Final Decision and Decision Rationale (DR)

For the

ThunderKat Timber Sale

November, 2015

Environmental Assessment (EA) Number DOI-BLM-OR-S040-2014-0002-EA

National NEPA Register #: DOI-BLM-ORWA-S040-2014-0002-EA

Project Name: ThunderKat Timber Management Project

United States Department of the Interior

Bureau of Land Management, Oregon State Office

Salem District, Cascades Resource Area

Willamette Meridian,

T. 10 S., R. 2 E., Section 5

Middle Thomas Creek 6th Field Watershed

Linn County Oregon

Responsible Agency:	USDI - Bureau of Land Management
Responsible Official:	John Huston, Field Manager Cascades Resource Area 1717 Fabry Road SE Salem, OR 97306 (503) 315-5969
For further information, contact:	Alisa Tanner Cascades Resource Area 1717 Fabry Road SE Salem, OR 97306 (503) 598-6844

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-16/004+1632

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FINAL DECISION AND DECISION RATIONALE (DR)

THUNDERKAT TIMBER SALE

1. INTRODUCTION

The Bureau of Land Management (BLM) has conducted an environmental analysis for the ThunderKat project which analyzed two action alternatives: the proposed action of 58 acres of regeneration harvest and an alternative action of the same 58 acres of commercial thinning. A no action alternative was also analyzed. This environmental analysis is documented in the ThunderKat 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 September 16th, 2015 through October 15th, 2015. The final FONSI for the ThunderKat Project was released in November of 2015, in conjunction with this Final Decision and Decision Rationale (DR) for the ThunderKat Timber Sale. The EA and FONSI are incorporated by reference into this DR.

2. DECISION

THE SELECTED ACTION

I have decided to implement the proposed action as the ThunderKat Timber Sale, described in the EA 2.3.1 This timber sale will consist of units 5A and 5B as analyzed in the EA, as adjusted by final layout and acreage determination (DR Section 6, Table 1)[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 ThunderKat 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 ThunderKat 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. 8,9). All of these documents may be reviewed at the Cascades Resource Area office. The project also complies with authorities described in EA section 1.6.1 and follows the recommendations of the Revised Recovery Plan for the Northern Spotted Owl (USFWS 2011).

The selected action (ThunderKat 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 1.3.1);
- Fulfills the Purposes (Objectives) for the project (EA section 1.3.2). EA section 1.5 identifies that the decision factors for alternative selection are based on how well the alternative meets the objectives, both individually and collectively. The Decision Rationale (DR Section 3), below, documents how the selected action fulfills the project objectives/decision factors;

[1] DR Table 1 shows units of treatments in the selected action compared to the proposed and alternative actions. The Decision Maps (*DR section 9*) show the selected action.

- Complies with the four components and nine objectives of the Aquatic Conservation Strategy (ACS), as documented for the proposed action (EA section 3.9);
- 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 1.6);
- Complies with the relevant statutes and authorities (EA sections 1.6.1 and 3.8);
- Complies with current direction and court decisions for Survey and Manage species (EA section 1.6);
- 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 5.1 and the BO p. 132 and Table 1B);
- Will not "harm" specific spotted owls because current surveys show no spotted owl presence in the ThunderKat project or vicinity (EA 3.5.1 p. 64, Table 1B of the BA and the BO). Due to the presence of barred owls and the location near the valley margin surrounded by private land, it is highly improbable the area supports any northern spotted owls now or will in the foreseeable future;
- Will not contribute to cumulative effects to spotted owls (EA 3.5.2.1 p 73) for the following reasons. No harvest would occur within the provincial home range of any known spotted owl sites (Table 1B of the BA and BO); and dispersal habitat would be maintained between known spotted owl sites and Late Successional Reserves. The area offers limited value dispersal habitat due to scattered federal ownership and its location in the foothills of the Cascades (EA 3.5.2.1 p. 73). The North Santiam Corridor and the Willamette Valley act as effective barriers to dispersal (Thomas Creek Watershed Analysis (TCWA) p. 85). The Thomas Creek Watershed was found not to be critical for the dispersal of spotted owls within the Oregon Cascades Physiographic Province (TCWA p. 96).
- Will not affect listed fish or their habitat (EA section 5.1.2);
- Will not have impacts on the affected elements of the environment beyond those already anticipated and addressed in the RMP/EIS (EA section 3.8);
- Is economically viable. This sale will produce revenue for the Federal Government and O&C Counties (ThunderKat Timber Sale appraisal), and provide jobs for Oregonians;
- Addresses the issues raised in EA section 1.7.4;
- 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).

