Final Decision and Decision Rationale (DR)

For the

Bent Beekman Timber Sale

November, 2015

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Project Name: Sunday Morning Belly Twister Timber Management Project

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Bureau of Land Management, Oregon State Office

Salem District, Cascades Resource Area

Willamette Meridian,

T. 11 S., R. 2 E., Sections 5, 6, 7 and 8

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-16/003+1632

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FINAL DECISION AND DECISION RATIONALE (DR)

BENT BEEKMAN 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 was released in April of 2015, prior to this Final Decision and Decision Rationale (DR) for the Bent Beekman Timber Sale. The EA and FONSI are incorporated by reference into this DR.

The BLM will issue separate Decisions for other 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 alternative action for EA units 8A and B and the proposed action for unit 5A for the Bent Beekman Timber Sale as described in the EA 1.1.2. This timber sale will consist of these 3 units analyzed in the EA, as adjusted by final layout and acreage determination (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. 10-12). 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 follows the recommendations of 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 (Bent Beekman 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 its associated 2003 Annual Species Review.

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 the project (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 and alternative actions (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 affect listed fish or their habitat (EA section 5.1.2);
- Complies with the US Fish and Wildlife Service (USFWS) biological opinion (BO) issued October 2014, reference #01EOFW00-2014-F-0221. The project is not likely to affect spotted owl Critical Habitat, is not likely to disrupt spotted owls, 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 3.8.1 and the BO p. 132 and Table 1B);
- Will not "harm" specific spotted owls because current surveys show no spotted owl presence in the Bent Beekman project or vicinity (EA 3.8.1 pp. 102 and 103, Table 1B of the BA and the BO);
- Will not contribute to cumulative effects to spotted owls (EA pp 118, 119, and 122 and BO p. 132) for the following reasons. No harvest would occur within the provincial home range of any known spotted owl sites (EA pp 118 and 119 and Table 1B of the BA and BO); and dispersal habitat would be maintained between known spotted owl sites and Late Successional Reserves. (EA p. 122);
- Units 8A and 8B are currently outside the provincial home range (1.2 mile radius) for any known owl site; the suitable habitat is contiguous, however the degree of impact to any known owl site is expected to be low (EA 3.8.2.2 p 122);
- 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 (Bent Beekman 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	Belly Twister Block EA Acres	Bent Beekman Block EA Acres (Units in Section 8)	Total Proposed Action (EA) Acres	Total Alternative Action (EA) Acres	Cumulative Acres Implemented[2],
Commercial Thinning, Matrix, 42-80 TPA retained	Acres	80	297	34	911	846	551
Commercial Thinning, Matrix, 20-25 TPA retained	Acres	0	26	0	26	26	23
Riparian Reserve Thinning, 42-80 TPA retained	Acres	2	143	0	521	521	148
Low Density Thinning Area, ~12 TPA retained	Acres	0	3	0	15	15	5
Right-of-Way Clearing	Acres	2	11	1	27	27	14
Regeneration Harvest	Acres	62	0	65	0	65	62
Subtotal Treatment	Acres	**146**	**481**	**103**	**1500**	**1500**	**803**
Road Construction	Miles	0.25			8.63	same	2.61
Road Renovation	Miles	0.27			8.09	same	3.86
Road Maintenance (currently drivable)	Miles	6.85			33.41	same	28.8
Machine Pile, Cover and Burn	Acres	15			129	126	72
Hand Pile, Cover and Burn	Acres	0			22	22	8
Slashing[3]	Acres	3			0	0	3
Landing Piles	Piles	18			276	276	178
Broadcast Burn	Acres	62			0	65	62
Tons of slash burned (@ average of 40 tons per acre	Tons	3080			6,000	8,400	5560

Regeneration Harvest and Commercial Thinning:

- Regeneration Harvest approximately 62 acres (DR Table 2). This harvest includes (EA section 2.3.1.1; Tables 1, 2, 13) to a density of 10-12 trees per acre (TPA) (EA Table 13, DR sec. 9, maps).
- Commercial thin approximately 82 acres to a density of approximately 80 TPA (EA section 2.3.1.1; Tables 1, 2, 13, DR sec. 9, maps).
- Clear approximately 1-2 acres of right-of-way for constructing new roads. (EA Tables 1,2,3; DR Table 1,3; DR sec. 9, maps).

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[2] Includes Sunday Morning and Belly Twister timber sales. Anticipated future sales: Roaring Toads

[3] See section 2.3.1.1 of the EA, Connected Actions – include other fuels treatment possibilities, such as "slash pullback, slashing, lopping and scattering, and firewood cutting". Slashing can be defined when: Any standing woody vegetation, such as brush, over 1 foot in height will be felled and lopped into six (6) foot lengths.

Logging Systems and Unit Layout: [4]

Approximately 59 percent (84 acres) of the 146 acres of harvest area, including 2 acres of right-of-way clearing, is designed to be logged using ground based logging/yarding systems; 41 percent (62 acres) is designed to be logged with a skyline yarding system (DR Table 2).

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

- Limiting 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, 17, 18);
- Designing 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, 14-24);
- Designing 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);
- Locating 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);
- Reducing 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 0.25 miles of new road (out of 8.63 miles of new analyzed in the EA). New roads will be natural surface and are designed to be the minimum amount needed to provide for safe and efficient logging while meeting other resource objectives.

Road construction includes clearing approximately 1 to 2 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: draining surface water to stable slopes, avoiding channeling road runoff to streams, constructing roads only on stable ground, limiting construction operations to soil and weather conditions that would not generate sediment, placing surface rock, and stabilizing roads prior to the wet season.

After logging and fuel reduction operations are complete, close and stabilize all new natural surface roads. 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,

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[4] 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 Bent Beekman 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 Bent Beekman timber sale, but may be used).

draining water to stable slopes, seeding, mulching, and covering with logging slash and/or other site-specific techniques.

Renovate approximately 0.27 miles of existing undrivable road on BLM managed land (out of 7.88 miles analyzed in EA) and maintain 6.85 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 (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:

- 3 culverts replaced at a stream crossing;
- 4 cross drains/ditch relief culverts replaced.

Culvert replacement will be done during the in-water work season (June 1st through October 15th)[5] using work practices that prevent sediment from exceeding ODEQ water quality standards, as analyzed in the EA.

