) provide undisturbed buffers to protect riparian areas and waters, would not be likely to cause detectable/measurable changes in watershed hydrology or water quality at the 6th field watershed level, and would not impact beneficial uses downstream. (EA section 3.5.2.1)

Decision Factor 4

Maintain and restore water quality, hydrologic processes, and aquatic/riparian habitat that will support populations of native aquatic and riparian plant and animal species (objectives 2, 3, 6, 19, 20).

Both the No Action alternative and the selected action meet these objectives. The No Action alternative maintains water quality, hydrologic processes, and aquatic/riparian habitat because no changes would be made to current conditions and trends.

The selected action meets the objectives that comprise this decision factor by:

- Implementing stream protection zones (SPZ) and other PDF to maintain effective shade and avoid direct impacts to aquatic/riparian habitat; and

- Designing silvicultural prescriptions, road construction, use and maintenance, and logging practices to avoid measurable changes to base and peak flows or turbidity and comply with ODEQ water quality standards.

(EA sec. 3.5.2.1, 3.6.2.1)

Decision Factor 5

Provide safe, cost-effective and environmentally sound access for logging operations, other timber management operations, fuels management, fire suppression and public use of the land (objectives 5, 7, 15, 17, 19).

No Action partially meets the objectives that comprise this decision factor. The No Action alternative generally maintains current access, conditions, trends and maintenance schedules. The No Action alternative does not construct or renovate additional roads to provide access for logging or other management or replace culverts and log fill crossings which are at risk for failure.

The selected action would provide safe and efficient access as needed to support logging and other timber management or fire operations. The selected action would use and maintain roads in ways that prevent sediment generation that would exceed ODEQ water quality standards. In addition, the selected action would replace undersized/failing culverts and log fill crossings to prevent potential failure and would implement PDF that prevent exceeding ODEQ water quality standards for turbidity. (EA sec. 2.3.1.1, 2.3.1.3)

4. Alternatives Considered But Not Selected, and the Rationale for Not Selecting Them

No Action (EA section 2.3.1.4, EA p. 44):

No commercial timber management actions would occur. Only normal administrative activities and other uses (e.g. road use, programmed road maintenance, harvest of special forest products on public land) would continue on BLM land within the project area.

I did not select the No Action alternative because it does not meet the full range of project objectives as fully as the selected action does.

Proposed Action (EA section 2.3.1.1):

The full proposed action analyzed in the EA is a proposal to thin approximately 1500 acres of 40-102 year old forest stands. Approximately 630 acres are in General Forest Management Area (GFMA) portion of the Matrix LUA; 348 acres are in the Connectivity (CONN) portion of the Matrix LUA; and 522 acres are in the Riparian Reserve LUA. The proposed action included 1171 acres of ground based yarding and 302 acres of skyline yarding. (See Footnote 3, p. 3 for description of yarding methods.) Connected Actions include constructing 8.63 miles of new road to provide access to the proposed treatment units for logging and hauling. New construction includes clearing vegetation within the road right-of-way (r-o-w) using ground based logging equipment. Connected actions also include: renovating approximately 7.88 miles and improving 0.21 mile of existing roads; maintaining 33.41 miles of currently driveable roads; reducing forest fuel accumulations on approximately 151 acres; selling special forest products; and recruiting snags and coarse woody debris.

I did not select the full proposed action as analyzed in the SMBT EA because I plan to implement the project as multiple timber sales (EA section 2.2.2). The Sunday Morning timber sale is the first to be implemented. Final unit boundaries and more precise mapping resulted in fewer acres than were included in the proposed action for the corresponding set of units.

- I selected EA units 15A,C,D,E; 16A; 17A; and 27A&B (EA pp. 28, 29-34, 55-56) (DR Table 3) with modified unit boundaries based on final field work as the Sunday Morning Timber Sale, documented as the selected action in section 2, above.
- I did not select units 15B or 17B because I determined after additional field work was completed that they were not suitable for economical commercial thinning at this time.
- I did not select the remaining units in the EA because I plan to implement additional timber sales comprised of those units in the future. I will issue independent decisions for each of those timber sales.

Alternative Action (EA section 2.3.1.2):

The alternative action analyzed in the EA is a proposal to regeneration harvest 65 acres in units 8A&C with all other units and connected actions being identical to the proposed action.

I did not select the alternative action because: I plan to select an alternative to implement and issue a decision for these units, described in the EA as the Bent Beekman block, at a later time; I am selecting the units of the Sunday Morning Timber Sale described above; and I plan to implement additional timber sales on the remaining units in the future, as described above.

Alternatives Considered But Not Analyzed In Detail (EA section2.3.1.4).

I did not select any of the following alternatives because they do not meet project objectives and I concur with the IDT recommendations to not analyze them in any further detail.

Alternatives initially considered by the IDT but dropped from further consideration during the planning process include:

- Treatment of other forest stands within the Riparian Reserve: Other stands were evaluated according to two criteria (potential benefit from thinning and operability in conjunction with adjacent GFMA unit). Stands not meeting both criteria were dropped from further consideration for treatment.
- An alternate route to access units in parts of T. 11 S., R. 1 E., Sections 15, 16 and 17 was initially evaluated because stream crossings on part of the existing road did not meet current standards and were introducing sediment into the stream network. The problem portion of this road was considered for obliteration. The IDT determined early in the planning process that it would be less expensive to improve the existing road and steam crossings to prevent future sedimentation while meeting other resource objectives.
- Reserving the stands for carbon storage was not analyzed in detail because it is essentially identical to the No Action alternative which was analyzed and because it does not conform to either the purpose and need for the project or the RMP.
- Treatment of other forest stands in the vicinity: Approximately 1500 additional acres were evaluated for treatment and dropped from further consideration by the IDT for a variety of reasons before adopting the final proposal to analyze in the EA.
- Implement regeneration harvest in units 8A&C over a two to four decade period rather than in a single entry. Selecting portions of the proposed regeneration harvest units to implement and deferring other portions is within the scope of the alternative action analyzed and does not require separate analysis.
- Manage the project vicinity for recreation rather than timber. This would require either changing or violating the RMP.
- Manage for long-duration early-seral habitat in regeneration harvest units by not preparing the site, planting or managing vegetation after harvest. Failure to reforest the site with conifers after regeneration harvest is inconsistent with the RMP.

5. Public Involvement/Consultation/Coordination

SCOPING

The Interdisciplinary Team (IDT) of BLM resource specialists conducted internal scoping through the project planning process which includes record searches, on-site field examinations of the project area by IDT members, professional observation and judgment, literature review and IDT discussion. In the project planning process the IDT considered elements of the environment that are particular to this project as well as elements of the environment that are common to all similar timber management projects.

The BLM conducted external scoping for this project (EA section 1.8.1.2) by means of a scoping letter sent out to approximately 38 federal, state and municipal government agencies, nearby landowners, tribal authorities, and interested parties on the Cascades Resource Area mailing list on February 24, 2014. An open house was held at the Gates Fire Hall on March 19, 2014 from 2:00-6:00 p.m. to provide an opportunity for the public to discuss the SMBT project and one other proposed project. The Open House was advertised through the scoping letter, a press release which resulted in one known newspaper article in at least two issues of the Canyon Weekly (a local weekly newspaper), and informational handbills posted on community access bulletin boards in Gates, Lyons, Mehama and Mill City, Oregon.

The BLM received approximately six comment letters/emails during the scoping period. Nine people signed the guest register at the open house. The scoping letters, open house presentation materials, and emails are available for review at the Salem District BLM Office. EA sections 1.8.1.3 and 1.8.2 address the issues raised in the comments and by the IDT. Two separate reports analyzing these comments were prepared: a spreadsheet with excerpts, responses and EA references; and a narrative with summaries and excerpts of comments and a description of how BLM used those comments to define issues and analyze effects to resources.

EA PUBLIC REVIEW AND COMMENTS

BLM made the SMBT EA and unsigned draft FONSI (Finding of No Significant Impact) available for public review and comment from December 17, 2014 to January 16, 2015. Six comment letters/emails/postcards were received during the EA comment period. One comment letter was received via email after the close of the comment period. These comments are available for review at the Salem District BLM Office, 1717 Fabry Rd. SE, Salem, Oregon. Responses to substantive comments are described in DR section 10.0.

ESA SECTION 7 CONSULTATION

1. U.S. Fish and Wildlife Service (USFWS)

The BLM submitted the Biological Assessment (BA) containing the Sunday Morning Timber Sale proposal for consultation with U.S. Fish and Wildlife Service (USFWS) as provided in Section 7 of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1536 (a)(2) and (a)(4) as amended) during the Fiscal Year 2014 consultation process. The Letter of Concurrence (LOC) (FWS reference #01EOFW00-2015-0147) concurred that the habitat modification activities described in the BA, including the Sunday Morning Timber Sale, are not likely to adversely affect spotted owls and will have no effect on Critical Habitat (LOC, p. 37, 38, 57).

All applicable General Standards described in the Letter of Concurrence have been incorporated into the proposal (LOC pp. 23-25).

2. National Marine Fisheries Administration (NMFS)

Consultation with the National Marine Fisheries Service (NMFS) on effects of the Sunday Morning Belly Twister timber harvest project on Upper Willamette River (UWR) Chinook

salmon and UWR winter steelhead trout is not required because the project would have no effect on these species or on essential fish habitat. Most harvest units are located on 1st and 2nd order headwater tributaries ≥1 mile from listed fish habitat (LFH) in Crabtree Creek, E.F. Neal Creek, Rock Creek, and the Roaring River. Perennial streams would have minimum no-entry stream protections zones (SPZs) of 70 feet.

To further ensure no impacts to LFH, SPZ's would be wider within 1 mile of LFH (>100 feet wide on perennial streams; 50 feet on intermittent streams), thereby ensuring no temperature changes to LFH downstream (EA Section 3.6.2).

Specific to the Sunday Morning Timber Sale there would be no effect on UWR Chinook salmon and UWR winter steelhead for the following reasons:

- Units approximately 1 mile from LFH, SPZ widths on perennial tributaries to Crabtree Creek would range from 120 to 675 feet in width.
- Two units in the Sunday Morning block are located on intermittent streams about 0.5 mile upstream of LFH in Crabtree Creek.
- The 50 feet wide SPZ's on these units would prevent sediment delivery and channel alteration, and stream temperatures during the summer would not be impacted because no surface flows would be present.
- Perennial stream buffers would maintain large wood supplies, and stream shading and thus stream temperature, and intercept and infiltrate water carrying sediment preventing its delivery to LFH.