The selected action includes:

Table 1 Selected Action Compared to EA Actions

Item/Action	Units Used	Selected Action (DR)	Total Proposed Action (EA)	Total Alternative Action (EA)
Right-of-Way Clearing	Acres	**2**	2	2
Regeneration Harvest	Acres	**49**	58	0
Commercial Thin	Acres	**0**	0	58
Subtotal Treatment	Acres	**51**	58	58
Road Construction	Miles	**0.4**	0.4	0.4
Road Renovation	Miles	**4.12**	4.12	4.12
Machine Pile, Cover and Burn	Acres	**51**	0	0
Broadcast Burn	Acres	**0**	58	58

Regeneration Harvest:

- Regeneration Harvest approximately 49 acres to a density of 16-17 trees per acre (TPA) (EA Table 2-1)
- Clear approximately 2 acres of right-of-way for constructing new roads. (EA 2.3.1; DR Table 1, DR sec. 7, maps)

Logging Systems and Unit Layout: [2]

All of the acres harvested, including right-of-way clearing are designed to be logged using ground based logging/yarding systems (EA p. 2.2.2, EA maps 7.0, DR Table 1)

Project Design features for logging include:

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, 12, 13)

- Designing logging and related operations to prevent: erosion, excessive soil disturbance, compaction and impacts to streams and their associated stream protection zones. (PDF 2, 3, 6, 8, 10, 14-19)
- Designing logging and related operations to prevent or manage impacts to retained trees to meet resource objectives for stand structure such as snags and CWD. (PDF 10, 11, 24, 25, 44-55)
- Conditionally allowing mechanized falling/processing in ground-based yarding areas. (PDF 6)

Road Construction, Renovation, Closure, Use and Maintenance: (EA sec. 2.3.1, Table 2-2, Table 2-6: PDF 28-43)

Construct approximately 0.40 miles of new road (EA 2.3.1). New roads 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 two acres of vegetation within rights-of-way (generally averaging less than 30 feet wide), moving earth to shape the roadbed and compacting the road surface.

[2] 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. Special yarding (none specifically designated in the ThunderKat 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 ThunderKat timber sale, but may be used).

New roads constructed may be rocked at the purchaser's expense and will be constructed to prevent impacts to water quality and streams as described in the EA (EA Table 2-6, PDF 28-43). These features 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, and stabilizing roads prior to the wet season.

After logging and fuel reduction operations are complete, close access to newly constructed rocked roads, and close and stabilize all new natural surface roads. New roads will be closed to vehicle traffic by site-appropriate techniques such as constructing earth/debris barricades. Design features to stabilize roads include: closing natural surface roads to vehicles, draining water to stable slopes, seeding, mulching, covering with logging slash and/or other site-specific techniques (EA 2.3.1, Table 2-6 PDF 28-43).

Renovate approximately 4.12 miles of BLM controlled roads on the haul route. Renovation can include: spot rocking, blading, roadside brushing, ditch cleaning, and cleaning the inlet, outlet and barrel of all existing culverts. Roads slated for renovation in this project are outside the general area shown in the Decision Maps (Section 7 of this DR). Specific road numbers associated with renovated roads are in Table 2-2 of the EA.

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

Fuels Treatment:

Slash and woody debris on approximately 49 acres harvested will be burned for fuels reduction and reforestation site preparation (EA 2.3.1, EA Table 2-3). Post-treatment fuels surveys would be conducted in the regeneration harvest units and a site and condition specific burn plan prepared. The preferred treatment is machine-piling, covering and burning (DR Table 1). If post-harvest fuels surveys indicate that another treatment such as hand-pile/burn, slashing, lop and scatter or broadcast burning would be more appropriate on some or all of the acres the treatment recommendation would change accordingly.

Slash and woody debris on landing piles could be used as mulch to cover roadbeds during stabilization (see EA Table 2-4, PDF 23, 24, 25), or covered and burned.

Snag and CWD recruitment:

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

Initiate snag and CWD recruitment by topping or girdling up to two green trees for future snags and cutting and leaving one green tree per acre for CWD. These trees should be greater than 20 inches DBH[3]

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.

[3] Diameter at breast height

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 2.5 (EA pp. 21-33) 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 8.

3. DECISION RATIONALE

I selected the alternative that best individually and collectively meets the objectives and need for timber management described in EA section 1.3.1 and 1.3.2 in the ThunderKat project EA.

The following is a comparison of the selected action and the No Action alternative with regard to five Decision Factors (EA section 1.5) which embody the project objectives (EA section 1.3.2). For the ThunderKat timber sale, the selected action is essentially the same as the proposed action, 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

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 2.1 million board feet (MMBF) of timber to the market place with an appraised value of $438,313 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.

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.

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

Decision Factor 2

Provide for a sustainable supply of timber and other forest products on a predictable and long-term basis

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 now the stand has reached the culmination of its annual growth (Culmination of

Mean Annual Increment (CMAI)[4] – see EA 1.3.1.2, 3.1.1). 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.

Decision Factor 3

Contribute to a healthy forest ecosystem with habitat that will support populations of native plant and animal species

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. It also continues to protect riparian areas and waters by maintaining current conditions, which are stable.