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:

Slash and woody debris on approximately 62 acres of regeneration harvest will be burned for fuels reduction and reforestation site preparation (SE EA Section 3.9.2.2). Post-treatment fuels surveys would be conducted in the regeneration harvest units and a site and condition specific burn plan prepared. The preferred treatment for the regeneration harvest is broadcast burning (DR Table 1); if the fuels surveys indicate that another treatment such as hand-pile/burn, lop and scatter would be more appropriate on some or all of the acres the treatment recommendation would change accordingly.

Approximately 15 acres of machine piling along open system roads and property lines will be covered and burned in both the regeneration harvest and thinning areas. Approximately 3 acres of slashing will occur within 35 feet of the 11-1E-1.1 road above the cable logging area in units 8A and 8B. Slash and woody debris on landing piles could be used as mulch to cover roadbeds during stabilization (see EA Table 5, PDF 8, 10, 44, 45), or covered and burned.

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 Bent Beekman Timber Sale project.

Snag and CWD recruitment:

[5] Oregon Department of Fish and Wildlife (ODFW), June, 2008. Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources.

Create coarse woody debris (CWD) in the thinning units 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).

Initiate snag recruitment within regeneration harvest units by topping or girdling up to four green conifer trees per acre.

Special Forest Products:

Special Forest Products (SFP) (1995 RMP p. 49) permits will be available from the harvest units when collection is feasible and public safety is not at risk. Special Forest Products are salable natural products that can be found in the forest and may include: edible mushrooms, posts and poles firewood, , etc. Transplants of native plants from road rights-of-way, skid trail locations and landings will be available for permit. Public access to the harvest area will be controlled through the Special Forest Products permit stipulations.

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;
    - Closing and stabilizing new natural surface roads;

- Immediately introduces elements of structurally complex forest habitat, age class distribution and increasing early seral habitat in the watershed by:
  - Thinning 82 acres in 2 units between 39 and 43 acres in size (DR Table 2);
  - Harvesting 62 acres leaving 10-12 TPA as small aggregates and dispersed trees throughout 1 unit (62 acres); (DR Table 2, EA table 8 PDF 69));
  - Creating snags and CWD in the regeneration harvest areas by and topping and girdling up to 4 green reserve trees per acre (EA p 39, PDF 71);
  - Creating coarse woody debris (CWD) in the thinning units 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);
  - 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, 3.5.2.2, 3.6.2.1; DR section 9 - Maps):
  - Thinning 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;
  - Thinning 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;
  - Units where regeneration harvest will occur will retain a full riparian reserve LUA no-harvest buffer.

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	1033	40	930	104	71	43	62	0
CONN	919	35	878	40	28	39	0	0
RR	654	25	652	2	<1	2	0	0
Total	2606	100	2460	146	100	84	62	0
Percent			**Percent of Project Vicinity Acres**			**Percent of Project Area Acres**		
			94	6		58	42	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 Belly Twister and Bent Beekman Block of the SMBT Timber Management Project.

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 Bent Beekman 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 remain and continue to grow without management.

The selected action meets the objectives that contribute to this decision factor by providing approximately 5.1 million board feet (MMBF) of timber to the market place with an appraised value of $1,380,159 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.

For forest stands located in the Riparian Reserve LUA (RR), silvicultural prescriptions are designed to develop specific stand characteristics that will increase habitat variability in the watershed. These actions would also 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 various types of logging equipment and harvest techniques. Economic viability is objectively demonstrated by the BLM's appraised price and competitive bid process. The BLM's experience with offering similar timber sales has shown that competitive bidding for this type of sale often results in a sale price higher than the appraised value.

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 project would continue to grow; however growth is slowed in the 102 year old stands and will reach the culmination of its annual growth (Culmination of Mean Annual Increment (CMAI)[6] – see EA 1.3.2.2, 1.4.5, 2.3.1.2) in less than a decade. Stands 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. Conifer seedlings would be planted in the regeneration harvest areas once the timber sale and site preparation have occurred, creating a new forest for future thinning and timber management opportunities. Other forest products would be available but difficult to predict.

[6] Culmination of Mean Annual Increment (CMAI) is the age in the growth cycle of a forest stand at which the rate of annual increase in timber volume is at its highest. After this age, the ***rate*** of volume increase starts to decrease, though the ***total amount*** of volume continues to increase. At culmination, mean annual increment (MAI) equals periodic annual increment (PAI).

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 thinned 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). The No Action alternative maintains the 62 acres of mature forest which could help support late successional species, while the selected action could create habitat for early successional species. The No Action maintains an additional 80 acres of 51 year old dense conifer stands. 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 Riparian Reserve LUA (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 (56 percent, or 84 acres 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 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 well 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 proposed action for the Bent Beekman timber sale because it only partially meets the objectives and management direction as described in our RMP with reference to maintaining a sustained yield of timber (RMP pp. 20, 46), and the project objectives as described in the EA (EA Section 1.3.2.2, 1.4.5, 2.3.1.2). The stands proposed for regeneration harvest are nearing their culmination of mean annual increment, and as illustrated in RMP direction should be considered for regeneration harvest (RMP p 48, EA 1.3.2.2, 1.4.5, 2.3.1.2).

I did not select other units and acres as analyzed in the SMBT EA because I plan to implement the project as multiple timber sales (EA section 2.2.2). The Bent Beekman timber sale is the third 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 did not select the remaining units in the EA because I plan to implement one additional timber sale comprised of those units in the future. I will issue an independent decision for the final timber sale.
- I selected EA unit 5A, 8A and 8B (EA pp 21, 52-53, DR Table 1) with modified unit boundaries based on final field work as the Bent Beekman Timber sale, documented as the selected action in section 2 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 Matrix 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 changing the RMP, which is out of the scope of this analysis.
- 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 Bent Beekman Timber Management Project proposal was submitted for formal consultation with U.S. Fish and Wildlife Service (USFWS) as provided in Section 7 of the Endangered Species Act (ESA) of 1973 (16U.S.C. 1536 (a)(2) and (a)(4) as amended) during the FY 2015 consultation process. It complies with the US Fish and Wildlife Service (USFWS) biological opinion (BO) issued October 2014, reference #01EOFW00-2014-F-0221) issued for FY 2015 projects. The project is not likely to affect spotted owl Critical Habitat, is not likely to disrupt spotted owls, and is not likely to diminish the effectiveness of the conservation program established under the NWFP to protect the spotted owl and its habitat (BO p. 132 and Table 1B).