Hauling would not impact listed fish habitat in the Sunday Morning Timber Sale for the following reasons:

- Log haul routes are all paved where they cross listed fish habitat, with no mechanism to deliver sediment to LFH.
- Graveled portions of haul routes are >0.5 mile upstream of LFH with the exception of the south haul route from the Sunday Morning block, which has two well-graveled stream crossings located about 0.5 mile upstream of Crabtree Creek. This haul route will be restricted to dry season and dry condition use to prevent any potential sediment from reaching LFH.
- Potential increased turbidity caused by sediment movement from the gravel road surface during hauling is unlikely to be visible or detectable beyond 800 meters downstream of the stream crossing (EA Section 3.6.2).

STATE HISTORICAL PRESERVATION OFFICE - CULTURAL RESOURCES SECTION 106 CONSULTATION

A summary report of the cultural resource inventory was sent to the State Historic Preservation Office detailing findings of the cultural resource surveys which were conducted throughout the sale area Summer 2014 (EA section 5.1.3). The BLM did not encounter any cultural resources during inventories, therefore this project will have no effect on cultural resources and no additional consultation or action is required.

6. Conclusion

Decision

I have decided to implement the selected action as the Sunday Morning Timber Sale. The selected action is described in DR section 2. The SMBT Environmental Assessment (EA) documents the environmental analysis of the proposed commercial thinning and connected actions and the EA is incorporated by reference in this Decision Rationale.

Finding of No Significant Impact (FONSI)

I have prepared a Finding of No Significant Impact (FONSI) determination which I have signed and am releasing concurrently with this Decision Rationale.

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 for this decision will appear in the *Albany Democrat Herald* newspaper on April 22nd, 2015. The planned sale date is May 20th, 2015.

To protest this decision a person must submit a written protest to John Huston, Cascades Field Manager, 1717 Fabry Rd. SE, Salem, Oregon 97306 by the close of business (4:30 p.m.) on May 7th, 2015. The regulations do not authorize the acceptance of protests in any form other than a signed, written and printed original that is delivered to the physical address of the advertising BLM office.

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. In turn, the Resource Area will prepare a formal response to the protest and serve a decision in writing on the protesting party (43 CFR 5003.3).

Implementation Date

If no protest is received within 15 days after publication of the notice of decision, this decision will become final. For additional information, contact Alisa Tanner (503) 589-6844, Cascades Resource Area, Salem BLM, 1717 Fabry Road SE, Salem, Oregon 97306.

Approved by: _____ Date: 4/16/2015

John Huston

Cascades Resource Area Field Manager

Attachments

7. EA Proposed Action Compared to Selected Action

Table 3 Unit Acres by LUA and by Yarding Method: EA Proposed Action Compared to Selected Action for the Sunday Morning Block Only

Stand Age	EA Proposed Action											Selected Action											Change: EA to DR Sel. Act.: Total Unit Acres		Low Dens. Thin Acres *
	EA Unit No.	Unit Acres		Unit Acres									DR Unit No.	DR Unit Acres		Unit Acres										
				GFMA			CONN			Riparian Reserve						GFMA			CONN			Riparian Reserve					
				Ground Based	Sky-line	Sub-Total	Ground Based	Sky-line	Sub-Total	Ground Based	Sky-line	Sub-total				Ground Based	Sky-line	Sub-total	Ground Based	Sky-line	Sub-total	Ground Based	Sky-line	Sub-total			
50	17A	141		85	20	105	-	-	-	29	7	36	1	122		92	13	105	-	-	-	16	1	17	-19		1
54	16A	46		-	-	-	23	14	37	1	7	8	2	35		-	-	-	19	12	31	4	-	4	-11		-
46	15C	112		-	-	-	52	25	77	11	24	35	3	88		-	-	-	47	20	67	10	11	21	-24		1
49	15A	21	69	-	-	-	9	3	12	4	5	9	4	17	58	-	-	-	8	3	11	3	3	6	-4	-11	-
51	15D	22		-	-	-	15	-	15	7	-	7		18		-	-	-	13	-	13	5	-	5	-4		-
50	15E	26		-	-	-	7	2	9	13	4	17		23		-	-	-	14	2	16	4	3	7	-3		-
77	27A	45		-	-	-	26	11	37	1	7	8	5	40		-	-	-	25	8	33	1	6	7	-5		1
70	27B	23		-	-	-	8	5	13	1	9	10	6	17		-	-	-	6	5	11	1	5	6	-6		-
37	15B	23		-	-	-	3	8	11	5	7	12	Drop	0		-	-	-	-	-	-	-	-	-	-23		-
50	17B	11		11	-	-	-	-	-	-	-	-	Drop	0		-	-	-	-	-	-	-	-	-	-11		-
Var.	R/W	11		4	-	-	7	-	-	-	-	-	R-o-W	11		3	-	3	8	-	8	-	-	-	0		-
Total		470												360											-110		3

Unit Numbering: Units in the proposed action start with section number, followed by a letter for the unit. Units were usually divided by streams. Unit numbering in the selected action are the timber sale unit number. * Low Density Thinning (LDT) acres are included in Selected Action Unit Acres reported. EA analyzed one percent of thinning area for LDT, or 4.7 acres analyzed in the Sunday Morning Block.

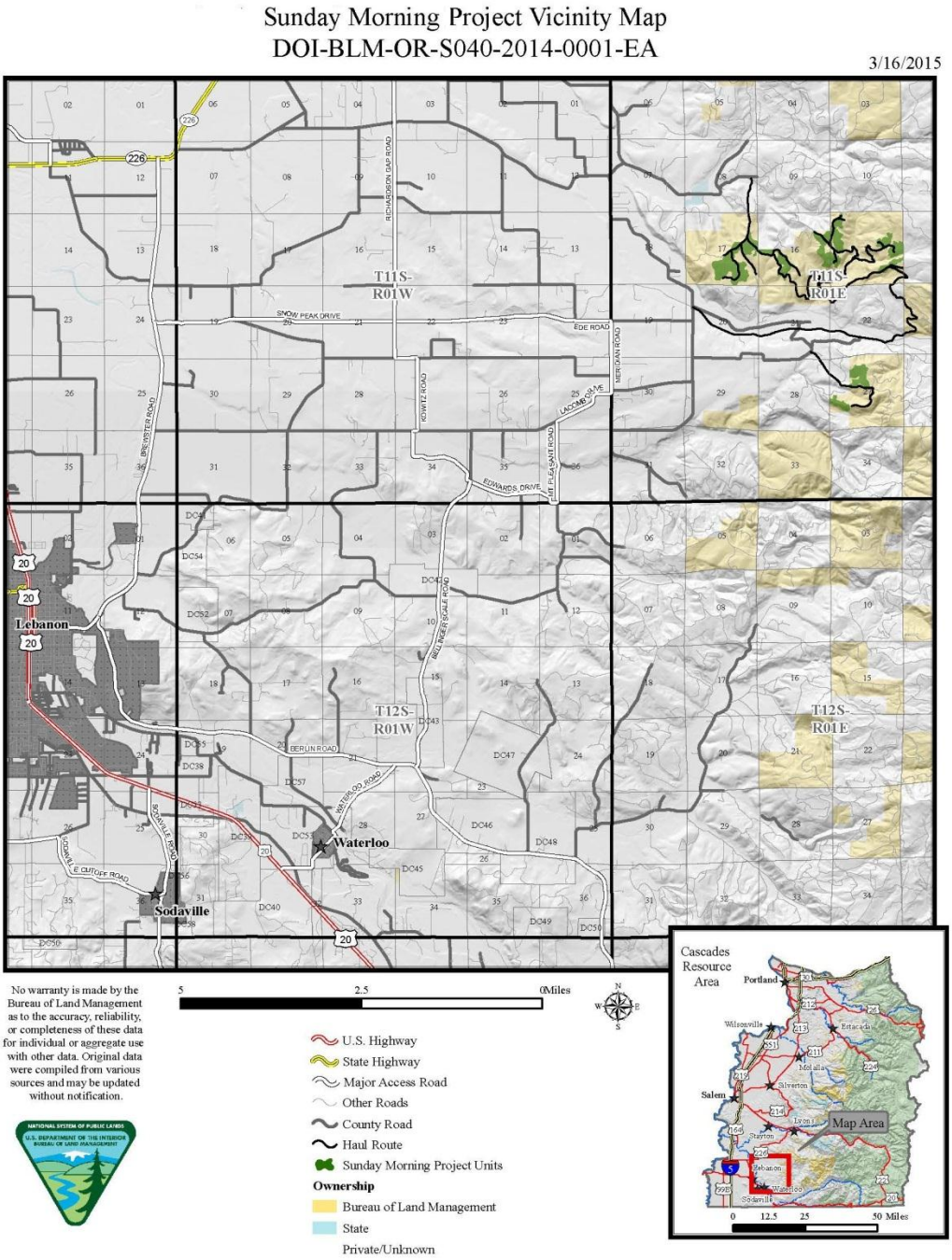
8. ERRATA

The following errors, omissions and clarifications needed in the EA are identified and corrected here:

EA Page	Changes Made
1	Style edit: "we" to "BLM"
10	Change references to multiple projects to refer to a single project.
10	Change from referring only to commercial thinning to referring to commercial thinning and regeneration harvest alternatives.
11	Change references to multiple projects to refer to a single project.
12	Add reference to Executive Order 13443.
13	Delete: EA Section 5.2 provides a summary of the topics raised in scoping comments.
15	Delete: How proposed management actions would affect wet meadow edge habitat.
19	Hollow bullet 2: Change Unit 15A to Unit 15E.
22	Table 1, Bent Beekman Block, Matrix Total: Change R-o-W from 0 to 1 acre. Change Subtotal from 102 to 103.
27	Table 5, PDF #6, bullet 2, line 2: The number "12" refers to the footnote and should be superscript.
28	Table 5, PDF # 17, 18: Add indicator marks to columns: vegetation, soil, water, fish, wildlife, invasives and economic.
32	Table 5, PDF # 50: Add indicator marks to columns: public and economic.
34	Table 5, PDF #65: Add indicator marks to columns: vegetation and invasives.
40	Clarification: road 11-1E-15 is also called the Church Creek Spur in this document.
63	Figure 20, Caption: "…approximately 12 *years* after harvest…"
70-71	Style edit: Number paragraphs, edit lead-in text.
74	Clarification: Church Creek Spur road is road 11-1E-15.
74	"…log fill/culvert replacements and ~~decommissioning/~~ improving the Church Creek Spur Road."
80	Add explanation: "Blue = current, Red = with 65 acres of regeneration harvest."
81	Remove typographic error: "…watershed's total sediment supply of 2,561 ~~2~~ tons/year."
84	Correction: 70 ft. should be 60 ft. – "…Stream Protection Zones (SPZ; minimum ~~70~~ 60 feet wide on perennial streams)…"
92	Correction: "Decommissioning ~~0.3~~ *0.09* mile of road…"
93	Correction: "Approximately ~~9 acres (0.6 percent)~~ *1 acre (0.1 percent)* of the treatment area
94	Clarification, last paragraph: 6th field watersheds.
108	Correction, first half of paragraph 2: "Throughout *most of* the project area, approximately ~~50 to 140~~ *40 to 157* green trees per acre would be retained ~~for green trees~~ and be available for recruiting snags and down logs in the future stands (RMP pp. 21, 25, 48). *26 acres (unit 15E) would be heavily thinned to 20-25 trees per acre.*
121	Correction, last paragraph: 21 percent should be 28 percent of federal land in the SWB.
122	Correction, first paragraph: 62 percent should be 61 percent of federal land in the sub-basin.
123	Correction, paragraph 3: 85 percent should be 87 percent of the mature forest cover would remain intact.
Table 24	Format changes to keep cells on same page. Revised/Corrected : 1) Migratory Birds: "This project is in compliance with this direction because treatments ~~would restore natural resources that could~~ *provide a variety of* habitat for migratory birds." 2) Threatened or Endangered: "This project is in compliance with this direction because ~~there would be no~~ *it is in compliance with management direction and within the* adverse effects on Threatened or Endangered Species *analyzed in the RMP/FEIS*" 3) Wetlands: "This project is in compliance with this direction because no wetlands are within the project area and adjacent wetlands would be protected by buffers ~~except for less than two acres where cutting and removing selected trees would be done to retard conifer encroachment into meadows~~.
141	ACSO 8, Proposed Action: Delete "Project 1".
148	Added*: "Scoping comments from the public were analyzed and incorporated into developing the project and the EA. Comments were categorized and responded to individually in a separate "Scoping Comments and Analysis Report" which is incorporated by reference."*
151 - 161	Map titles should read: "Sunday Morning Belly Twister Proposed Project", not "Sunday Morning and Belly Twister Proposed Projects".

9. DECISION MAPS

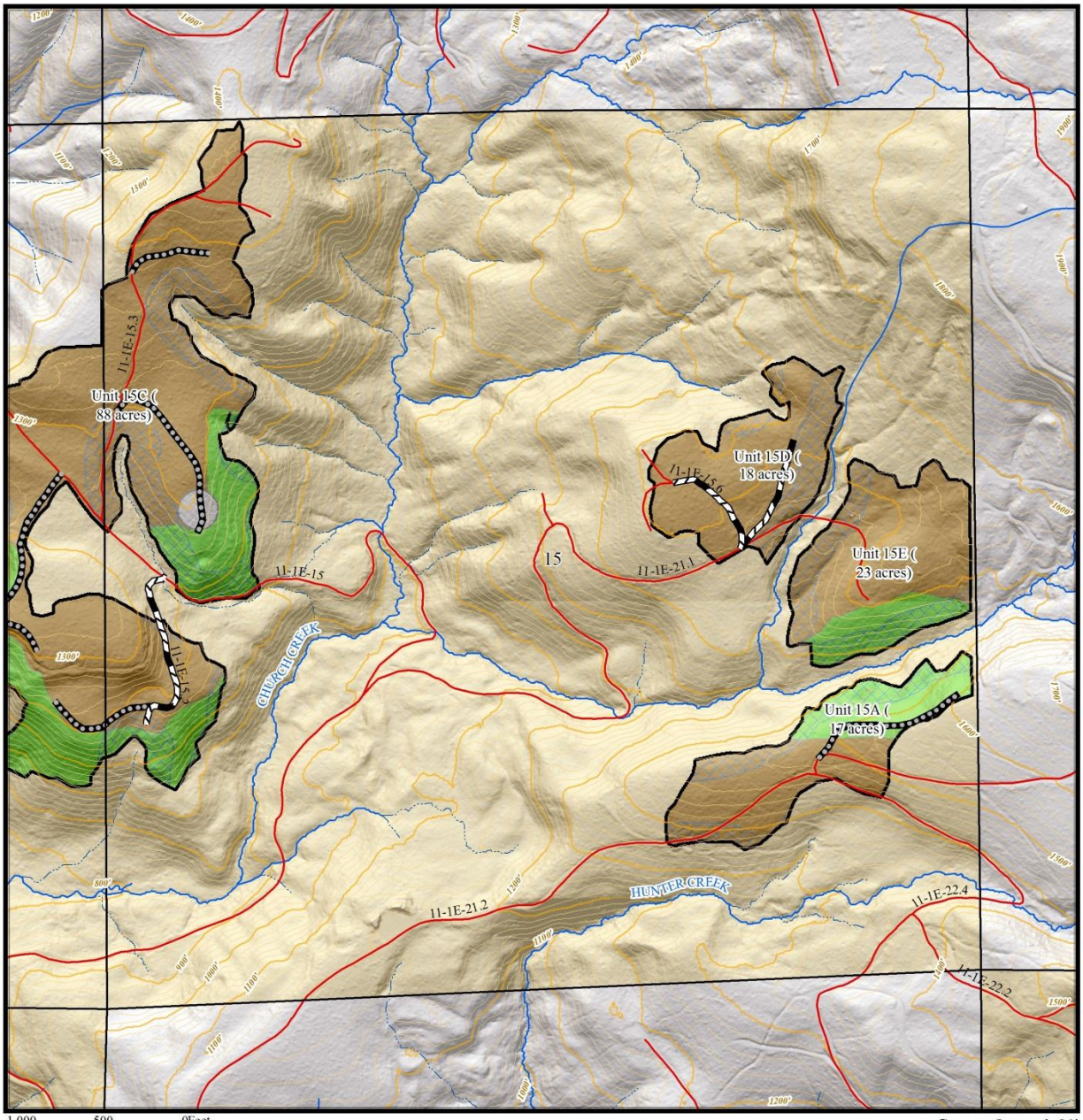
MAP 1: VICINITY MAP



MAP 2 – T. 11 S., R. 1 E., SECTION 15

Sunday Morning Thinning Decision Rationale EA # S040-2014-0001-EA

T11S-R01E Sec 15



1,000 500 0Feet

Contour Interval: 20'

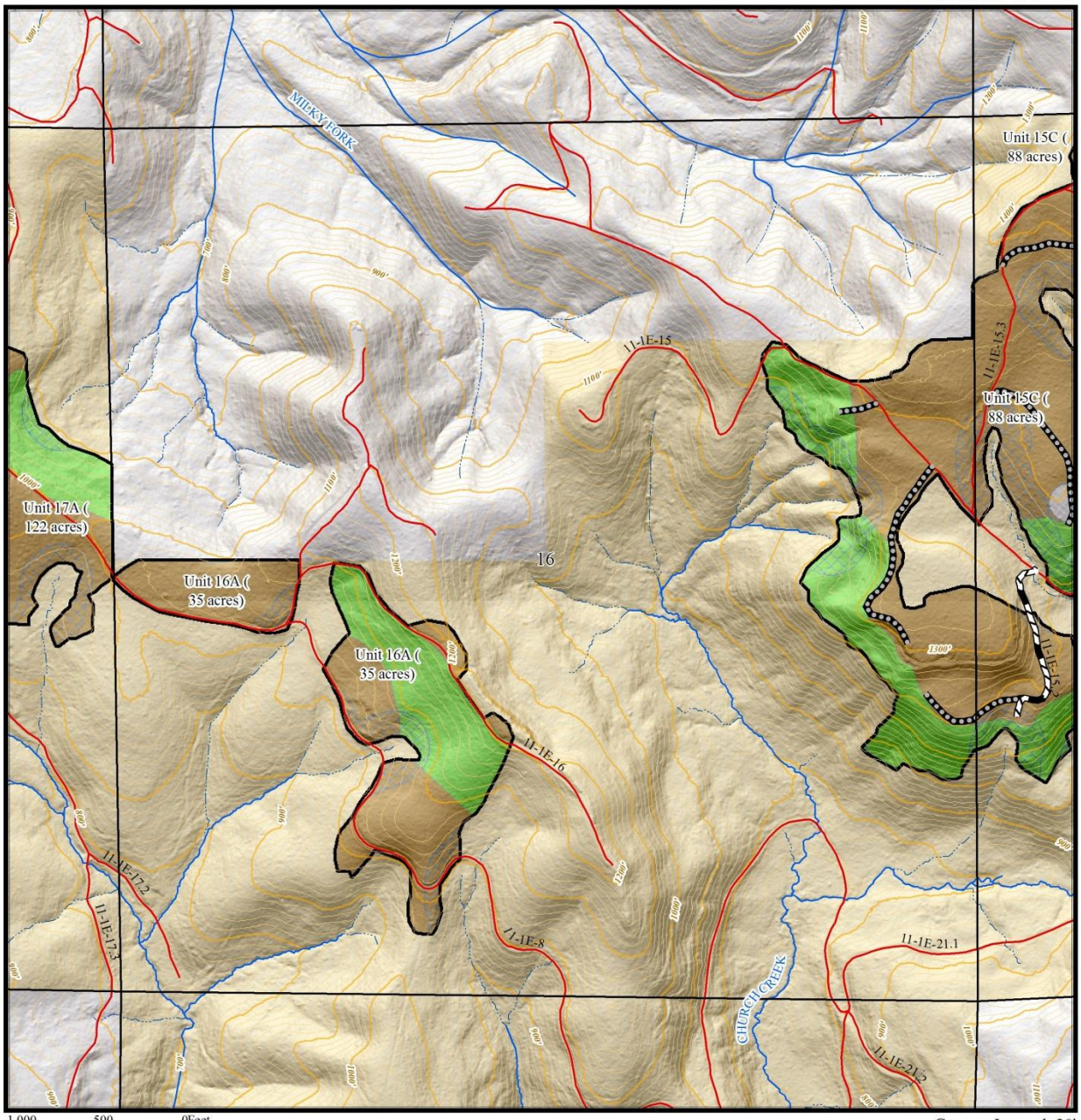
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

- Existing Roads
- Construct
- Renovate
- Intermittent Stream
- Perennial Stream
- Riparian Reserve
- Unit Boundary
- Patch Cut or Group Select
- Ground-Based Yarding
- Skyline - Yarding
- Bureau of Land Management
- Private/Unknown