The selected action provides complexity across the landscape by diversifying age classes within the watershed, and increasing early seral habitat on BLM land (EA Table 3-7, 3-8). The selected action also protects riparian areas and waters by maintaining an untreated stream protection zone which is stable and maintaining canopy cover in RR to provide shade and slope stability. 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 3.2.2.1)

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

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. 3.1.2.1, 3.2.2.1)

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

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.

[4] 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).

The selected action would provide safe and efficient access as needed to support logging and other timber management or fire operations. The selected action would use and maintain roads in ways that prevent sediment generation that would exceed ODEQ water quality standards. (EA 3.2.2.1).

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

No Action (EA section 2.3.3):

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.

Alternative Action (EA section 2.3.2):

The alternative action analyzed in the EA is a proposal to commercially thin 58 acres in units 5A&B and connected actions being identical to the proposed action.

I did not select the alternative action for the ThunderKat 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.) The stands proposed for regeneration harvest have reached their culmination of mean annual increment, and as illustrated in RMP direction should be considered for regeneration harvest (RMP p 48, EA 1.3.1.2, 3.1.1).

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 1.7.2) by means of a scoping letter sent out to approximately 59 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 present information on the project, to respond to questions, and to offer a field trip to review regeneration harvest units from earlier BLM timber sales. 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 5 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 1.7.3, 1.7.4, and 1.7.5 address the issues raised in the comments and by the IDT.

EA Public Review and Comments

BLM made the ThunderKat EA and unsigned draft FONSI (Finding of No Significant Impact) available for public review and comment from September 16th, 2015 to October 15th, 2015. Two comment emails were received during the EA 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 8.

ESA Section 7 Consultation

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

The ThunderKat 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.

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 ThunderKat proposal may affect and is 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.

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 ThunderKat 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 ThunderKat 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 this 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).

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 Thunder Kat 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 Thunder Kat 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). In the case of ThunderKat, 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 "take" of spotted owls.

2. National Marine Fisheries Administration (NMFS)

Consultation with the National Marine Fisheries Service (NMFS) on effects of the ThunderKat harvest project on Upper Willamette River (UWR) Chinook salmon and UWR winter steelhead trout is not required because the project would have no effect on these species or on essential fish habitat. The harvest units are ≥ 2.2 miles

from listed fish habitat (LFH) in Thomas Creek, and streams in the harvest units would have no-disturbance buffer widths of approximately 200 feet (one site potential tree height). These buffers would maintain large wood supplies, and stream shading and thus stream temperature, and also intercept and infiltrate water carrying sediment prevent its delivery to listed fish habitats (LFH).

There would be no peak flow effects to listed fish habitat due to maintaining canopy closures >30 percent in the Criminal Creek watershed and due to the relatively small amount of openings with <30 percent canopy closure in the Bear Creek watershed (EA Section 3.2.2.1).

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

- Log haul routes are all paved where they cross listed fish habitat in Jordan Creek, with no mechanism to deliver sediment to 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; the upper portion of the route crosses several tributaries to Thomas Creek at 1.6 up to 2 miles upstream of steelhead and chinook habitat. (EA Section 5.1.2).

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 in 2015 (EA section 1.7.5). 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 ThunderKat Timber Sale. The selected action is described in DR section 2. The ThunderKat Environmental Assessment (EA) documents the environmental analysis of the proposed regeneration harvest 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 conjunction with this Decision Record.

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 *Stayton Mail* newspaper on November 18th, 2015. The planned sale date is December 16th, 2015.

The ThunderKat 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 ThunderKat 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 ThunderKat 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