For Unit 8A and 8B:

The Biological Assessment of Likely to Adversely Affect Projects with the Potential to Modify the Habitat of Northern Spotted Owls, Willamette Planning Province – FY2015 (BA) was submitted in July 2014. Using effect determination guidelines, the BA concluded that the Bent Beekman Timber Sale proposal may affect and is likely to adversely affect the northern spotted owl due to modification of suitable habitat (BA pp. 31, 33 and Table 1B of the BA and BO) but would have no effect on spotted owl Critical Habitat (See DR Section 6, Conclusion). In the case of Bent Beekman, there are no actual spotted owls that would be "harmed" by the action and thus the biological opinion (pp.133-134) did not issue any "incidental take" of spotted owls associated with this project.

For unit 5A:

Unit 5A proposed for thinning was submitted to the USFWS in the same BA as the units 8A and 8B of the Bent Beekman Block. Using effect determination guidelines, the BA concluded that unit 5A for Bent Beekman Timber Sale proposal may affect and is not likely to adversely affect the northern spotted owl due to modification of suitable habitat (BA pp. 31, 33) but would have no effect on spotted owl Critical Habitat.

For all Units:

The Biological Opinion (BO) Regarding the Effects of Habitat Modification Activities on the Northern Spotted Owl and its Critical Habitat within the Willamette Province, FY2015 associated with the Bent Beekman Timber Sale Project was issued in October 2014 (FWS reference #01EOFW00-2014-F-0221). The BO concurred that the habitat modification activities described in the BA, including the Bent Beekman Timber Sale Project, are not likely to jeopardize the continued existence of the spotted owl and are not likely to adversely modify spotted owl critical habitat (BO p. 132).

Furthermore, the proposed action is not likely to diminish the effectiveness of the conservation program established under the NWFP to protect the spotted owl and its habitat on federal lands within its range (BO p. 132).

The timber harvests and connected actions described in the EA have incorporated the applicable General Standards that were described in the BA (pp. 9-10) and BO (pp. 22–24); and comply with all reasonable and prudent measures outlined in the BO (pp. 134–135). This includes delaying proposed activities to avoid disrupting owls at known owl sites until after the critical nesting season, and monitoring/reporting on the implementation of this project to the U.S. Fish and Wildlife Service.

Cumulative effects to spotted owls and their habitat were analyzed thoroughly at multiple scales during the 2015 consultation process, including the current Environmental Baseline (BA pp.16-23; BO pp. 34-45), and Cumulative Habitat Effects Summary (BA p. 122; BO p. 131-132). Unit Specific Data, including the environmental baseline and effects of proposed projects that are likely to adversely affect spotted owls, are summarized by Administrative Units in the Willamette Province (BA pp. 131-197; BO pp. 145-221), including the Cascades Resource Area where the Bent Beekman Project is located (BA pp. 157-170; BO pp. 175-191). The BO issued by the USFWS concurred with the analysis in the BA that the combined effects to spotted owl habitat and populations of all of the actions proposed in the Willamette Province (including the Bent Beekman Project) are not likely to jeopardize the continued existence of the spotted owl and are not likely to adversely modify spotted owl Critical Habitat, and would not likely diminish the effectiveness of the conservation program established under the NWFP to protect the spotted owl and its habitat (BO p. 132).

2. National Marine Fisheries Administration (NMFS)

Consultation with the National Marine Fisheries Service (NMFS) on effects of the Bent Beekman Timber Sale 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. Harvest units are located on first and second order headwater streams ≥3 miles from listed fish habitat (LFH) in Rock and Crabtree creeks.

Perennial stream in thinning units would have minimum no-entry stream protection zones (SPZ) of 70 feet, thereby ensuring no temperature changes to LFH downstream (Groom et al., 2011; U.S. forest Service and Bureau of Land Management (TMDL Implementation Strategy, 2005). Regeneration harvest units would have wider “no entry” buffers (approximately 200 feet wide on both sides of the streams).

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. The regeneration harvest would have no peak flow effect on listed fish habitat due to maintaining enough area with canopy closure ≥30 percent in the Rock Creek watershed (EA 3.5.2).

Hauling would not impact listed fish habitat in the Bent Beekman 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.
- 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 Bent Beekman 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 released in April of 2015.

The following is an update of the FONSI to clarify the effects to Northern spotted owls:

Regeneration harvest and thinning of suitable habitat in units 8A and 8B is a "likely to adversely affect" action for spotted owls, and the thinning of dispersal habitat in unit 5A is a "not likely to adversely affect" action for spotted owls as described in the BA and BO (EA section 5.1). The selected action (both thinning and regeneration harvest) is not likely to affect spotted owl Critical Habitat, and not likely to diminish the effectiveness of the conservation program established under the Northwest Forest Plan (NWFP) to protect the spotted owl and its habitat (EA section 5.1 - US Fish and Wildlife Service (USFWS) Biological opinion issued October 2014, reference #01EOFW00-2014-F-0221):

Forest stands in units 8A and 8B are suitable habitat for Northern spotted owls. Removal or downgrade of Northern spotted owl suitable habitat in the Biological Assessment (BA) and (BO) is termed a "Likely to Adversely Affect" action. These stands are suitable spotted owl habitat based on age of the stand, canopy cover, diameter of the trees, decadence in the stand, amount of snags and amount of woody debris on the ground. Past surveys have not indicated presence of spotted owls inside the Bent Beekman timber sale units. Units 8A and 8B are currently outside the provincial home range (1.2 mile radius) for any known owl site; the suitable habitat is contiguous, however the degree of impact to any known site is expected to be low (EA 3.8.2.2 p 122).

Thinning of dispersal habitat in unit 5A is not likely to adversely affect spotted owls (EA 3.8.2.1 p. 109). Unit 5A is currently outside the provincial home range (1.2 mile radius) for any known owl

Thinning of dispersal habitat in unit 5A is not likely to adversely affect spotted owls (EA 3.8.2.1 p. 109). Unit 5A is currently outside the provincial home range (1.2 mile radius) for any known owl site. Thinning this stand will maintain dispersal habitat by retaining a minimum 40 percent canopy closure after harvest (EA 2.3.1.1 p 19).

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 November 18th, 2015. The planned sale date is December 16th, 2015.