MAP 3 – T. 11 S., R. 1 E., SECTION 16

Sunday Morning Thinning Decision Rationale EA # S040-2014-0001-EA

T11S-R01E Sec 16



Contour Interval: 20'

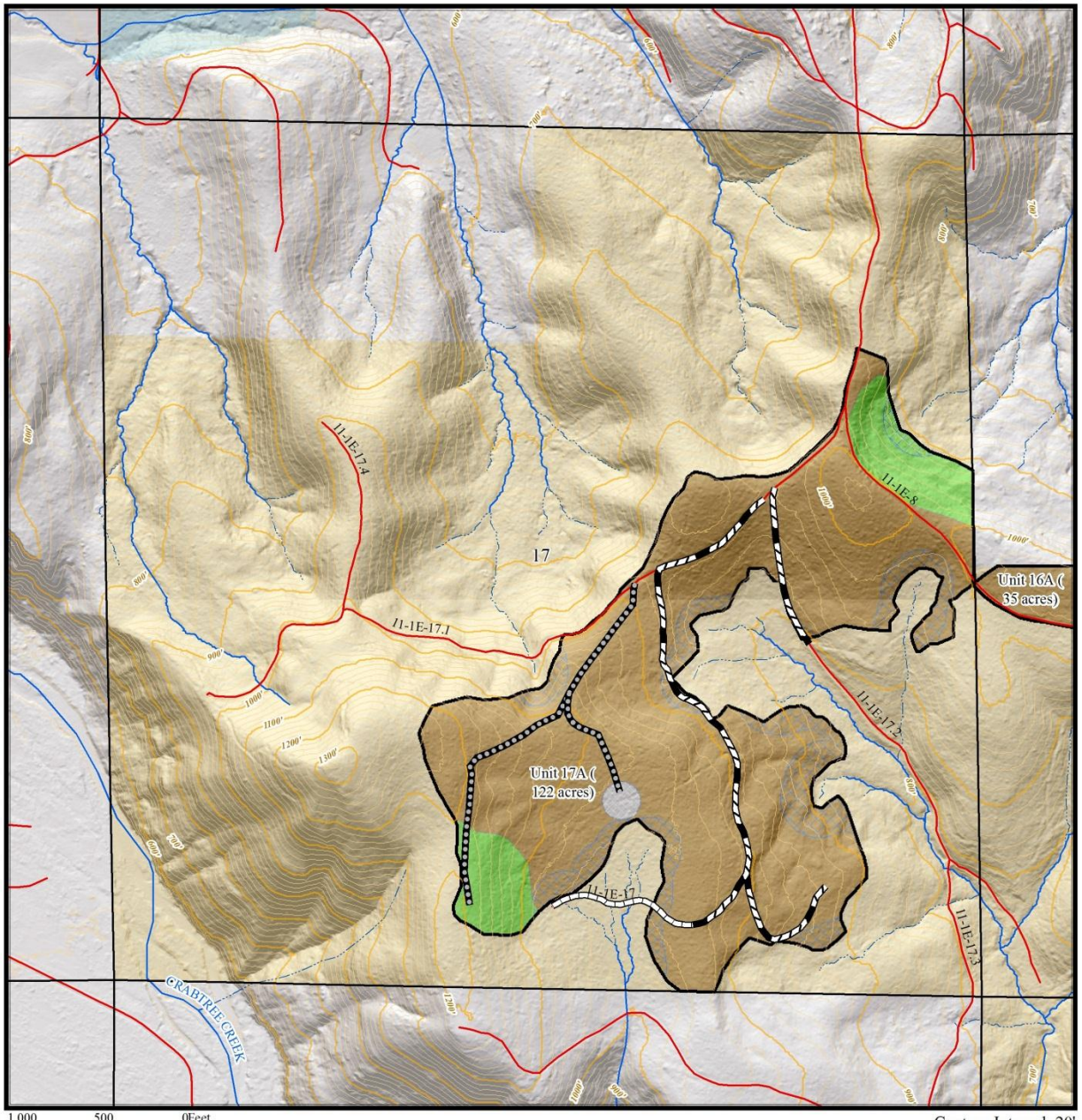
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

- Existing Roads
- Construct
- Renovate
- Intermittent Stream
- Perennial Stream
- Riparian Reserve
- Unit Boundary
- Patch Cut or Group Select
- Ground-Based Yarding
- Skyline - Yarding
- Bureau of Land Management
- Private/Unknown

MAP 4 – T. 11 S., R. 1 E., SECTION 17

Sunday Morning Thinning Decision Rationale EA # S040-2014-0001-EA

T11S-R01E Sec 17



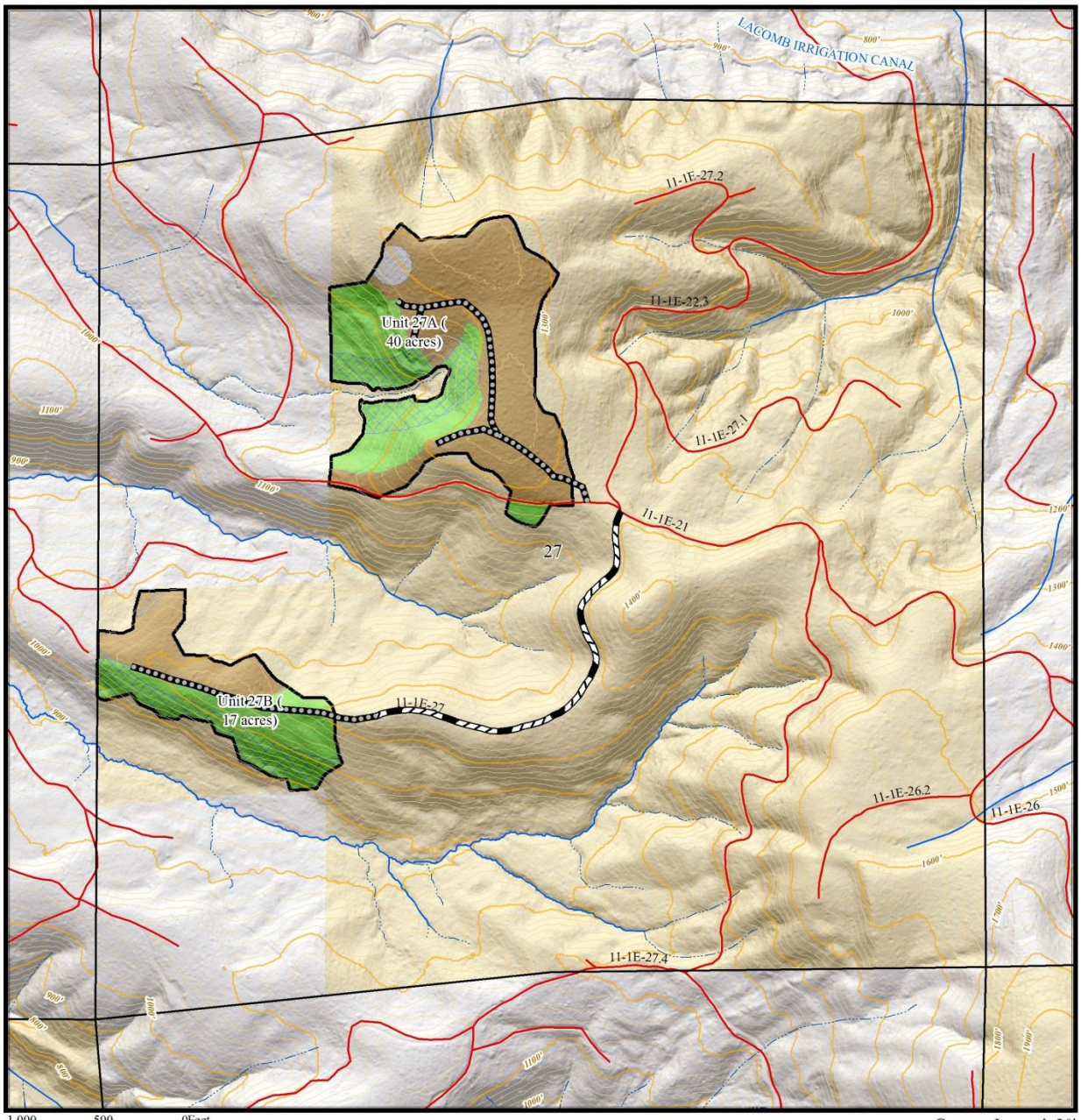
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

- Existing Roads
- Close
- Construct
- Renovate
- Intermittent Stream
- Perennial Stream
- Riparian Reserve
- Unit Boundary
- Patch Cut or Group Select
- Ground-Based Yarding
- Skyline - Yarding
- Bureau of Land Management
- State
- Private/Unknown