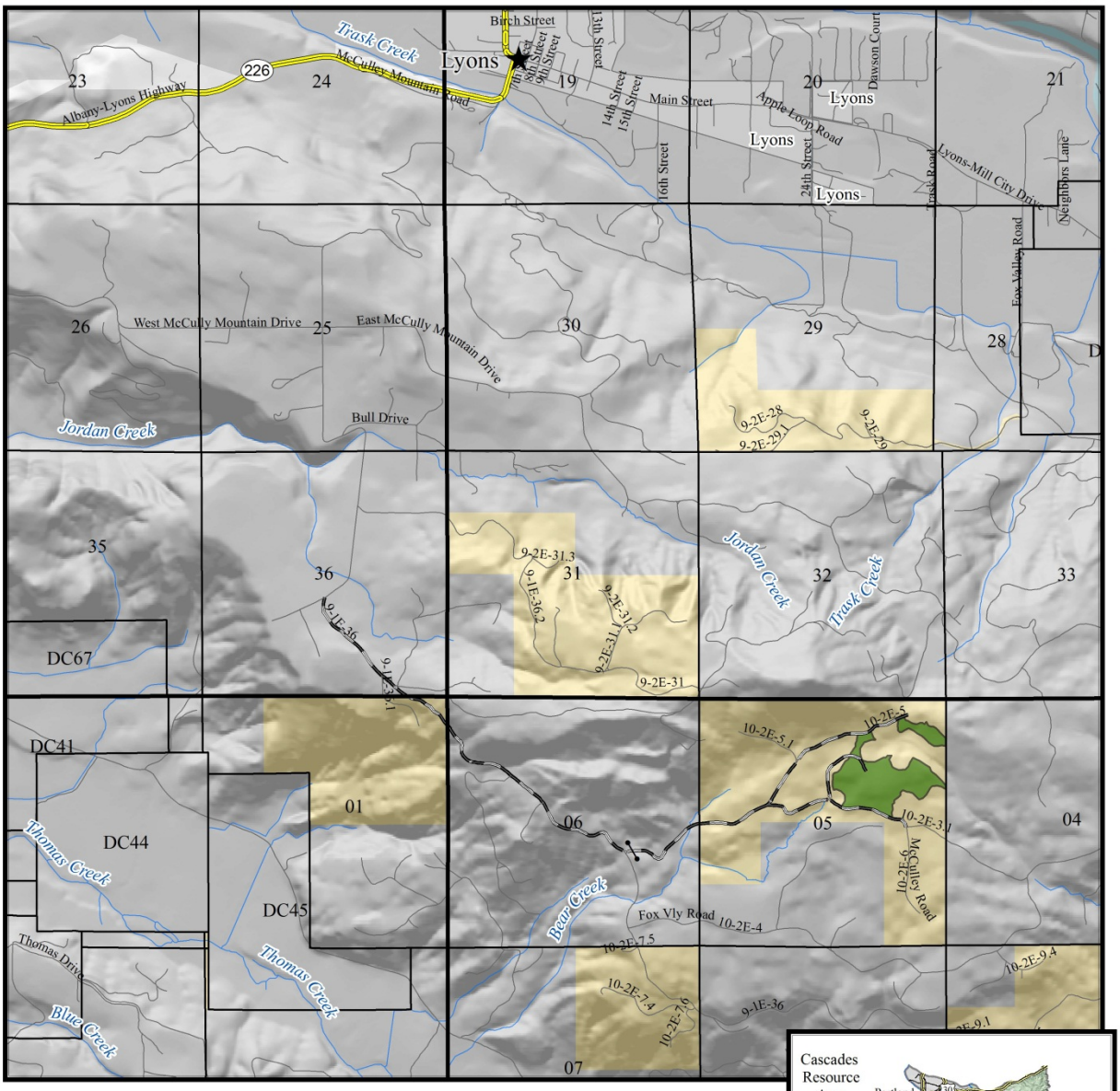
John Huston

Cascades Resource Area Field Manager

7. Decision Maps – Map 1: Vicinity Map

Thunder Kat Decision Rationale Location Map
EA # S040-2014-0002-EA

10/28/2015

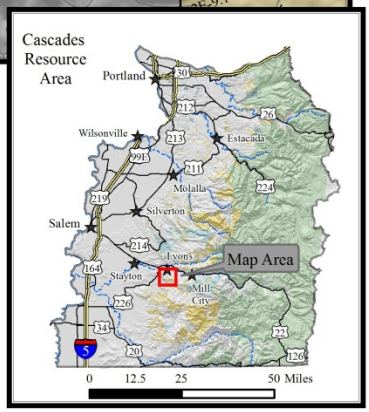


No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

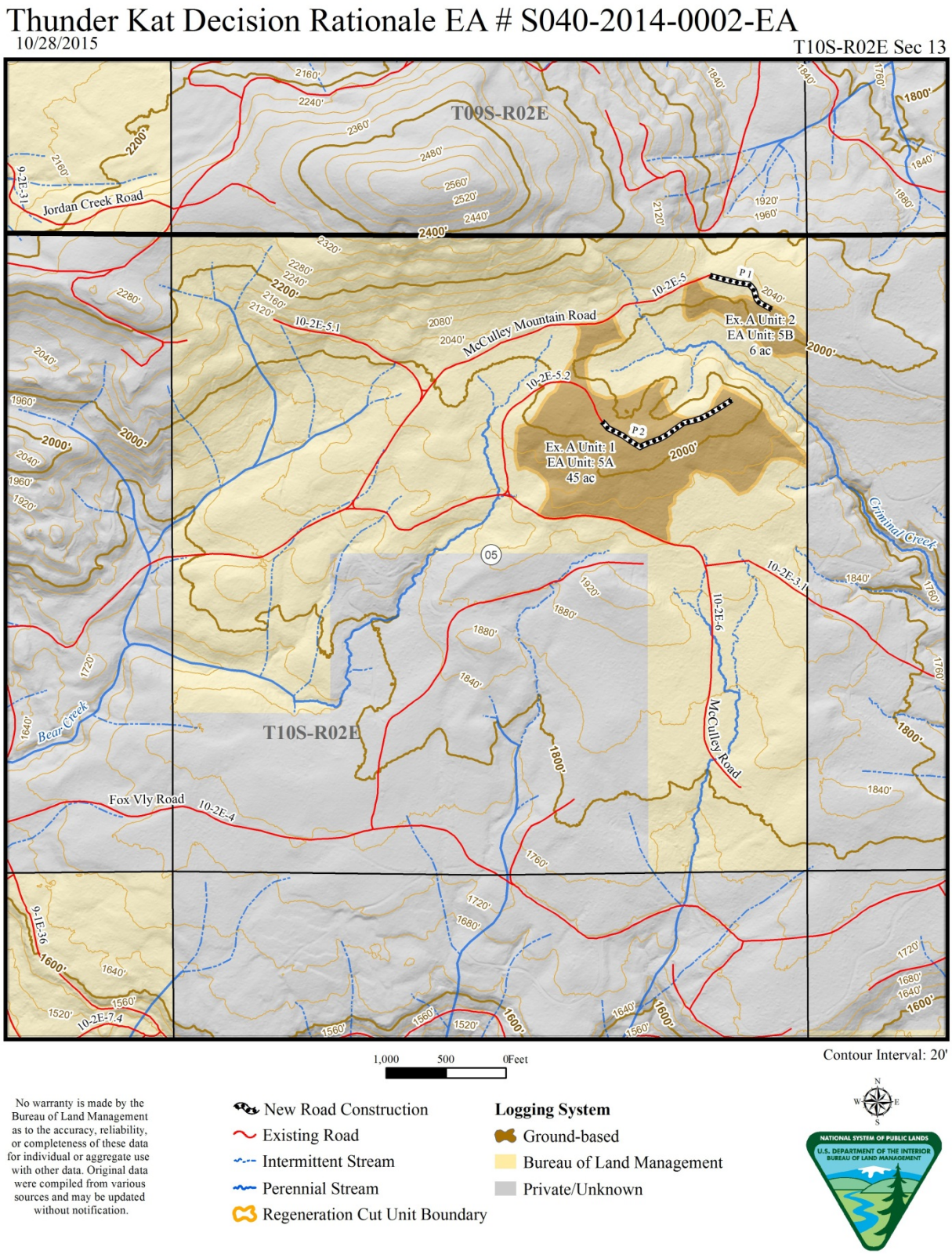
1 0.5 0Miles

N W E S

- State Highway
- Road
- Streams
- Regeneration Cut Unit Boundary
- Bureau of Land Management
- State
- Private/Unknown



MAP 2 – T. 10 S., R. 2 E., SECTION 5



8. PUBLIC COMMENTS ON THE EA AND BLM RESPONSES

The BLM received two emails commenting on the EA during the comment period. These may be viewed in the Salem District office. The substance of comments are summarized or excerpted below, with BLM response. These letters/emails were submitted from:

- Cascadia Wildlands (CW), an Oregon nonprofit organization whose mission is to: "…protect and restore the wildlands and species in the Cascadia bioregion…"
- Oregon Wild (OW), an Oregon nonprofit organization whose mission is to: "…protect and restore Oregon's wildlands, wildlife and waters…".

The BLM compiled the comments from the two commenters, summarizing, excerpting and at times combining similar comments for brevity and application to the selected action. Comments are organized and addressed in the following topics:

1) Project Design;
2) Analysis of Alternatives
3) Carbon Storage/Emissions;
4) Early Successional Habitat;
5) Spotted Owl Habitat and Snags;
6) Management Direction, including RMP; and
7) Miscellaneous Topics.

PROJECT DESIGN

I received comments regarding project design features for regeneration harvest, including road construction and use.