The Bent Beekman Timber Sale Final Decision and Decision Rationale (DR) can be found on the Eplanning NEPA register website. To access this site, go to http://www.blm.gov/or/districts/salem/plans/plans.php; click on the Eplanning NEPA Register; click on the text search tab; click advanced search; in the project name box, type Sunday Morning Belly Twister and click search. The project will display on the bottom of the page; then click the NEPA #, which brings you to the project page. The Bent Beekman DR will be filed under the Documents section of the project page.

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 December 3rd, 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: 11/12/2015

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 Alternative Action Compared to Selected Action for the Bent Beekman and Belly Twister Block

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	GFMA			CONN			Riparian Reserve			DR Unit No.	DR Unit Acres	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		
102	8A	95	34	58	92	3	-	3	-	-	-	8A	91	34	54	88	3		3				-3	0
102	8B*	7	-	7	-	-	-	-	-	-	-	8B	8		8								+1	0
51	5A	61	12	-	12	43	-	43	6	-	6	5A	45	8		8	36		36	2		2	-18	0
Var.	R/W	2	0.5	-	-	0.5	-	-	-	-	-	R-o-W	2	1	-	1	1	-	1	-	-	-	0	0
Total		165	46	65	104	47	-	46	6	-	6		146	43	62	97	40		40	2		2	-19	0

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. * Unit 8B was also labeled as unit 8C in the EA (See EA pg. 52)

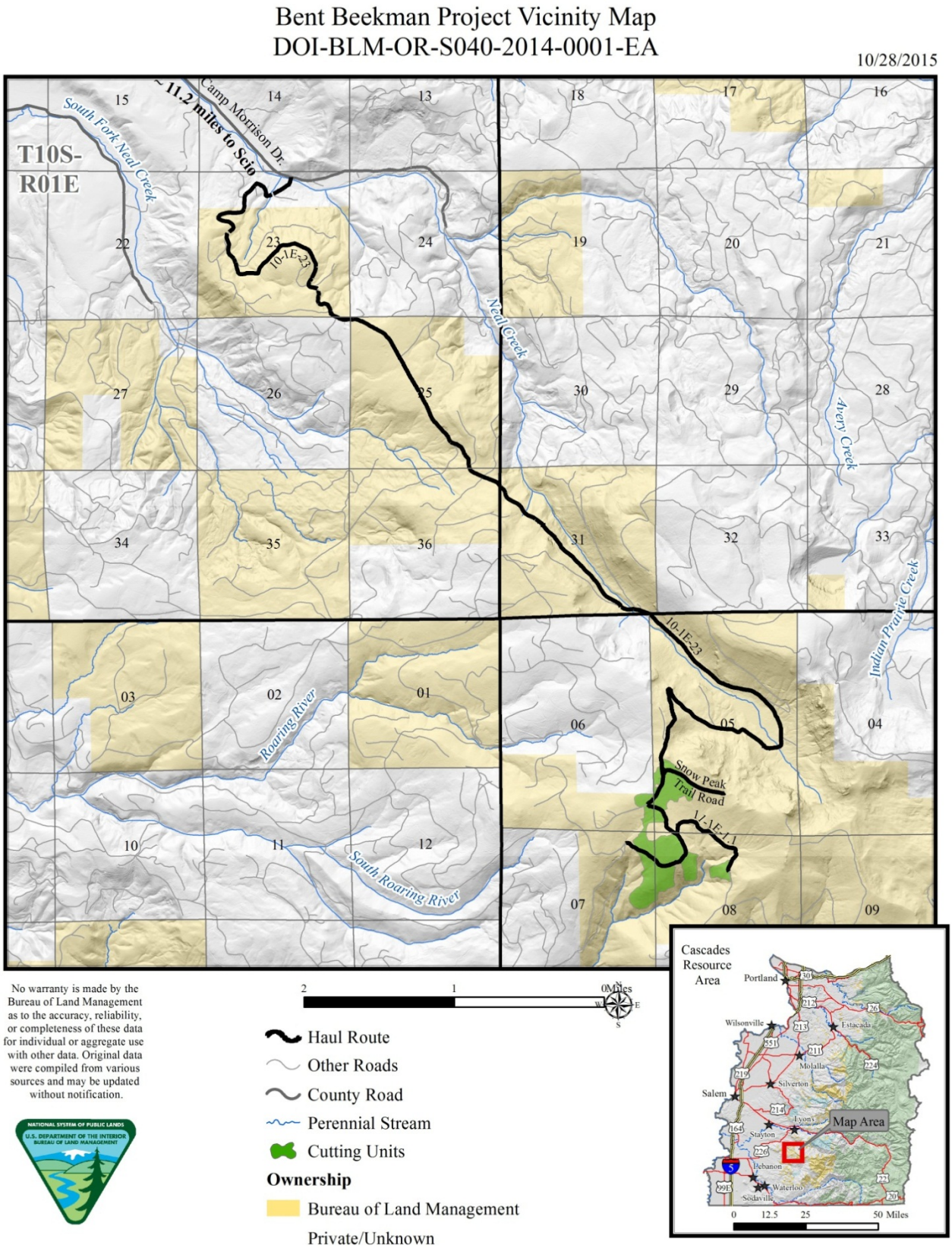
8. ERRATA

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)…"
87	Correction: should read "no entry buffers of approximately 200 feet wide on ~~intermittent~~ non-fish bearing streams and 400 feet wide on ~~perennial~~ fish bearing streams." (see RMP p. 10).
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