MAP 5 – T. 11 S., R. 1 E., SECTION 27

Sunday Morning Thinning Decision Rationale EA # S040-2014-0001-EA

T11S-R01E Sec 27



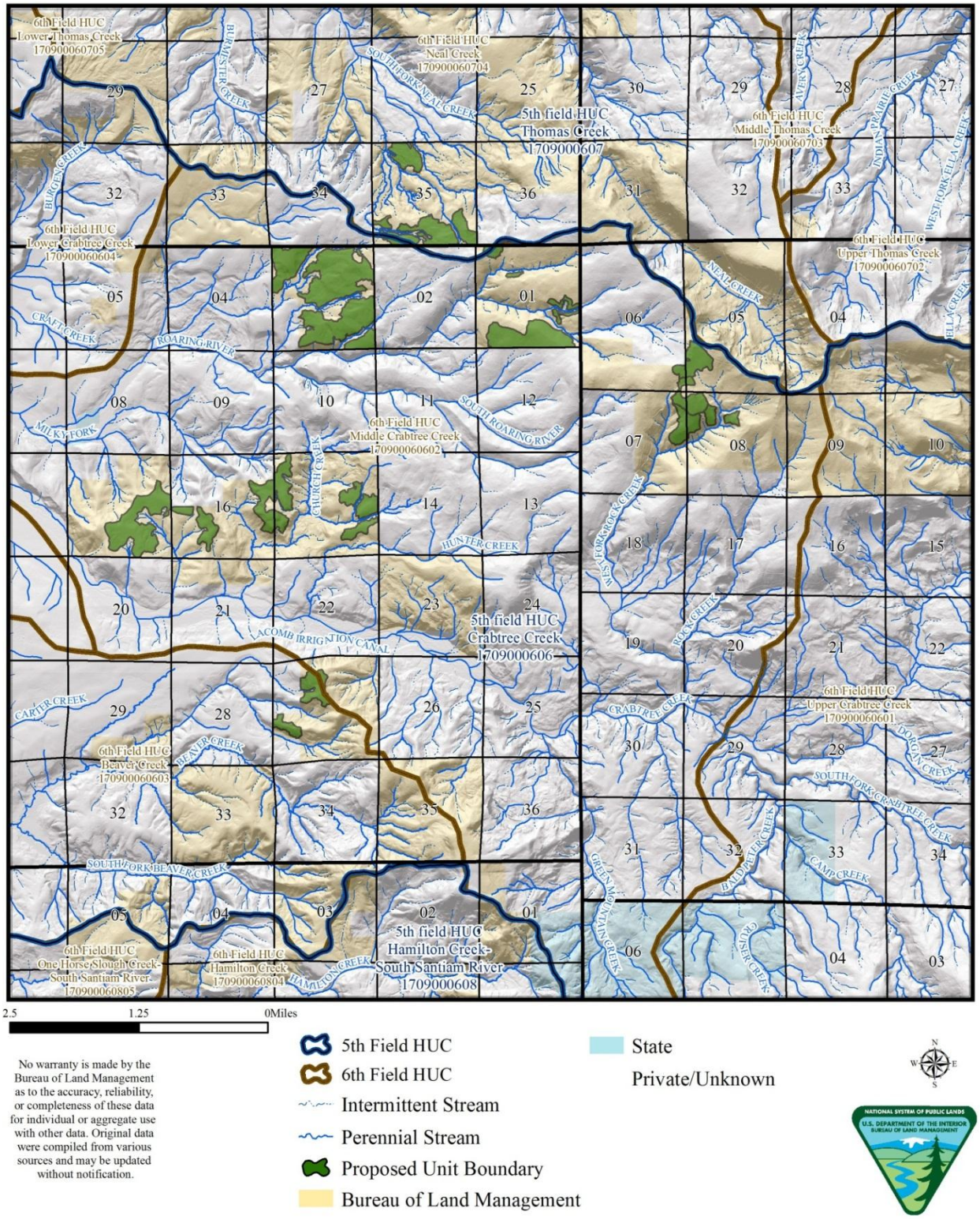
Contour Interval: 20'

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.

- Existing Roads
- Construct
- Renovate
- Intermittent Stream
- Perennial Stream
- Riparian Reserve
- Unit Boundary
- Patch Cut or Group Select
- Ground-Based Yarding
- Skyline - Yarding
- Bureau of Land Management
- Private/Unknown

MAP 6 – PROJECT AREA WATERSHEDS

Sunday Morning Belly Twister Project Watershed Map



10. Public Comments on the EA and BLM Responses

The BLM received five letters/emails commenting on the EA during the comment period. These letters may be viewed in the Salem District office. Public comments on the EA have been organized and responded to in the EA Comment Analysis and Response which is incorporated by reference into this DR. The substance of comments are summarized or excerpted below, with BLM response. These letters/emails were submitted from, listed in alphabetical order of organizations then alphabetical order of individuals:

- American Forest Resource Council (AFRC), an Oregon nonprofit corporation that represents the forest products industry.
- Benton Forest Coalition (BFC), an environmental advocacy organization, no mission or organizational status provided.
- Cascadia Wildands (CW) and Oregon Wild (OW), Oregon nonprofit organizations whose missions are to: (CW) "…protect and restore the wildlands and species in the Cascadia bioregion…" and (OW) "…protect and restore Oregon's wildlands, wildlife and waters…". Both organizations signed a common comment letter.
- Rocky Mountain Elk Foundation (RMEF), "a non-profit conservation organization whose mission is to ensure the future of elk, other wildlife, their habitat, and our hunting heritage."
- Rana Foster (RF), an individual.
- Karen Sjogren (KS), an individual.

The BLM compiled the comments from all five commenters, summarizing or excerpting the comments for brevity and application to the selected action, the Sunday Morning Timber Sale. Comments which apply to future actions which were also analyzed in the Sunday Morning Belly Twister EA will be addressed in the decision documentation for those actions. Comments are organized and addressed in the following topics, which generally follow the order of the issues presented in EA section 1.8.2:

1) Thinning Prescription and Forest Stand Characteristics;
2) Water, Hydrology, Fisheries and ACS Objectives;
3) Soils and Site Productivity;
4) Wildlife and Habitat;
5) Fire, Fuels and Air Quality;
6) Recreation and Public Access;
7) Timber Production, Logging and Roads;
8) Management Direction, including RMP, Laws and Executive Orders;
9) Access and Comment Opportunities;
10) Miscellaneous topics; and
11) Questions Asked in Comment Letters.

Thinning Prescription and Forest Stand Characteristics

I received comments concerning the thinning prescription and its effects on forest stand characteristics. Comments were roughly divided between Matrix and Riparian Reserve (RR) treatments.

Matrix:

a) *KS - The No Action effects analysis is good and makes a strong case for the thinning alternative.*

b) *KS asserted that the prescription for heavy thinning in unit 15E is too severe, should be identified as a regeneration harvest, and warrants further justification.*

c) *BFC asserted that unit 17B should not be treated due to the high incidence of maples and was concerned about windthrow in 8A.*

d) *AFRC supported the alternative action, including the thinning selected for the Sunday Morning timber sale.*

BLM Response: Unit 15E: The EA described the prescription and objectives for this unit in EA section 2.3.1.1. The effects are described in EA section 3.4.2.1. The commenter did not identify or provide evidence for error or omission in the analysis. This treatment is properly identified as thinning because the long range plan calls for regeneration harvest by overstory removal in approximately 20 years. Unit 17B: Unit 17 B was dropped and is not part of the selected action. Windthrow was addressed in EA section 3.4.2.1.

Riparian Reserve:

e) *AFRC supports thinning in RR and asserts that the action alternatives would protect aquatic resources and ultimately have a positive effect on dead wood.*

f) *CW/OW opposes thinning in RR and asserts that thinning has adverse effects and would reduce the availability of dead wood. They also question the age of RR timber and assert that diameter limits are needed.*

g) *KS supports RR thinning as proposed, citing the limited scope (18% of RR in the project vicinity) and positive effects on stand structure.*

BLM Response: The BLM recognizes that a variety of research on dead wood reaches a range of conclusions. BLM analyzed effects of treatment on dead wood supplies in EA section 1.4.6, 2.3.1.1 (esp. p.25), 3.4, 3.8; Table 5 PDF Nos. 12, 15, 16, 51-59; Tables 1, 2, 12, 13. BLM also analyzed effects of thinning and on stand structure in those same sections. The commenter provides no biological rationale for a diameter limit, nor a proposed diameter. BLM described appropriate diameter limits for various aspects of operations in EA sections 3.42.1, 3.4.2.2, 3.8.2.1, 3.8.2.2; Table 5, PDF Nos. 51, 55, 56. The EA also notes that natural processes will continue on 72 percent of the Riparian Reserve (RR) stands in the project vicinity (EA Table 2, 18% of RR treated).

WATER, HYDROLOGY, FISHERIES AND ACS OBJECTIVES

I received comments concerning the effects of the project on water quality, hydrology, fisheries and ACS objectives.

a) *AFRC encourages BLM to continue incorporating gaps into RR treatments and asserts that they contribute to achieving the upland RR objectives of ACSO9, providing habitat other than late-successional which contributes toward well-distributed populations of native riparian-dependent species.*

b) *KS cites multiple aspects of the analysis she considers to be well done: effects analysis for alternative action on water quality and hydrology, groundwater, sediment supply/transport/turbidity, future peak flow augmentation, surveys for aquatic species, culvert replacement, effects of alternative action on fisheries, and current analysis of potential harvest on private lands.*

c) *KS finds the studies on shade and temperature to be unconvincing since the treatments studied are not allowed under the NWFP; requests that secondary shade zone be described; asks for clarification on private harvest predictions; asks for clarification on steam crossings by new roads; and questioned using shade as a surrogate for low stream temperatures.*

d) *CO/OW assert that BLM did not consider harvest plans on private lands, so cumulative effects analysis is deficient; assert that peak flow analysis is deficient due to road construction; assert that water quality analysis does not adequately consider effects of roads and that watersheds are likely to be considered "not properly functioning".*

e) *BFC asserts that BLM's conclusions concerning hydrology and water quality are "sophomoric" and do not adequately analyze water retention by forests and roads.*

f) *RF asserts that evaporation in treated stands would have an unspecified different effect than analyzed by BLM.*

BLM Response: For this project, RR treatments are identified as needed to accelerate late-successional characteristics. This does not set a precedent for RR objectives for other projects.

Commenters provided different conclusions on the sufficiency of BLM's analysis of water quality, hydrology and fisheries/aquatic habitat and on whether BLM adequately assessed the potential for future harvest on private lands. EA Section 3.5.2 described the effects to Hydrology and ACS objectives; EA Section 3.6.2 described the effects to Fisheries and Aquatic Habitat; EA 3.12.1 describes compliance to the Aquatic Conservation Strategy.

To clarify issues as requested by KS:

- The shade and temperature studies were presented to show that if narrower buffers and more severe treatments along streams than are allowed by BLM have no measurable effect on stream temperature, then it is unlikely that the alternatives analyzed would have an effect.
- Field reconnaissance shows that no streams would be crossed by new roads, mapping will be corrected as data is collected and processed.
- BLM estimates of potential harvest plans on private land were based in part on observations of the size of timber. Very young plantations would not be large enough to harvest within the next decade, forming the basis for BLM estimate (EA p. 80) that less than 60% of private lands would be ready for harvest in the next decade.
- The Total Maximum Daily Load (TMDL) evaluation is used by ODEQ and uses shade as an indicator of warming/cooling potential and is used as a surrogate for ***changes to*** water temperature in forested areas. BLM complies with plans to implement TMDL on Federal lands.

Soils and Site Productivity

I received comments concerning the effects of the project on soils and site productivity.

a) *BFC acknowledges BLM analysis of soil compaction and disturbance.*

b) *BFC asserts that analysis of nutrient depletion is needed.*

c) *CW/OW quotes NWFP ROD p. C-44 and asserts that BLM must choose the logging methods that are least damaging to soil and should not consider the economic efficiency or convenience of logging methods.*

BLM Response: EA section 3.2 identifies Natural Resource Conservation Service (NRCS) soil descriptions and the Timber Production Capability Classification (TPCC) as the source for determining suitability of soils for timber harvest. The RMP directs implementation of the NWFP on the Salem District, provides management direction to implement the Standards and Guidelines of the NWFP ROD cited by the commenter, and directs the interdisciplinary team (IDT) to develop site specific best management practices for project operations.