a) *OW and CW both stated if regeneration harvest were to occur, the prescription should be modified to: retain all hardwoods and uncommon conifer species; retain 1-5 acre clumps of trees with dispersed retention; have dispersed and clumped retention. The BLM should reforest in clumps to allow some diversity in the developing stand.*

b) *OW and CW want all areas dropped that are inaccessible to existing roads.*

c) *CW asserts that if road construction is necessary, the BLM should decommission roads to result in a net road decrease from the project.*

d) *OW asserts roads create problems associated with: soils, forest productivity, pollution, sedimentation, thermal loading, rapid water runoff, peak flows, impaired floodplain function, movement of wood and spawning gravel, and fragmentation of wildlife habitat. They also increase human disturbance associated with: weeds, hunting pressure, loss of snags, litter, and human fire ignition.*

BLM Response:

The regeneration harvest design features are consistent with RMP objectives with regard to retaining 16 to 17 dominate or co-dominate trees per acre for future snag and CWD recruitment; this includes retaining larger hardwoods (RMP p. 48, EA Table 2-5). The prescription also emphasizes retaining existing snags, and creating additional snags and/or CWD as well as distributing leave trees in both scattered and clumped patterns. Reforestation after regeneration harvest is an objective in our RMP for Matrix lands (RMP p. 47) and is necessary for future timber production. Criteria for establishing new stands and future maintenance of those stands is illustrated in the RMP (pp. 47,48). Any reforestation techniques use will be consistent with this direction, including planting a mixture of species (EA Table 2-5).