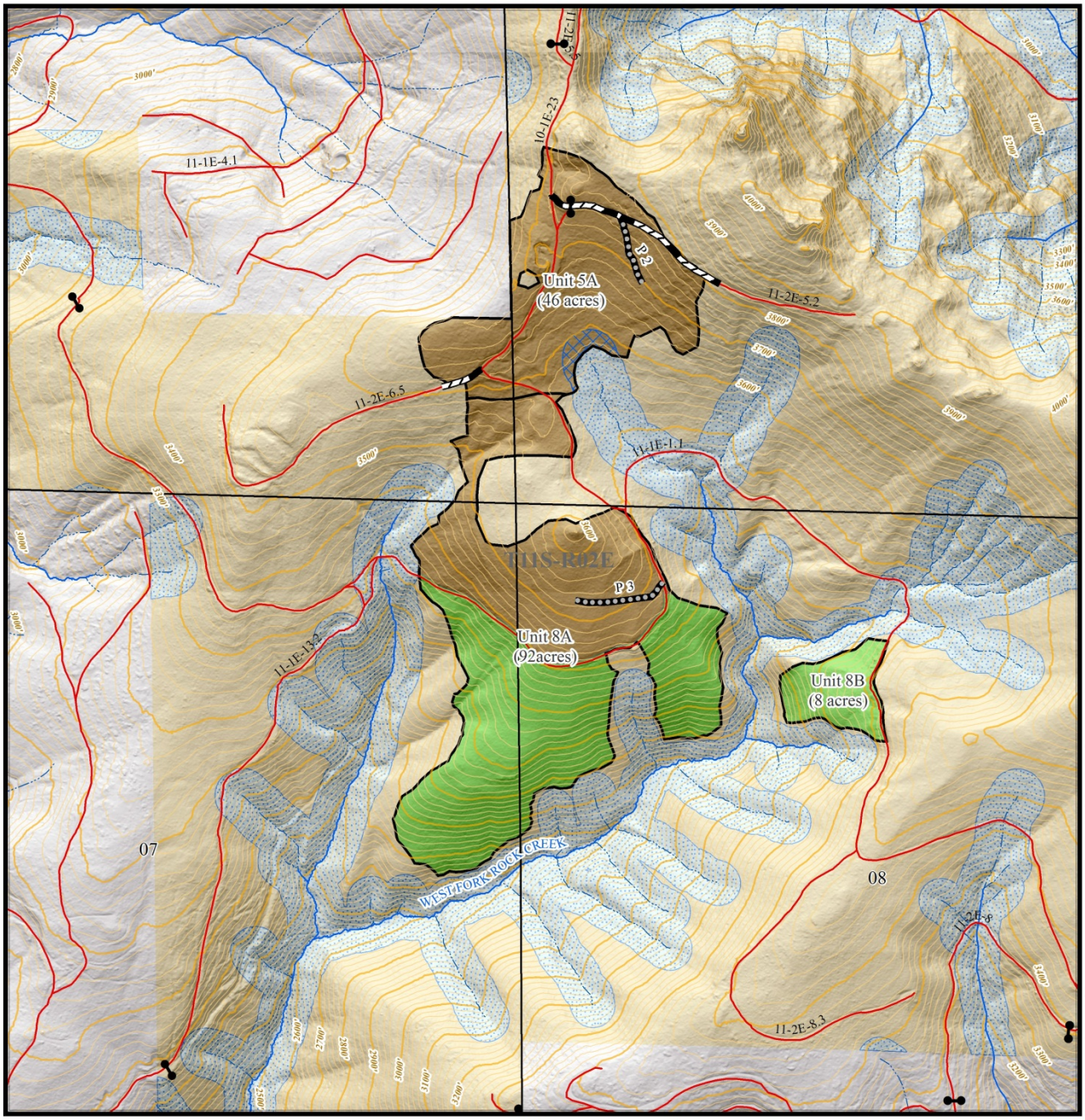
Map 1: Vicinity Map



MAP 2 – T. 11 S., R. 2 E., SECTION 5, 6, 7 & 8

Bent Beekman Decision Rationale EA # S040-2014-0001-EA

T11S-R2E Sections 5-8



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.

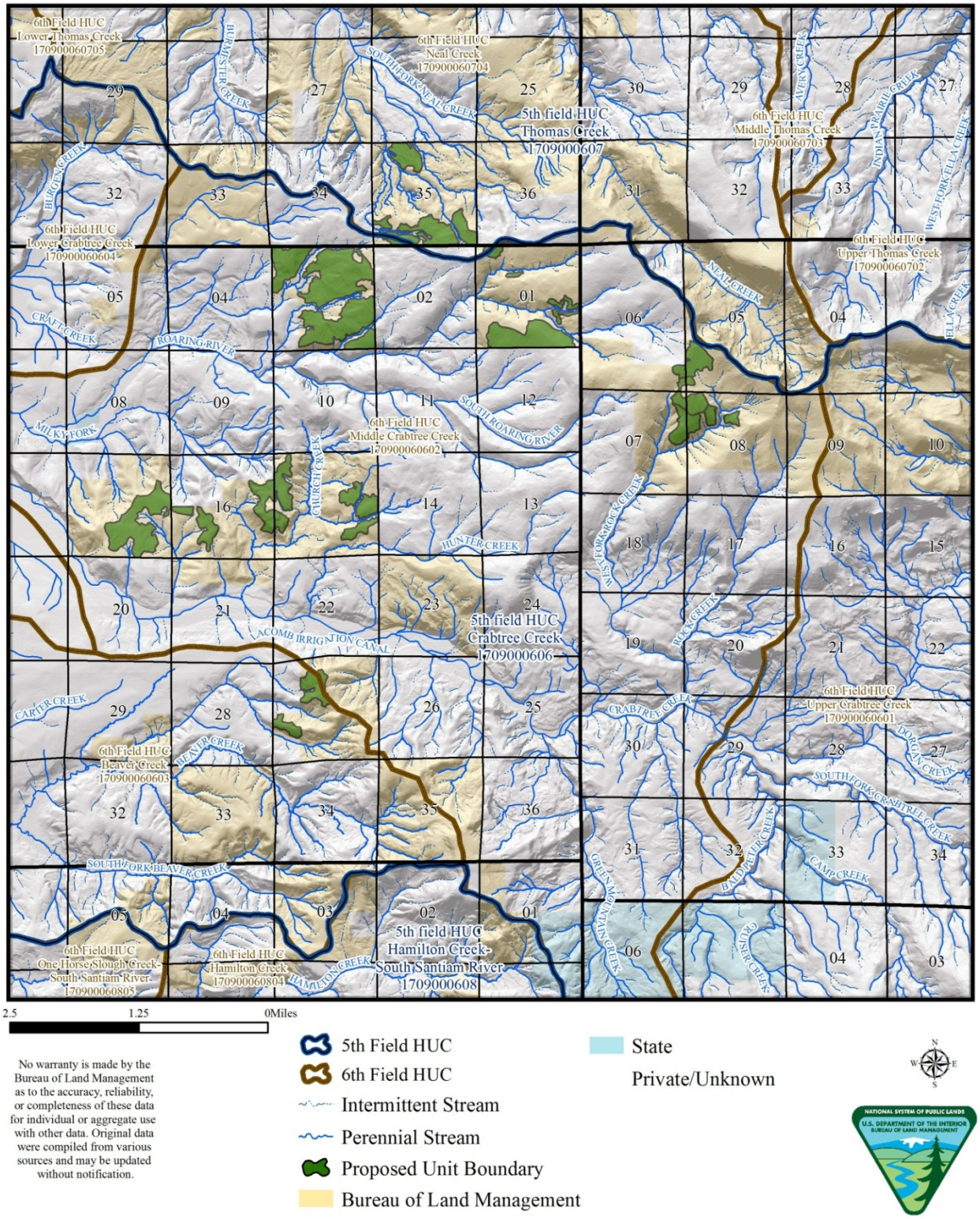
- Existing Roads
- Intermittent Stream
- Perennial Stream
- New Construction
- Renovation
- Untreated Riparian Reserves
- Riparian Reserve
- Unit Boundary
- Ground-Based Yarding (Thinning Area)
- Skyline - Yarding (Regeneration Area)
- Bureau of Land Management
- Private/Unknown