Since the implementation of the RMP in 1995, which the NWFP was incorporated by reference, BLM has considered that logging systems and methods which comply with the RMP management guidance fulfill the intent of the Standards and Guidelines referenced by the commenter.

WILDLIFE AND HABITAT

I received comments concerning the effects of the project on wildlife and habitat. Comments are divided to those pertaining to Red Tree Vole (RTV) or Spotted Owl prey species and surveys, mistletoe treatment, leave trees and diameter limits, dead wood, and low density thinning areas:

RTV and Spotted Owl prey species:

a) *CW/OW asserts ground transect surveys for red tree voles are insufficient to locate nests, and; the EA does not discuss the effects of thinning on red tree voles flying squirrels, or other prey species for the Northern Spotted Owl.*

b) *FR asserts the application of the Pechman Exemption is contributing to a likelihood of extinction for RTVs in Oregon.*

c) *RF notes there is little discussion in the Silviculture prescription regarding the closed canopy connection between known RTV sites.*

d) *BFC commented how unit 16A, the strip next to Roaring River Spur 4 Road is scheduled for ground based yarding and should be reserved due to mature trees that would offer dispersal habitat for RTV's.*

BLM Response: EA section 3.8.2.1 and 3.8.2.2 analyze the effects on Spotted Owls and their habitat, implicitly including food sources as a part of habitat. Red tree voles are analyzed in the same sections as a special status species. Surveys are done to protocol and designed to meet legal requirements. EA section 3.8.1 identifies two known spotted owl sites within 1.2 miles of the project.

Changing court orders, which include the Pechman Exemption, is beyond the scope of the EA and this DR.

Silviculture Prescriptions and their effects on stand structure are analyzed in the EA section 3.4., while RTV habitat and presence, and the effects on them are analyzed in EA section 3.8.

Unit 16A was decreased from 46 acres in the proposed action to 35 acres in the selected action, including much of the area recommended by the commenter for dropping, following RMP management direction and determination of operational boundaries.

Mistletoe Treatment:

e) *RF asserts removing "witch broom" (Dwarf Mistletoe) is counterproductive to habitat creation for mammals, insects and bats, as well as Lepidoptera species.*

f) *KS comments the Johnson's Hairstreak would prefer the mistletoe hemlock in unit 15E and the thinning prescription should be modified to reflect this. The EA does not assess the impact of removing younger (50 year old) hemlock containing dwarf mistletoe in unit 15E.*

BLM Response: Table 12 shows stands with identified dwarf mistletoe (infestation levels high enough to impact site productivity or provide important habitat). Dwarf mistletoe is endemic throughout the range of western hemlock. The effects to Johnson's Hairstreak are described in EA sections 3.8.1, 3.8.2.1, 3.8.2.2. Mistletoe is identified in EA sections 2.3.1.1, 3.4.1, 3.4.2.1; Table 12, and Figure 13.

Among the dwarf mistletoe-feeding species of *Mitoura, M. johnsoni* (Johnson's Hairstreak) is almost entirely restricted to cool, moist, old-growth conifer forests of the Pacific Northwest west of the Cascade Mountains (Miller, et. al 2007). The best management practices to benefit this species is the need to

promote the maintenance of mature and old-growth conifer forests at middle to low elevations on the west slope of the Cascade mountains and Cost Range (Miller, et. al 2007).

In 11S-01E-15 there is approximately 250 acres of stands that are 120 to 250 year old. The research indicates there is a preference for older forest. It is unlikely the *M. johnsoni* would use the 40 year old stands over the older stands. The BLM is maintaining all of these older stands, as indicated by Miller, et. al 2007 as best management practices for conservation of this species. The BLM is promoting late seral characteristics in the 40 year old stand being treated.

Leave Trees and Diameter Limits:

g) *AFRC does not support diameter limits on vegetation management project and would rather see the BLM develop site specific silvicultural prescriptions that are based primarily on outcomes.*

h) *KS comments that trees larger than 30" should be retained, and remarked how Table 10 described a minimum diameter of 30" for old-growth trees and asked why this standard was not adopted.*

BLM Response: During proposal development (EA section 3.2), BLM gathers stand information which is evaluated by multiple disciplines. The two disciplines that contribute most to defining silvicultural objectives are timber and wildlife, with objectives weighted depending on land use allocation (LUA). Diameter limits are used for clarity to communicate implementation to a wide range of audiences who are not trained to understand silvicultural prescriptions presented in technical terms. The diameter limits selected and presented in the EA, and later in timber sale contracts, are based on the results of silvicultural prescriptions and stand data. Each combined diameter/species limit also has an accompanying description of how it is applied: protect from damage; leave in place if it must be cut; leave up to a target amount (such as 2/ac. CWD); or sell and remove.

The information provided in Tables 10 and 11 is descriptive, not prescriptive, and not presented to illustrate a "standard". The tables provide a broad overview of seral stages and show how descriptors used in the Watershed Assessments and those used in the RMP/FEIS (which are used by Salem District wildlife biologists) differ in their use of terms. "Old growth" is age and stand characteristic related, not individual tree related. The RMP uses "old growth" only in reference to stands, not individual trees. Sometimes diameter is used in describing old-growth, but not in defining it.

Dead wood:

i) *KS comments that large green trees should not be sacrificed to create snags, especially in Riparian Reserves.*

j) *FR comments there is insufficient information in the EA describing current dead wood conditions in the project area.*

BLM Response: Dead wood is addressed in EA sections 3.8.1, 3.8.2.1, 3.8.2.2, 3.8.2.3; Tables 13 and 18. For example, both tables show unit 35B as having 132 linear feet per acre of hard (decay class 1 and 2) and 605 linear feet per acre of soft (decay classes 3-5) logs at least 20 inches diameter and at least 20 feet long, which is the RMP standard for Coarse Woody Debris (CWD).

The text in the above sections briefly explains the relative value of larger and smaller dead and down wood. EA section 3.4.2.3 describes recruitment of smaller diameter wood by suppression mortality for the no action alternative.

Low Density Thinning Area Comments:

k) *RMEF suggests low density thinning patches be larger than one acre to increase early seral vegetation for big game species*

l) *KS comments the low density areas will create and adequate amount of early seral habitat for big game species.*

BLM Response: The BLM recognizes the variety of recommendations and opinions regarding low density thinning areas. Effects to big game are discussed in the Wildlife Section of the EA (EA section 3.8.2.1). The low density thinning areas in the Sunday Morning timber sale are strategically placed in locations where they will be of greater benefit to wildlife species, and are short distances from forested edges.

The low density thinning areas are limited in size to provide small openings and increased light to the forest floor more than what would occur in the rest of the commercial thinning. They are intended to increase stand structure by varying tree spacing diversity.

Fire and Fuels

I received comments regarding fuels treatment, and wildfire mitigation:

a) *KS suggests fuels treatments should be limited to lopping and scattering, mulching; block OHV roads as part of the timber sale contract.*

b) *BFC comments thinning will dry remaining fuels increasing the possibility of catastrophic wildfire.*

BLM Response: Fire hazard/risk is analyzed in EA section 3.9, including short term increase in fire ignition potential, intensity, resistance to control, and longer term effects on fire potential. Fuels treatments including burning is analyzed in EA section 2.3.1.1, 2.3.1.2, 3.9; Table 5 PDF 25-32, Table 8 PDF 72. OHV trail blocking is described in EA section 2.3.1.1.

Recreation and Public Access

I received comments pertaining to recreation use of the project area:

a) *BFC, RF both expressed concern regarding the recreation use of the area, including an unofficial trail to the top of Snow Peak*

b) *RF commented recreation use should be evaluated as an Alternative in the EA*

BLM Response: Recreation is analyzed in EA section 3.10. EA section 3.10.2 discusses the non-designated hiking trail to snow peak, and how the proposed action would have minimal effect on the trail.

EA section 2.3.1.4 discusses alternatives considered but not analyzed. This section includes a recreation emphasis alternative. This alternative was not analyzed for the following reasons:

- Precluding timber harvest and connected actions does not respond to the purpose for the project (EA section 1.2);
- The project area and vicinity were not selected for any special recreation designation in the RMP;
- Dispersed recreation opportunities would continue to be available in the project area and vicinity except within active logging units during actual operations; and
- The recreation emphasis alternative would be substantially similar to the "No Action alternative".

Timber Production, Logging and Roads

I received comments regarding logging systems, the socioeconomics of timber production and harvest, road building and other road work:

a) *AFRC provided several comments expressing support for the economic income the timber sales will provide.*

b) *AFRC commented they would like to see more flexibility in operational times, equipment use and road construction so the sale can be economically viable.*

c) *FR questioned why landing locations were not specified in the EA*

d) *KS commented the flexibility in approving a final logging plan is acceptable so long as the impacts are no greater than described in the EA.*

e) *CW/OW asserted the logging plan analysis was not adequate and that decisions made regarding logging systems and road building "after the NEPA process is closed", was a violation of NEPA.*

f) *CW/OW commented the cost of construction and maintenance of new roads was costly and a full economic analysis in an EIS would be beneficial to the project.*

BLM Response: The BLM's intent is to analyze for the full range of operating methods which comply with the analysis in the RMP/FEIS, RMP and site-specific analysis by the IDT. EA section 1.4.4 describes economic viability as an objective of the project.

EA section 2.3.1.1, heading "Landings": "Landings would be located primarily on and adjacent to roads." EA Table 5, PDF 4, 5, 7, 17 address landing use and construction, including the stipulation that skid trails plus compacted parts of landings outside of road rights-of-way to 10 percent of the unit area. Predictions of exact placement of landings along roads are seldom more than partly accurate because each operator's equipment and techniques differ (EA section 2.3.1.1, "Logging Systems"). EA section 3.7.2.1, subheading "Landings" describes the impacts of landings. Placing dots at a mixture of predictable and random locations on the roads on a map would not provide more information to the reader than the descriptions provided. The Logging Report maps one feasible placement of landings which is used to predict the approximately number of landing piles to burn and to affirm that it is feasible to log units within the parameters described in the EA sections cited.

43 CFR §46.300 states: "The purpose of an environmental assessment is to allow the Responsible Official to determine whether to prepare an environmental impact statement or a finding of no significant impact." The EA provided the responsible official with enough information to determine whether there is a need to prepare an EIS.