The selected action provides for protection of water resources (including fish and aquatic habitats) while allowing roads to be used for logging and log hauling. Rocked roads may be used during the wet season; natural surface roads are restricted to dry season and dry conditions only. (EA Table 2-6, PDF #28-43, EA 2.2.2, 3.2.2.1, Table 2-7).

Constructing new spur roads will 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 constructed was assessed by the IDT were determined they may be rocked or natural surface as needed. The project is not within a key watershed (RMP p. 6), ensuring a no-net increase in road mileage is not required for this project.

Connected actions and their effects soil, peak flows, fish and aquatic habitat, wildlife habitat, snag habitat, weeds, and fuels are described in EA sections 3.1.2, 3.2.2, 3.3.2, 3.4.2, 3.5.2, 3.6.2. Access to the proposed harvest areas is limited, as it is located behind private locked gates. Due to this lack of access hunting use, potential wildfires and litter have been, and are expected to remain low (EA 3.6.1, 3.7.1, 3.7.2.1).

ANALYSIS OF ALTERNATIVES

I received comments concerning the analysis of alternatives in the ThunderKat EA

a) *OW and CW do not believe the BLM adequately addresses the thinning alternative in the EA;*
b) *CW asserts the purpose and need statement shows that the need is to conduct regeneration harvest, which renders the thinning alternative in the EA an empty exercise;*
c) *OW states the EA Section 2.4 only compares the two action alternatives and the table (Table 2-5) does not compare criteria such as late successional habitat recruitment, snag habitat recruitment, soil disturbance, carbon storage etc.;*

BLM Response: The BLM has adequately analyzed the effects of the proposed action, and the alternatives in the EA. The BLM is required to include a discussion of a range of alternatives to the proposed action; alternatives which are technically and economically feasible, which meet the purpose and need, and which have a lesser environmental impact. The EA Section 1.3.1.2 describes the site-specific need for action, which includes both the thinning and regeneration harvest alternatives meeting the RMP and objectives of the project. Environmental effects associated with all alternatives are addressed in Chapter 3 of the EA; specifically Sections 3.1.2, 3.2.2, 3.3.2, 3.4.2, 3.5.2, 3.6.2, 3.7.2. The rationale for choosing the proposed action is described Section 3 of this DR.

The Table in Section 2.4 is titled "Timber Harvest Actions" and is intended to compare the actions associated with the timber sale, not to effects associated with those actions. With the no-action alternative, no timber sale would take place; if it was included in this table the columns would be blank, as no action would occur. Environmental effects from the proposed and alternative actions, as well as the no action alternative as described in the EA are addressed throughout Chapter 3. Effects to late successional habitat and snags are addressed in EA 3.1.2, 3.5.2; Effects to soils are addressed in EA 3.3.2. Carbon storage is addressed in the EA Section 1.7.5 and also addressed in the comment responses below.

CARBON STORAGE/EMISSIONS

I received several comments concerning the effects of the project on carbon storage and emissions:

a) *OW comments that logging in the matrix is questionable given the need to store carbon in the forest to help limit climate change;*

b) *CW expresses concern that regeneration harvest will remove important contributions toward carbon storage on BLM lands and the BLM should quantify climate impacts from individual timber sales.*

c) *OW asserts the 1994 and 1995 EIS's did not adequately address the issue of climate change*

d) *OW asserts the FONSI is erroneous in its statement regarding gas emissions from the project not having a cumulative impact and believes the BLM should account and quantify for climate related risk and cost on a local, national and global scale.*

BLM Response: With respect to addressing carbon storage or climate change associated with the project, the analysis is consistent with NEPA requirements and the RMP. 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 1.7.5).

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), BLM estimates less than 6 percent of that would be harvested under either alternative for ThunderKat (proposed at 2.1 mmbf). The analysis done 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 on a global, continental and regional scale. Therefore, analyzing quantitative carbon storage and emissions for this project would not provide any additional information needed for a reasoned choice among alternatives.

EARLY SUCCESSIONAL HABITAT

I received comments pertaining to early successional habitat creation (also described as early seral habitat) in the project:

a) *OW asserts regeneration harvest is not needed to create early seral habitat. Natural processes and climate change are sufficient. There is also an abundance early seral habitat on private lands.*

b) *OW and CW suggest there are other ways to create early seral including: Modify fire suppression activities, do not salvage and replant, modify practices on non-federal land, include "gaps" in thinning projects, and extend early seral character of existing young stands.*

c) *OW claims there is no shortage of early seral habitat in the Oregon Coast Range, and the BLM's analysis for the 2015 RMP revision shows no shortage of "early seral forest" in dry Douglas-fir forests.*

d) *CW claims the BLM does not include a reference of a historical baseline for how much early seral forest areas existed in the Cascades; the RMP includes it, but why here and now for creation of early seral habitat?*

BLM Response: EA 1.3.2. lists "provide early successional habitat" (e.g. retaining 16-17 large trees per acre, coarse woody debris and some non-conifer vegetation) as an RMP objective (RMP p. 20). 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 ThunderKat timber sale is not a pilot or other experiment project and was designed under RMP standards. The EA states the need for action is to meet RMP direction; and the fact that the stands analyzed in the document have reached their maximum growth capacity (EA 1.3.1.2). Regeneration harvest of these stands is consistent with management direction within the General Forest Management Area (GFMA) (RMP

p. 48, EA 1.3.1.1, 1.3.1.2). Objectives of the project emphasize the need to produce a sustainable supply of timber, with providing early successional habitat intended as a secondary objective.