N W E S

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

REGENERATION HARVEST

I received several comments concerning the regeneration harvest proposal. This section includes comments and BLM responses pertaining *specifically* to regeneration harvest and its effects on: 1/early successional habitat (also referred to as early seral habitat); 2/habitat for red tree voles, spotted owls and other wildlife; 3/site preparation after harvest; 4/ACS objectives; 5/Management direction and RMP objectives; and 6/Other comments.

Early Seral Habitat:

a) *KS notes the authors make good points with respect to the inferiority of private land early seral habitat, but mature/old growth timber is also lacking in these watersheds and should not be harvested to create early seral habitat.*

b) *KS asserts the BLM has abundant high quality early seral habitat in the watershed.*

c) *KS comments big game is abundant elsewhere, and the small openings rather than regeneration harvest will create and adequate amount of early seral habitat.*

d) *RMEF supports the action alternative that includes regeneration harvest; it will provide five times the amount of early seral habitat than the other alternative. Very early seral vegetative habitat is needed for big game forage and other mammals and birds obligated to the early seral stage. Over 120 species of native Oregon wildlife are obligated to the early seral type.*

e) *CW/OW asserts the BLM does not adequately justify the need for early seral habitat, especially since the BLM will be reforesting the areas after regeneration harvest; there is an abundance of early seral habitat on private lands.*

BLM Response: EA 1.3.2.1 lists "provide early successional habitat" as an RMP objective (RMP p. 20), repeated in EA 1.4.5. In EA 2.1 the IDT modified this to "provide high quality early successional habitat" (e.g. retaining 10-12 large trees per acre, coarse woody debris and some non-conifer vegetation) and EA 2.3.1.2 additionally states "The IDT determined that providing high quality early successional habitat...is a **secondary** objective..." [Emphasis added]. Given this RMP objective, BLM considered it to be prudent to analyze the current conditions and environmental effects of this aspect of regeneration harvest as well as low density thinning areas (EA 3.4, 3.8). The early seral habitat on BLM lands that currently exists in the watershed is diminishing. The last regeneration harvest the BLM conducted in the watershed was approximately 12 years ago. The higher quality early seral stage habitat from regeneration harvest is getting older, and is currently not being replenished on BLM lands.

Reforestation after regeneration harvest is an objective in our RMP for Matrix lands (RMP p. 47) and is necessary for future timber production. There are substantial differences between BLM and private stands, including size of the harvest units (62 acres, private usually larger); BLM retains 10-12+ of the largest trees per acre, when private has no such requirement; private timber lands typically reforest much more quickly to occupy the site with conifers and control non-conifer vegetation with herbicides; BLM allows brush to grow with perhaps one manual maintenance treatment.

Spotted owl, red tree vole and other wildlife habitat:

a) *KS asserts that although 8A is not within the provincial home range of a known spotted owl nest site, thinning would be better than regeneration harvest for the proximity of these units to owl sites;*

b) *KS is not certain of the definition of RA32 habitat, but it should be protected;*

c) *KS voices concern regarding RTV habitat and how it will be impacted due to it's vicinity to the proposed regeneration harvest units;*

d) *RF expresses concern regarding damage to giant salamander, RTV, bats, raptor or falcon habitat from regeneration harvest and associated road building.*

BLM Response: Spotted owl information and status in the project area is described in EA 3.8.1, pg 102. EA 3.8.2.2 describes effects to spotted owl suitable habitat associated with regeneration harvest. The regeneration harvest units are currently outside the provincial home range (1.2 mile radius) for any known owl site; the suitable habitat is contiguous, however the degree of impact to any known site is expected to be low (EA 3.8.2.2).

RA32 Habitat can be defined as being "…older and more structurally complex multi-layered conifer forests…stands are characterized as having large diameter trees, high amounts of canopy cover, and decadence components such as broken-topped live trees, mistletoe, cavities, large snags, and fallen trees." (USFWS 2011, Revised Recovery Plan for the Northern Spotted Owl p. III. 67). There is also district level guidance, where wildlife specialists determine likely RA32 habitat from aerial photos, Lidar, and field reconnaissance. All forest stands considered to have RA32 habitat were excluded from treatment (EA 3.8.2 p. 110).

The BLM acknowledges in the EA there would be a loss of suitable red tree vole (RTV) habitat in the watershed as a result of regeneration harvest, and describes the effects of the alternative action (EA 3.8.2.2. p. 119); Two known red tree vole nests found in the vicinity are protected from logging and site preparation by habitat reserves (no harvest) of 10 acres or larger around their nests (EA 3.8.2.2, p. 119, PDF # 76 EA p. 39).

EA 3.2 describes the methodology used to identify wildlife species and habitats and to meet legal/regulatory requirements. EA 3.8 describes the results of those surveys and the impacts of the alternatives. Comments speculate about possible species and habitats potentially affected (giant salamanders, RTV, bats, raptors or falcons), but does not present any evidence that BLM's analysis is in error or omits required information.

Site Preparation:

e) *KS is concerned the trees left after regeneration harvest will not recover after site preparation (prescribed burning);*

f) *KS is concerned remnant trees in 8A will not survive a regeneration harvest*

BLM Response: As stated in the EA p. 37 "post-treatment fuels surveys would be conducted in the regeneration harvest units and a site and condition specific burn plan prepared. If the fuels surveys indicate that another treatment such as pile/burn or lop and scatter would be more appropriate on some or all of the acres the treatment recommendation would change accordingly."