On the subject of road construction and logging systems, all road construction and logging systems/operations must comply with all requirements of the proposed or alternative action (EA 2.3.1.1, 2.3.1.2) including: meeting project objectives (EA section 1.4); staying within the parameters analyzed in the EA such as units, acres and road constructed (EA section 2.3; Tables 1, 2, 3); and complying with project design features (PDF) and seasonal restrictions (EA 2.3.1.1, 2.3.1.2; Tables 5, 8 and 6).

The EA analyzes the effects of the project, which includes the full range of logging systems which meet the above criteria, on the full range of resources identified in EA section 1.8.2 Relevant Issues. BLM determines that exercising options within the range specifically provided for and analyzed in the EA does not constitute a "decision...after the NEPA process is closed" and does not violate NEPA.

MANAGEMENT DIRECTION, INCLUDING RMP, LAWS AND EXECUTIVE ORDERS

I received comments regarding the RMP, other management direction, laws and executive orders:

a) *RF and CW/OR commented the Salem RMP, NWFP, and Matrix land use allocation designation on these lands is outdated.*

b) *BFC asserts the BLM should not prioritize timber production over other values including recreation.*

c) *AFRC supports the purpose and need in the EA that focuses on the O&C Act, producing a sustainable supply of commercial timber products*

d) *AFRC voiced concern over the long term sustainability of the timber supply on BLM land and how current management culture is affecting this supply.*

e) *RMEF commented how the EA (EA section 1.7.1) does not address the requirements of Presidential Executive Order 13443, Facilitation of Hunting Heritage and Wildlife Conservation, dated August 16th, 2008.*

BLM Response: The BLM's selected actions comply with the Northwest Forest Plan, and with the District RMP. The Salem RMP currently directs the management of BLM land and any management options to be considered will be defined by the RMP. Changing RMP management objectives is beyond the scope of the EA or this DR. BLM incorporated descriptions of legislative objectives as well as RMP resource and land use objectives into EA sections 1.3 and 1.4 to provide background information for the range of alternatives analyzed.

The RMP provides specific guidance on Salem District Priorities with regard to timber harvest in the Matrix LUA. Much of the project area is behind private gates, limiting recreation use by the public. Recreation is analyzed in EA section 3.10. See response to comments in *Recreation and Public Access* above.

The Executive Order RMEF refers has been added to EA section 1.71, Relevant Statues/Authorities (See Errata). The project design does incorporate elements that contribute to achieving similar Socioeconomic Conditions management direction to "Improve wildlife and fish habitat to enhance hunting and fishing opportunities and to increase the economic returns generated by these activities. (RMP p. 41) BLM generally considers hunting to be one form of "dispersed recreation", EA section 3.10.2.

ACCESS AND COMMENT OPPORTUNITIES

I received comments regarding access to the timber sale areas, and EA comment opportunities:

a) *BFC and RF commented access to proposed harvest areas was restricted due to locked gates. The BLM should provide access for the public through private gates and land so the public can see proposed harvest stands and provide comment.*

BLM Response: BLM cannot grant permission to the public to access private road systems unless expressly authorized to do so by the land/road owner. BLM offered escorted field trips behind the locked gates in question. The BLM received a call from one commenter to arrange a field trip to the area in question; however the commenter did not return BLM's phone calls or emails to arrange that trip. BLM received no requests for an escorted field trip behind locked gates from this commenter or organization after these emails and phone conversations. No requests were received during the EA comment period.

MISCELLANEOUS TOPICS

I received comments that do not fit the topics listed above, and I have compiled them in to a section "Miscellaneous".

a) *BFC commented that a undocumented consequence of extensive road construction is the expansion of rock quarries required to provide material, their impact on local scenery, and the consumption of fossil fuels in removing and hauling rock.*

   BLM Response: EA section 2.3.1.1 discloses that such rock would be obtained from commercial sources and established BLM quarries. "Established" BLM quarries have mining plans in place, analyzed under separate NEPA.

b) *CW/OW incorporate all the scoping comments on the initial proposal as EA comments*

   BLM Response: Those comments were submitted prior to BLM writing the EA, therefore they are not comments responding to the EA. BLM used scoping comments in developing the EA and specifically analyzed and responded to those scoping comments in two separate documents: 1) Scoping Comments Analysis and Response, an Excel Worksheet; and 2) Scoping Comments - Summary and Response, a Document, which can be found in the Sunday Morning/Belly Twister project file.

c) *RMEF asserts the EA does not indicate that it was coordinated with the Oregon Department of Fish and Wildlife as required by the Salem District RMP (RMP p. 24).*

   BLM Response: BLM notified ODFW of the project and of EA availability. They did not comment or make recommendations.

d) *KS commented a watershed level map would be useful.*

   BLM Response: A watershed level map, showing 5th and 6th field watersheds for the SMBT project has been added to this DR, Section 9, Map 6.

QUESTIONS ASKED IN COMMENT LETTERS

Several questions were asked by commenters in letters received. Questions listed below are shown as written in the comment letters the BLM received:

a) *"One has to question – if the proposed stands for harvest were previously logged using existing roads, why are eight miles of new road construction necessary for harvest this time, other than to generate work for BLM staff and roadbuilding contractors?"*

   BLM response: There are both technical and environmental impact facets of the answer to this question. When the native forest was harvested, the trees were large and large equipment was used to log them, especially cable systems. This large equipment was frequently set up to reach across streams from one ridge to the next. Yarding across streams in that manner today would cause unacceptable impacts to streams and riparian habitats. The equipment used was often not capable of achieving one-end suspension, which caused a much higher degree of soil displacement and erosion than is acceptable today. Ground based logging at that time often skidded through streams to avoid building roads. Today's smaller units with riparian reserves between them need roads to the right places to use smaller equipment and work patterns that have less impact than the previous logging systems.

b) *"If prescriptions were less aggressive, would slash burning be necessary?"*

BLM Response: Yes. Landing piles would be created at any harvest intensity and must be burned to prevent potential unmanaged burning during fire season. BLM routinely reduces fuels (slash) adjacent to property lines, ignition sources such as open roads and hazardous fuels to prevent problems. Low density thinning areas are routinely piled and burned to prepare the site for forage species to grow and allow free movement by big game and other animals.

c) *"For the "Roads" impact on water quality, what is the source for the assertion that the road network in these watersheds would cause only a 5-6% increase in stream length, due to stream/road intersections? (p. 69, bottom; Figure 27). The calculation is only partially explained on p. 70 (i.e., 200' for each intersection)."*

BLM Response: Stream network length and mapped locations for streams and roads is obtained from GIS data. Count the number of road/stream intersections, multiply by 200 feet. Divide feet added by feet of existing stream network to get percent increase.

d) *"What are the ODEQ standards for turbidity?"*

BLM Response: A visible reduction in water clarity, EA p. 77 paragraph 4.

e) *"If adjacent stands are on a short rotation schedule, because they are on private lands, how long will these softened edges persist?"*

BLM Response: The low-contrast edges are described (EA p. 102) as having understory layers and consider reproduction along the edges. This is not dependent on the adjacent stand. Private clearcuts would make them higher contrast than they are now, BLM anticipates 30-60 year rotations on private land.

f) *"What is the reason for allowing the removal of mixed species over 80 years of age? Are these trees going to be worth more financially?"*

BLM Response: Stands selected for harvest meet criteria established in RMP management direction for Matrix. No stands older than 80 are proposed for treatment in Riparian Reserve. Mixed species in a stand is common. Financial value is determined by many factors including: species, size, wood quality, form, logging costs and markets.

g) *"If entire sections are LSR, why can these sections be cut in the Cascade range, with very limited amounts of LSR?"*

BLM Response: None of these sections are LSR. See EA Tables 1 and 2. These sections are Matrix, with Riparian Reserve overlays. RMP management direction provides for the harvest proposed. Table 10 shows the amounts of LSR in the project vicinity watersheds.

h) *"In reference to CWD: "Will all these logs be eliminated for safety reason? Will all these logs be yarded and left in piles? Soil around these logs may be recovering faster from historic logging due to water storage and nutrient and microrhizal interactions from these decaying downed trees and the compacted forest floor. EA notes the need to create CWD, how are the logs from legacy tree clearcutting being treated and protected in the units that have this very abundant resource?"*

BLM Response: No, approximately 10% of CWD would be damaged by skidding/yarding based on maximum 10 percent of area in skid trails, yarding corridors and landings. Table 5 PDF 53 provides for protection.

i) *""Large woody debris greater than six inches in diameter would be retained on site and not piled." page 30. Does this mean wood that is not marketable will be trashed from 100% clearing and thinning? Or could this mean the existing very abundant forest floor woody debris currently present, will be honored and left on site and not placed into a few mega piles and burned? Losing large volume of CWD which has been in place since the sites where last cut, and these logs are still intact. "A track mounted hydraulic excavator shall be used to pile woody debris." page 30. So will all woody debris be piled including all the old CWD from prior cutting"*

BLM Response: Most woody debris, including logging slash, which is not marketable, will be left in place. EA section 2.3.1.1 and 2.3.2.1 describe planned fuels treatments. Table 5, PDF 25-32 and Table 8, PDF 72 and 73 describe specific elements of fuels treatments, including piling and burning. Un-marketable wood which is on landings and in selected fuels treatment areas will be treated; probably piled and burned, subject to PDFs. Woody debris larger than 6 inches diameter in the units, both new and existing, would be retained on site and not piled or burned. CWD is larger than 6 inches diameter. See also EA section 3.9.

j) *"How many acres of downed wood is present and these possibly function very successfully as very long term micro habitat?...I did not see the noted woody debris survey report. Ground based yarding and falling in general will destroy possibly all the layer of very abundant legacy logs in units which contain this none replaceable forest floor, ecologically very valuable resource, legacy logs and stumps and fallen over entire trees with root wad's…"*

BLM Response: EA Tables 13 and 18 list CWD amounts found in stand exams. EA section 3.8.1 describes existing down wood. EA section 3.8.2.1, 3.8.2.2 and 3.8.2.3 describe impacts of the alternatives on CWD. EA Table 5 PDF 53 provides for retention of existing CWD.

k) *"Does the Wildlife Report include an analysis of the environmental importance of the current levels of recent Unit 35B and historic CWD in all other units and Unit 35B?"*

BLM Response: The Wildlife Report and EA section 3.8.1, 3.8.2.1, 3.8.2.2 and 3.8.3.3 analyze CWD in the project area.

l) *"Does this area have Pine martin, or Purple martin's"*

BLM Response: No, the project area does not have Pine Martin or Purple Martins.

m) *"We found one set of multiple spring features in Section 3 Unit 3C appears to not be on the map and possibly on the ground may be no save painted, unprotected or buffered? Possibly these have been concurrently marked for saving and will not being fallen into or dragged through by logs? This area is not on the project map, or on the natural features list, so possibly yes it is not important to save from damage or obliteration by ground based yarding and road building and ground based hauling in the understory with yarders and crawling equipment. This area will be compacted, shattered and possibly take many years to restore itself. Will this important high elevation spring/pooling water resource be destroyed by ground based yarding and thinning and subsequently force dependent animals on this system to have to travel down the steep canyon sides to reach water*

in the South Roaring River or to wander around in Section 3 looking for water in all the very large amounts of headwater (riparian thinning units) headwaters of creeks which may or may not be flowing in mid-summer? … Hydrologic protection by buffering of this spring system in Unit 3C should be stated on the project map and given a generous buffer so yarding will not completely destroy this area and destroy/crumble/smash and disintegrate downed wood in this area which support the spring hydrology, keep the soil moist and cool and at an even temperature. In general, there would be no direct alteration of the physical features of project area stream channels or wetlands from timber harvest or logging operations. (The exception is for culvert replacements on the haul routes.)"