There are significant differences between BLM and private stands, including size of the harvest areas (53 acres, private usually larger); BLM will retain 16-17 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; reforestation practices on GFMA lands after regeneration harvest are directed in our RMP (RMP p. 47); reforestation techniques usually allow brush and other shrub species to grow with perhaps one manual maintenance treatment.

Modifying forest practices on non-federal land is outside the scope of BLM's authority. Modifying fire suppression activities within the BLM is outside the scope of this project. There are several examples of commercial thinning projects where the Cascades Resource Area introduced low density thinning areas (similar to the commenter's "gaps") by heavily thinning 1-3 acre areas within harvest areas.

This project is neither within the Coast Range, nor considered to be within the dry Douglas-fir forest type as modeled in the 2015 RMP revision.

The amount of early-seral forest type in the Thomas Creek Watershed is addressed in EA 3.3.1. The historic occurrence of early-seral habitat in the western Cascades was highly variable in space and time (Swanson et al. 2014). Recent estimates from the western cascades show a decrease in early-seral habitat from 5 to 2.5 percent in the Blue River area since the 1940s but this baseline occurs after broad-scale conversion to conifer plantations (Takaoka and Swanson 2008).

However, it is not primarily the quantity of early-seral habitat that is missing from the landscape but the quality. Most private land (and public land in the recent past) has purposely simplified and accelerated pre-forest stages with herbicides or other competition reduction techniques and closely spaced conifer planting. These plantations do not provide the same ecological functions as high-quality early-seral habitat (Swanson et al. 2010; Campbell and Donato 2014) reducing the habitat for a number of early-seral obligate species of conservation concern (Swanson et al. 2014).

SPOTTED OWL HABITAT AND SNAGS

I received comments pertaining to the Spotted Owl, Barred Owl and their habitat, as well as snag habitat.

a) *OW asserts Regeneration harvest will cause a shortage of snags on the landscape and create a snag "gap"*
b) *OW claims the RMP snag requirements are outdated, and more green trees are needed to meet the needs of snag associated wildlife.*
c) *OW asserts the EA does not show how the green tree retention will meet RMP snag requirements.*
d) *OW claims the BLM should maintain all suitable habitat, regardless of spotted owl presence, so the spotted owl may have a better chance to out-compete the barred owl.*
e) *CW accuses the BLM of not conducting spotted owl surveys. The BLM cannot state in the FONSI that endangered species are not present when "…the agency on has not been conducting surveys for the species."*

BLM Response: The ThunderKat project is consistent with NEPA, ESA, NWFP and RMP direction regarding: snag retention and creation, suitable/late-successional habitat, and spotted owls:

CWD and snags: The CWD and snag retention requirements in this project meet Salem RMP objectives. Guidelines for retention of snags and dead wood for the matrix are described in the RMP pages 20-21 and the EA is consistent with this direction. RMP direction states, in regeneration harvest on GFMA lands to

"…Retain six to eight green conifer trees per acre after regeneration harvest to provide a source of snag recruitment and a legacy bridging past and future forests. Retained trees will be distributed in variable patterns…to contribute to stand diversity." (RMP p. 48). The project design for the ThunderKat projects entails leaving 16-17 of the largest available green trees per acre to meet or exceed this and other objectives.

Maintaining Late-Successional/Suitable Habitat within the watershed: The selected action is consistent with RMP direction with regard to maintaining late-successional habitat in the Thomas Creek Watershed. The RMP states on Matrix land the BLM will "Retain late-successional forest patches in landscape areas…This management action/direction will be applied in the fifth field watersheds…in which federal forest lands are currently comprised of 15 percent or less late-successional forest.." (RMP p. 25). In the Thomas Creek (5th field) Watershed, 33 percent of federal ownership is comprised of late-successional forest. The ThunderKat project would perform regeneration harvest on less than 2 percent of late successional forests on BLM lands in this watershed (EA 3. 5.2.1, Table 3-16). In the section, 46 percent of the late-successional forest will remain after harvest. The harvest area is outside any known spotted owl site (see "consultation with USFW" below). Therefore regeneration harvest in this stand is in compliance with the NWFP and the RMP. Comments question why the BLM is not maintaining late-successional, or suitable habitat for potential spotted owl recovery over the barred owls in the area, however they do not present any evidence that BLM's analysis is in error, violates current management direction, or omits required information.

Consultation with USFW: The BLM conducted appropriate surveys for the Northern spotted owl in the ThunderKat area.