EA 3.8.2.2 describes how up to four per acre of leave trees in the regeneration harvest unis may be "killed and/or knocked over incidental to logging operations and prescribed fire or wind throw within the first few years after harvest". In the long term, green tree retention, along with any incidental, or intentional snag or CWD recruitment would introduce these features for the future life of these stands.

ACS Objectives:

a) *CW/OW had several comments pertaining to ACS objectives with regard to regeneration harvest:*

   i. *Regeneration harvest violates ACS objective 1 which speaks to maintaining and restoring the "distribution, diversity and complexity of watershed and landscape-scale features".*

   ii. *Regeneration harvest violates ACS objective 2 which requires "upslope" areas be protected from peak flows.*

   iii. *Regeneration harvest violates ACS objectives 4 and 5, and the U.S. Forest Service is required to maintain and restore the sediment regime under ACS 5.*

iv. *Regeneration harvest violates ACS number 6 "Maintain and restore in-stream flows sufficient to create and sustain… wood routing"; removing the trees will cause less wood to end up in the creek.*

b) *CW/OW assert the implications for regeneration harvest above the creek (West Fork Rock Creek) is not adequately addressed in the EA;*

c) *KS comments the CWD analysis, indicating large woody debris levels are lacking in aquatic habitats (EA 3.6.1) contradicts the Hydrology section illustrating the streams are in a "proper functioning condition" (EA 3.5.1);*

BLM Response:

EA 3.12.1 documents compliance with the four components and nine objectives of the Aquatic Conservation Strategy (ACS).

ACS #1 and 2: BLM demonstrates in the EA that the proposed and alternative actions do not violate ACS Objectives 1 and 2. EA 3.5.2.2 analyzed peak flows (direct and cumulative effects) for the 7th field watershed containing the 65 acres of regeneration harvest described in the alternative action. Based on the data presented in the section, BLM concluded that "…total openings increase...this level of openings remains below the threshold for anticipated increases in peak flows due to openings...62 acres of regeneration harvest would not increase the total opening enough to change the current risk rating of "low".

ACS # 4 and 5: BLM demonstrates in the EA that the proposed and alternative actions do not violate ACS Objectives 4 and 5. EA 3.5 describes the analysis that shows the project will maintain water quality within ODEQ standards and describes the calculations (Detailed in the Soils and Hydrology Reports) which show that the increase in sediment yield due to regeneration harvest and site preparation would be a cumulative increase of 0.3 percent above the watershed's total annual sediment supply. EA 3.7.2.2 summarizes soil erosion modeling results. EA 3.6 describes the effects of changes to sediment on fish and aquatic habitat.

ACS #6: BLM demonstrates in the EA that the proposed and alternative actions do not violate ACS Objective 6. The proposed and alternative actions would be unlikely to change peak flows to change "patterns of wood routing" – see response to ACS #1 and 2 above. Since Riparian Reserves are at least one full site potential tree height wide (e.g. approximately 200 feet on each side of the stream), it is unlikely that any tree from within the regeneration harvest units would reach any area stream.

Regarding ACS objectives, comments present no evidence to indicate that BLM omits information or errs in its analysis.

West Fork Rock Creek: EA 3.5 analyzes the effects of the alternatives on hydrology, including specific analysis of "implications for the creek below". For the regeneration harvest analyzed in the alternative action (EA 3.5.2.2) the effects which could differ between the proposed and alternative actions were analyzed at a smaller sub watershed scale than for the proposed action, which magnifies potential effects. BLM analyzed direct and cumulative effects to peak flows and sediment supply at the smaller watershed scale and presented data, evaluation and professional field observations in support of its conclusions. Commenter asserts that effects were not adequately addressed in the EA but presents no information which indicates a specific error or omission in BLM's analysis.

Proper Functioning Condition: "Proper functioning condition" refers to hydraulics - the way water moves in the stream channel including over logs to form pools. The fisheries assessment focuses on habitat where in-stream wood is evaluated from other aspects such as shade, nutrients, food source, hiding cover, etc. as well as pool formation.

Management direction and RMP objectives:

a) *AFRC encourages the BLM to design the regeneration harvest to comply with the RMP.*

b) *AFRC questions where future timber produces on BLM land will come from with an unbalanced age-class distribution on BLM lands, and a lack of stands in the 0-20 year age class.*

c) *AFRC encourages the BLM to select the alternative that includes regeneration harvest in order to meet the purpose and need and meet the BLM's obligations to the O&C Act and its mandate for sustainable timber production.*

d) *KS states the thinning alternative will provide a sustainable supply of timber and is therefore in compliance with the O&C Act.*

e) *CW/OW comments the BLM has been meeting its timber target for years without doing regeneration harvest. The Salem District thinning program is successful and should continue until thinning needs are met.*

BLM Response: The Bent Beekman timber sale is not a pilot or other experiment project and was designed under RMP standards.

The EA addressed age class distribution and future timber supplies as part of the need for action and purposed/objectives of the project. The EA identified sustainable supplies of timber as one of the issues to be analyzed. The effects of two action alternatives and the No Action alternative on age class distribution timber production were analyzed, as acknowledged by the commenter. The alternative action will be implemented as described in this Decision Record.

BLM acknowledges that timber volume has been predominantly from thinning since the RMP was implemented. This has consequences for long-term, sustained yield timber production which are beyond the scope of this EA. Regeneration harvest is included in the RMP to contribute to meeting multiple objectives. These objectives are included in the EA: 1.1, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 2.1, 2.2, 3.12; Table 24.

Timber would be produced with either alternative; however sustainable timber management includes regeneration harvest. Thinning from below, as illustrated in the EA (EA 2.3.1.1, 3.4.2.1), is not sustainable for the long term when used exclusively.