BLM Response: If springs form streams (channel and annual scour and deposition) they are treated as streams with riparian reserves and a stream protection zone (SPZ). Seasonal springs which do not form streams are protected by posting them outside of unit boundaries or concentrations of wildlife trees. See previous responses citing SPZ information in EA. There are many such springs around project units (especially in section 3) and a few interior in units, so BLM is not sure of the specific protection for the specific feature described; there is insufficient information in the comment to confidently identify the feature. BLM hydrologists, wildlife biologists and layout staff are diligent in their efforts to find and protect all such features as much as feasible. The commenter included a summary quote from the EA which answer some of these questions.

n) *"A large percent of section 3 appears to be riparian reserve(80% guesstimate) so all these acres will be thinned and opened up to increase surface evaporation and ground heating within one tree length of this short stature forest? Trees are no very tall in this section and no live legacy trees where seen, so possibly large legacy where taken out and what is present in Section 3 are native regeneration from 40-60 years ago?"*

BLM Response: As with most of the project units, these are previously managed stands. EA section 3.4.1 describes the historical influences on stand development. EA Table 12 lists the reforestation method and past management, showing that section 3 was planted and/or aerial seeded. EA Table 1 shows the land use allocation and logging system proposed for each unit and Table 2 shows land use allocations for the overall project area and project vicinity. From Table 1: Section 3 (approx. 560 acres total) shows 453 acres in proposed units (project area) of which 234 are within the Matrix LUA and 219 acres are Riparian Reserve (RR) LUA.

o) *"Is or does EA state clearly that the BLM will be responsible for monitoring stream temperature after all the project are completed? If stream temperatures are noted to have changed because of 500 acres of RR management-thinning, how will the BLM change the way they prescribe RR management in the future for similar forest types at these mid elevations in the Cascades? If thinning in RR changes temperatures in streams where a temperature record is uploaded or recorded and uploaded to BLM, shows changes due to clearing or thinning in the Riparian Corridor, how does the BLM plan to revise the way RR are managed?"*

BLM Response: See comment/response above regarding stream protection zones, DR p. 25, 26. Stream temperature monitoring is done as needed. Evidence from previous stream temperature monitoring and evidence about the lack of temperature effects from similar projects shows that no increase in stream temperatures is expected. If future data and research indicate a need to change forest management practices, BLM will implement scientifically proven measures as they are needed.

p) *"With respect to roads, it is unfortunate that several new roads cross streams in the Riparian Reserves. Will these be stabilized and closed after the project is over? Will the stream crossings be*

monitored? Replacing culverts at stream crossings is a positive aspect of any project. Are the new cross-drain culverts (11) associated with new road building"

BLM Response: See EA section 2.3.1.1, p. 23, Culverts, Stream Crossings: There are no new stream crossings proposed with the SMBT project. Table 3 in the EA describes road treatment/status after the project. New cross drains are generally on existing roads and at junctions of new and existing roads.

q) *"For Unit 27A, I am concerned about the prescription to "cut and remove all merchantable conifers" in close proximity to remnant large trees, without respect to size. What is the scientific justification for this, in terms of protecting the remnant trees? What size trees are involved"*

BLM Response: EA section 3.4.2.1, p. 57, last paragraph describes allowing large, lower limbs to grow, a desirable wildlife habitat condition. This was a small, unit-specific protection of legacy trees. As a wildlife habitat enhancement, it is at least as much of a professional art as it is a scientific rationale. Table 13 shows average stand diameter of 18 inches, the trees described for removal would likely be shaded and smaller than average. Non-merchantable trees would be too small to impact the legacy tree limb structure.

r) *"Is the plastic covering removed before the piles are burned? If not, doesn't the burning release toxins into the air?"*

BLM Response: The BLM does not remove plastic from the piles and it is burned with the pile. The Oregon Department of Forestry, Smoke Management program has determined that the plastic may be burned if it is limited to one sheet per pile, no larger than 10X10 feet (100 sq. ft.), and no thicker than 4 mil (0.004 in.). Operationally, it is difficult and costly to remove the plastic since it is tied and weighted to prevent it from blowing off, and in our experience it is often dangerous because people may be inured climbing on the piles with unstable footing to remove plastic. Used plastic which has been removed is typically torn and useless, so it is generally throw in in the garbage. The smoke particles released are included in the overall calculations of smoke generated and its environmental effects.

s) *"What are the elements necessary to support the BRNO fungus, and how will they be protected in this project?"*

BLM Response: Bridgeoporus nobilissimus (BRNO) is endemic to Oregon and Washington from the Olympic Mountains and western Cascade Range in northwest Washington to central western Oregon. There is one known site in the Oregon Coast Range. Fruiting bodies occur on large, dying and dead noble fir and Pacific silver fir in late-successional old-growth forests and on remnant stumps and snags in young and mature second-growth forests in the Pacific silver fir and western hemlock zones. Although BRNO can produce conks of a massive size, it is unclear what drives BRNO to establish and produce conks. Conks are known to occur up to 4 feet off the ground on live trees, standing dead trees, snags, and stumps. Further life history information is available in a BRNO Species Fact Sheet (Lebo 2007) available at http://www.fs.fed.us/r6/sfpnw/issssp/species-index/flora-fungi.shtml.

EA Table 5 PDF 13 and 15 describe protection measures. EA section 3.4 (Vegetation), headings "Threatened or Endangered……" in the alternatives subsections describe what is known and protection methods used.

t) *"Will the retention of true fir species be favored, above and beyond retaining large trees in general?"*

BLM Response: The prescription calls for retaining original stand species composition, EA p. 19, bullet 3. Many of the largest trees are true fir.

u) *"Is Matrix classification outdated for these timber sales? What is the reason here for cutting in LSR? Is this the last time cuts will be made in these LSR stands? I thought LSR was not to be cut under the NWFP?"*

BLM Response: RMP land use allocations are beyond the scope of this EA. No cutting in LSR is proposed in this project. See response to question (*g).*

v) *"For drinking water quality, has Salem District shared comments about these timber sale in case someone's downstream water supply may be linked to these three creeks? Roaring River Fish Hatchery may be very interested as would all the users of Roaring River for drinking water."*

BLM Response: EA section 3.5.1 and Table 15 identify beneficial uses downstream of the project. Roaring River Fish Hatchery was notified through ODFW. EA section 3.5.2.1 describes elements of water quality potentially impacted by the project and determined that effects would not be detectable below 800 meters downstream.

w) *"Did BLM undertake a herpetological and amphibian survey in wetlands/springs/bogs and low lying seasonal depressions within the two sales"*

BLM Response: BLM conducted all required surveys for the SMBT project. Surveys were not done for species which do not require surveys. Methodology described in EA section 3.2. Analysis of Fish/Aquatic Habitat and Wildlife is described in EA section 3.6 and 3.8.

x) *"Is the projected hardwood volume coming from the Riparian Reserve thinning of 500 acres? I failed to get the silvicultural report so am unclear as to where pure hardwood volume will be taken from. I assume this will come from within 500 acres of RR area … The Riparian Reserve is being used to increase corridor habitat so this is where 500 acres of harvested hardwood forest is coming from"*

BLM Response: No hardwood volume is planned from the project. A few individual hardwood trees may be cut and removed for specific purposes. See EA Table 5, PDF 56.

y) *"Intensity [40 CFR 1508.27(b)] What percent of cover is left after removing x trees per acre in riparian corridor/harvest zone and are these enough to assist creeks/wetlands/springs/seeps in maintaining cool temperatures and low evaporation levels with global warming occurring? If snow pack is low due to global warming here on west flank of the old cascades, how is the thinning 500 acres of riparian reserves providing protection for water supply to seasonal creeks/springs/wetlands? … Will cutting 500 acres in riparian reserves impact fish bearing streams because these acres shade the streams ground surface area, so 500 acres of soil in the riparian reserve will become that much warmer and possibly heat up headwater creeks which feed North Santiam River and listed species habitat, Upper Willamette River (UWR) Chinook salmon and UWR winter steelhead trout. "Based on stream temperature data collected in 2000 and the high levels of shade along project reaches, its likely stream temperature in the project area on BLM lands already meets state standards."page 72"*

BLM Response: Stream protection zones are described in EA Table 5, PDF 12. Thinning in RR is described in EA section 2.3.1.1. Environmental effects regarding thinning in the RR is described in EA sections 3.5.2.1, 3.5.2.2, 3.6.2.1, 3.6.2.2. RR thinning is designed to protect streams by maintaining shade. Snow pack is beyond the scope of this EA. The EA quote supplied by the commenter shows that

current stream temperatures are likely meet State standards and the analysis shows the project is unlikely to cause a measurable change in temperature, therefore is not likely to impact listed fish or their habitat.

z) *"Unit 3B dbh were large and age of 26.20 fir 74yrs so in this area is this considered an older growth diameter and age to be conserved if no trees are over 80 but they are reaching this age? I found four or so fir over 26 dbh two over 30 so these may be over 104 years old."*

BLM Response: Stand age calculations are based on tree ring counts on cores taken during stand exams, not on diameter. EA footnotes 23 and 24 describe aspects of the process of determining stand ages. Stand ages are documented in EA Tables 12 and 13, some additional discussion of specific units is included in surrounding text.

Information incorporated in the DR by reference:

Miller, J., Hammond, P.Butterflies and Moths of Pacific Northwest Woodlands. 2007. FHTET - 2006-07. Morgantown, WV. US Dept. of Ag., Forest Service, p. 42.]

Sunday Morning Belly Twister Environmental Assessment Comment Analysis and Response, April 2015.