The BLM identified the ThunderKat project as having Northern spotted owl (NSO) habitat. The project is within the range for this species to occur. The Northern spotted owl is protected under the Endangered Species Act (ESA) as a "threatened" species.

The BLM conducted two years of surveys (2014 and 2015), for spotted owls in the ThunderKat area following the 2012 revision of the 2011 NSO protocol. Seven calling stations that covered all suitable habitats within the project area were established and were each visited six times within the two year period for a total of 42 survey stations called. 20 barred owl responses were recorded during this time frame. No spotted owls were found. The regeneration harvest unit is currently outside the provincial home range (1.2 mile radius) for any known occupied spotted owl site (EA 3.5.1).

The Biological Assessment (BA) 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 and the ThunderKat project was included in the BA. Using effect determination guidelines, the BA concluded that the ThunderKat 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) but would have no effect on spotted owl Critical Habitat. The Biological Opinion (Issued from U.S. Fish and Wildlife Service) concurred that the habitat modification activities described in the ThunderKat project, are not likely to jeopardize the continued existence of the spotted owl. (See FWS reference #01EOFW00-2014-F-0221).

The BLM surveyed the area for Northern spotted owls based on professional judgment from wildlife biologists and the possible occurrence of the species in the area. Surveys were conducted and no spotted owls were found. The BLM consulted with U.S. Fish and Wildlife Service and received a Biological Opinion. The BLM analyzed effects to the Northern spotted owl in the EA (EA 3.5.2.1, 3.5.2.2). The BLM can justify a finding of No Significant Impact in regard to this species for the ThunderKat project.

MANAGEMENT DIRECTION, RMP DIRECTION

I received comments regarding RMP objectives/direction:

a) *OW comments the RMP objective for timber production attributing to providing jobs and community stability (RMP p 20) is outdated and cites the 2015 Western Oregon Plan Revision DEIS (p 472).*

b) *OW asserts the RMP objective to "promote tree survival, manage timber stands to reduce the risk of loss from fires, animals, insects, and diseases" is outdated;*

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 relevant statutes and authorities, as well as RMP resource and land use objectives into EA sections 1.3 and 1.6.

MISCELLANEOUS TOPICS

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

a) *OW and CW prefer the no action alternative; If any management does occur, OW cites preference for the thinning alternative over regeneration harvest. Thinning will extend CMAI, provide better habitat, carbon storage, scenic values, conservation of soil and water quality.*

BLM Response: BLM recognizes opposition from some commenters regarding regeneration harvest on BLM forest lands. The thinning alternative and it's affects with regard to wildlife habitat, scenic values, soil and water is addressed in EA sections 3.5.2.2, 3.7.2.2, 3.2.2.2, 3.4.2.2. Carbon storage is addressed in EA 1.7.5 and comments above. The stand has already reached CMAI, so CMAI would not be delayed if the stand was thinned rather than regeneration harvested.

b) *OW asserts stands over 80 do not need to be harvested and the social and ecological trade-offs outweigh any benefits.*

BLM Response: The RMP requires the BLM, from Matrix lands, to provide a supply of timber, contribute to community stability, and create jobs (RMP p. 20). The RMP does not restrict timber harvest on Matrix lands over 80 years in age. In fact, the RMP states that stands to be considered for regeneration harvest would generally be "between 70 and 110 years of age" (RMP p. 48). As the stand is currently 93 years old, the ThunderKat project meets this criteria.

The Proposed Action in the EA was designed to meet the need in the Matrix LUA to be consistent with RMP direction (EA Section 1.3.1, 1.3.2). The regeneration harvest and thinning prescriptions described in the EA for Matrix lands (EA Table 2-4) are consistent with the purpose and need of the project. The selected actions meet and go beyond RMP green tree retention requirements (6-8 trees per acre) by retaining 16-17 trees per acre for future snag and CWD recruitment and other objectives. The selected action also meets the RMP by retaining existing large snags as outlined in the EA (2.3.1), and in incorporating the project design features analyzed in the EA and adopted in the DR (EA Section 2.5, Table 2.5).

Information incorporated into the DR by reference:

Campbell, J. L., & Donato, D. C. (2014). Trait-based approaches to linking vegetation and food webs in early-seral forests of the Pacific Northwest. *Forest Ecology and Management*, *324*, 172-178.

Swanson, M. E., Franklin, J. F., Beschta, R. L., Crisafulli, C. M., DellaSala, D. A., Hutto, R. L., ... & Swanson, F. J. (2010). The forgotten stage of forest succession: early-successional ecosystems on forest sites. *Frontiers in Ecology and the Environment*, *9*(2), 117-125.

Swanson, M. E., Studevant, N. M., Campbell, J. L., & Donato, D. C. (2014). Biological associates of early-seral pre-forest in the Pacific Northwest. *Forest Ecology and Management*, *324*, 160-171.

Takaoka, S., & Swanson, F. J. (2008). Change in Extent of Meadows and Shrub Fields in the Central Western Cascade Range, Oregon. *The Professional Geographer*, *60*(4), 527-540.