Other comments pertaining to regeneration harvest that do not fit the topics listed above:

a) *KS voices an opposition to the regeneration harvest alternative in general, and does not believe it is worth the "political fight" to delay a larger thinning project.*

b) *KS notes that if thinning is completed instead of regeneration harvest, CMAI could be delayed.*

BLM Response: BLM recognizes opposition from some commenters regarding regeneration harvest on BLM managed forest lands. CMAI would likely be delayed if the proposed regeneration harvest units were thinned.

a) *CW/OW urges BLM to not select the alternative considering regeneration harvest; this logging practice is highly controversial with the public.*

BLM Response*:* Controversy is a "substantial dispute about the size, nature, of effect", and not mere opposition to a proposed project. *Blue Mountain Diversity Project v. Blackwood,* 161 F.3d 1208, 1212 (9th Cir. 1998). A substantial dispute exists when evidence casts serious doubt upon the reasonableness of an agency's conclusions. Accordingly, the BLM must base its conclusions on substantial information and consideration of the crucial factors, but mere difference of opinion does not make the issue highly controversial. Regeneration harvest is included in the RMP to contribute to meeting multiple objectives. These objectives are included in the EA: 1.1, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 2.1, 2.2, 3.12; Table 24.

b) *KS notes the strongest argument for regeneration harvest is the reduction in tree density to avoid a high intensity crown fire.*

c) *BFC notes the EA analysis of regeneration harvest and figures 17 and 18 are not realistic, as more trees will blow down after harvest.*

BLM Response:

EA 3.4.2.2 addresses wind throw. BLM observations in the stand indicate low potential for wind throw. Commenter does not present data or analysis to support the assertion that the BLM analysis is inaccurate.

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:

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

e) *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.*

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

g) *AFRC supported the alternative action, including the thinning selected.*

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:

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

i) *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.*

j) *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) *RF 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. The spotted owl analysis specific to Bent Beekman is identified on pages 118 and 119 of the EA. Overall habitat conditions within 1.2 miles of the Snow Peak spotted owl site center would not change as a result of regeneration harvest, because units 8A/C are outside the provincial home range radius. The analysis for red tree voles appears

on page 119. The two known red tree vole nests found in the vicinity would be protected from logging and site preparation operations by the habitat reserves established around their nests.

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.

Leave Trees and Diameter Limits:

e) 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.

f) 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:

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

h) 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:

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

j) *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 Bent Beekman 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 an 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.

e) *CW/OW asserts the BLM should analyze carbon impacts and has not done so adequately for this project.*

BLM Response: The EA addresses Carbon Storage/Emissions (and their effect on climate change) as an issue considered but not analyzed and describes the rationale for that determination (EA section 1.8.3). Cascades Resource Area has previously analyzed carbon cycling on four timber management projects and observed that carbon release is directly proportional and carbon storage is inversely proportional to volume harvested. The largest of those four projects, Gordon Creek Thinning, analyzed harvest of approximately 40 mmbf (million board feet), the BLM estimates less than 75 percent of that would be harvested under either alternative for SMBT.

The analysis concluded that carbon would be released and less carbon would be stored in treated stands than in untreated stands, but the amounts released individually and cumulatively from Cascades Resource Area timber harvest would be of such small magnitude that it would not affect any known models used to predict atmospheric carbon levels or climate change. Commenter provides no support for the assertion that a calculated number of tons of carbon released by this individual project are necessary for future policy and understanding impacts.

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 incapable 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 strategically placed roads that allow

for the use of 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, is 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. 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.

aa) *"Some areas have a huge volume of downed logs left from prior historic logging. How many acres of downed wood is present and these possibly function very successfully as very long term micro habitat. 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: EA Tables 13 and 18 list CWD amounts found in stand exams. EA 3.8.1 describes existing down wood. EA 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.

bb) *"Where is "Bent Beekman" (EA section 1.2)? EA shows one pdf photo image in figure three, figure five is another unit not unit 8c. Bent Beekman unit 8c (Block)is new to reviewers as they possibly did not have this in mind if they made the long trek to see the unit 8 area's, in general and unit 8 is large so we took many hours to hike to just the two listed units at the time. What is a block? Page123 I assume this means more than one unit/area will be managed or removed in 8C area? Maps from the original scoping period do not show that I can see as Unit 8c which is new to me and in EA is called Bent Beekman. Will Bent Beekman be another timber sale, within the ACEC Northern Spotted Owl and Red Tree Vole and or in bat, listed raptor or falcon habitat areas? Bent Beekman is new information to me and so this is makes it more difficult for the public to have BLM staff, present, possibly new information in the EA and we do not have time to review this new information on the landscape before the close of the EA comment period, and it is presented to the public as new information, during the winter when we cannot see the Bent Beekman Block units... The public would like to review this specific BA for Bent Beekman Block proposal. Reading the current EA and learning about this unit and not seeing it is not very productive way to involving the public, and takes away our right to participate in the public process. Before we get to see Bent Beekman Block has been sold, and clearcut or thinned, managed in the RR, the public should be able to see it and comment to your office."*

BLM Response: The units presented in the scoping maps are the same as those analyzed in the EA, so the commenter had maps of all units. "Block" is just a name given to a group of units within the project "area" could have been used but the author chose "block" to avoid confusion with "project area". A footnote to Table 13, EA page 52, describes that 8C was labeled 8B on scoping maps and explains why. A comparison of maps shows that unit locations and shapes are the same, whether labeled 8B or 8C.

Scoping maps showed two blocks, Sunday Morning and Belly Twister. For the EA, dividing Belly Twister into two blocks, Belly Twister and Bent Beekman, made it easier to discuss some issues since the Bent Beekman block is the two units which have the alternative action of regeneration harvest. No areas were added to the information provided in scoping.

Table 13 identifies four units presented in scoping which were dropped from the proposal after scoping. The Belly Twister and Bent Beekman blocks were accessible to the public throughout both the scoping and public review periods. I do not understand the intent of the question regarding page 123. EA 2.2.2 begins: "BLM proposes to implement the Sunday Morning Belly Twister project as multiple timber sales. In this analysis the proposed treatment units are divided into three Blocks for analysis and discussion. Sunday Morning, Belly Twister and Bent Beekman (EA section 1.2). These Blocks may be further divided into multiple timber sales for implementation." This DR is for the Bent Beekman timber sale.

cc) "Carbon storage from 65 acres regen harvest from trees 80-104 average age is significant in board feet this is what volume in board feet, and translates this board feet volume to yield what percent of carbon storage capacity is being clearcut removed?"

BLM Response: See *Miscellaneous comments, e.* Carbon emissions are lower for both alternatives for this project than for the 40 MMBF Gordon Creek Thinning project. Analysis concluded that the Emissions for Gordon Creek were too small to affect any known models used to predict atmospheric carbon levels or climate change. The total amount of carbon released is the factor evaluated, not whether that carbon was released from trees harvested by commercial thinning or by regeneration harvest.

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.

Oregon Department of Fish and Wildlife (ODFW), June, 2008. Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources.