

33 Mystery Timber Sale

Decision Record

Supporting Analysis:
East Fork Nehalem Timber Management Project Environmental Assessment

DOI-BLM-ORWA-S060-2014-0005-EA
(Formerly DOI-BLM-OR-S060-2014-0005-EA)

May 2016

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

Township 5 North, Range 3 West, Section 33, Willamette Meridian
Columbia County, Oregon

Responsible Agency: USDI – Bureau of Land Management

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Salem District

BLM



BLM/OR/WA/PL-16/021+1792

1.0 Introduction

The Bureau of Land Management (BLM) conducted an environmental analysis for the East Fork Nehalem Timber Management Project (East Fork Nehalem Project; EA# DOI-BLM-ORWA-S060-2014-0005). The proposed treatments in the 33 Mystery Timber Sale were analyzed under this EA. The EA analyzed the effects of forest management treatments and associated actions, including regeneration harvest on 299 acres, commercial thinning on 114 acres and Riparian Reserve density management on 304 acres of forests aged 31-81 years old. This is the first decision under the EA and will implement activities on 136 acres of the East Fork Nehalem Project area in what hereafter is referred to as the 33 Mystery Timber Sale (stand ages 31 – 79 years old). This sale is located within the Matrix and Riparian Reserves (RR) land use allocations (LUA) in the East Fork Nehalem River fifth-field watershed in Columbia County, Oregon.

2.0 Decision

I have decided to implement the treatments described in Alternative 2, the proposed action, in the EA on pages 30 – 56 for those units in Section 33; T. 5 N., R. 3 W., WM. (See attached map), hereafter referred to as the “selected action.” This decision is based on site-specific analysis in the East Fork Nehalem Timber Management Project EA, the supporting project record, management recommendations contained in the *East Fork Nehalem Watershed Analysis* (1996) which is incorporated by reference in the EA, and the management direction contained in the *Salem District Resource Management Plan* (RMP) (May 1995), to which the EA tiers.

Project Unit Number Crosswalk	
East Fork Nehalem Project EA Unit #	33 Mystery Timber Sale Unit #
33-11.1(ct,up,ur) 33-11.2(ct,up) 33-11.3(ct,up,ur) 33-12(ct,up)	1
33-19(r) 33-24(r) 33-25(ct,ur)	2
33-2.1(r,ur)	3
33-2.3(r,up,ur) 33-2.4(ct,up,ur)	4

Decision Summary

The following is a summary of this decision:

- Regeneration harvest on approximately 37 acres of 73-79 year old forest within Matrix LUA.
- Commercial thinning on approximately 50 acres of 31-79 year old forest within Matrix LUA.
- Density Management thinning on approximately 49 acres of 31-79 year old forest within the Riparian Reserve LUA.
- Of the 136 total acres, approximately 3 acres will be cleared for road construction (described below).
- Approximately 3,752 MBF of timber will be harvested.

Phellinus weirii treatments will occur on approximately 5 acres where the root disease is especially prevalent within commercial thinning treatment units. The treatment will occur in five patches ranging from about 0.5 – 2 acres in size. The treatments will include leaving approximately 20 trees/acre at relatively wide spacing. Disease resistant species such as western redcedar, western hemlock, or hardwoods will be favored for retention. If cedar, hemlock, or hardwoods are not fully available then the most healthy looking Douglas-fir trees would be left. These areas will be underplanted with disease-resistant western redcedar and red alder. The *Phellinus weirii* treatment prescription will not occur within a one site tree height slope distance of any stream or marbled murrelet potential habitat (approximately 240 feet) regardless of *Phellinus* infection level.

Timber Yarding Methods

- Ground-based yarding – 118 acres (87 percent)
- Skyline yarding – 18 acres (13 percent)

Season of Operation

- Operations are generally restricted to the dry season (generally June 1- October 15) except the cable yarding portions of unit 4, which can operate any time of the year under “dry season-like conditions”. See EA Seasonal Restrictions, p. 50.

Fuels

- Approximately 50 landing piles will be burned under conditions conducive to good atmospheric mixing in accordance with Oregon Department of Forestry Smoke Management guidelines. Cutting of brush and lopping of slash will occur where necessary in Units 1 (EA33-12), 2 (EA 33-19, 33-24), 3 (EA 33-2.1) and 4 (EA 33-2.3, 33-2.4) in order to facilitate planting.
- *Phellinus weirii* treatments: up to 5 acres of *Phellinus weirii* treatments may occur that would include piling and burning of slash less than 6” in diameter. Burning will occur under conditions conducive to good atmospheric mixing in accordance with Oregon Department of Forestry Smoke Management guidelines.

Roads

New Construction	
New Natural Surfaced Road Construction (Full Decommission, permanent)	0.5 miles
Renovation	
Road Renovation Natural Surfaced (Decommission, long-term storage)	0.1 miles
Road Renovation Rocked Surface (Decommission, long-term storage)	0.1 miles
Road Renovation Rocked Surface (Keep open, permanent)	6.1 miles

Full decommissioning entails removing stream-crossing culverts if present, de-compacting the surface, water barring, seeding or planting with native species, and restricting OHV use.

Decommissioning is the same as full decommissioning except surface de-compaction and planting/seeding would not occur. Restricting OHV use may include the strategic placement of boulders, logs, root wads, or other types of earthen barriers.

Green Tree Retention – Regeneration Harvest Units

Green Tree Retention in Regeneration Harvest Units					
Timber Sale Unit # (EA unit #)	Target Total Reserve Trees/Acre	Est. Total Reserve Trees	Total Reserve Trees in Clumps (75%)	# Reserve Clumps	Est. Total Reserve Trees Outside of Clumps (25%)
2(33-19r)	20	200	150	3	50
2(33-24r)	20	40	30	1	10
3(33-2.1r)	18	216	162	2	54
4(33-2.3r)	18	252	189	4	63

Trees will be reserved in both clumped and scattered fashion. Clumps will contain 40 – 100+ trees and scattered trees will occur at a rate of 4-5 trees per acre.

Coarse Wood Development

- During harvest, all existing down woody debris and snags would be retained and protected to the extent practicable. Where necessary for safety or operational reasons, snags may be felled, but must be left on site. Snags that are greater than 20” DBH and 20’ in height, or snags being actively used by wildlife would be protected from damage by reserving the nearest four surrounding trees. In designated *Phellinus* root rot treatment areas reserve trees for snag protection would be species other than Douglas-fir or grand fir, if available.
- Treatment units would be monitored for 2 to 4 years following harvest to evaluate the amount of blow down and mortality post-harvest to determine if additional treatments are needed to meet CWD habitat objectives.
- In commercial thinning units (portions of timber sale units 1, 2, and 4) an average of 1 reserve tree per acre at least 20” in diameter that are cut for operational purposes would be retained.
- Within Riparian Reserve density management treatment areas (portions of all units), all reserve trees cut for operational purposes (skid trails, corridors, lift or tail trees, etc.) would be left on site to augment downed woody debris resources unless specific safety concerns require removal of the tree. Removal would be considered on a tree-by-tree basis.

Project Design Features

- Project Design Features described in the EA (pp. 40-49) will be incorporated into the timber sale contract.

Refinements to the Project since the EA was published

Project boundaries and acreage: The EA estimated that the area included in the 33 Mystery Timber Sale would be 136 acres, 91 in the Matrix and 45 in the Riparian Reserves. Due to the detailed information and data that was available during EA analysis, layout of the actual timber sale boundaries closely followed the boundaries used for analysis and resulted in the actual sale acreage being the same as the analysis acreage.

Location and Selected Action maps appear on the following pages.

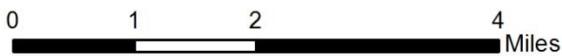
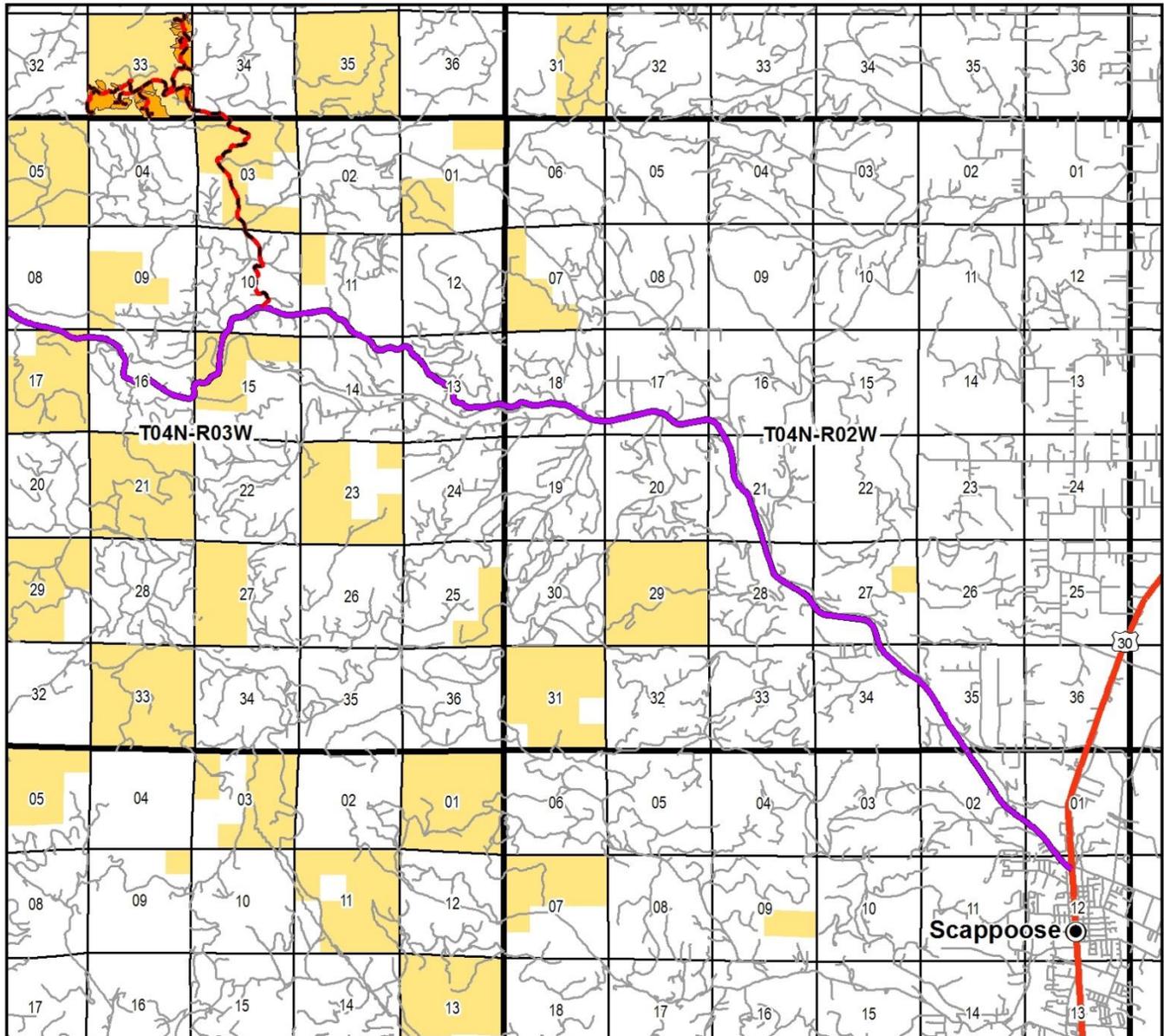
3.0 Location and Selected Action Maps

Map 1. Location Map

United States Department of the Interior-BUREAU OF LAND MANAGEMENT
PROJECT LOCATION MAP



T. 5N. R. 3W, Section 33 W. M. - SALEM DISTRICT - OREGON



- 33 Mystery Project Roads
- Scappoose Vernonia Road
- 33 Mystery Timber Sale Area
- Highway
- Other Roads
- BLM Lands



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.

Prepared By: csween Date: 5/17/2016

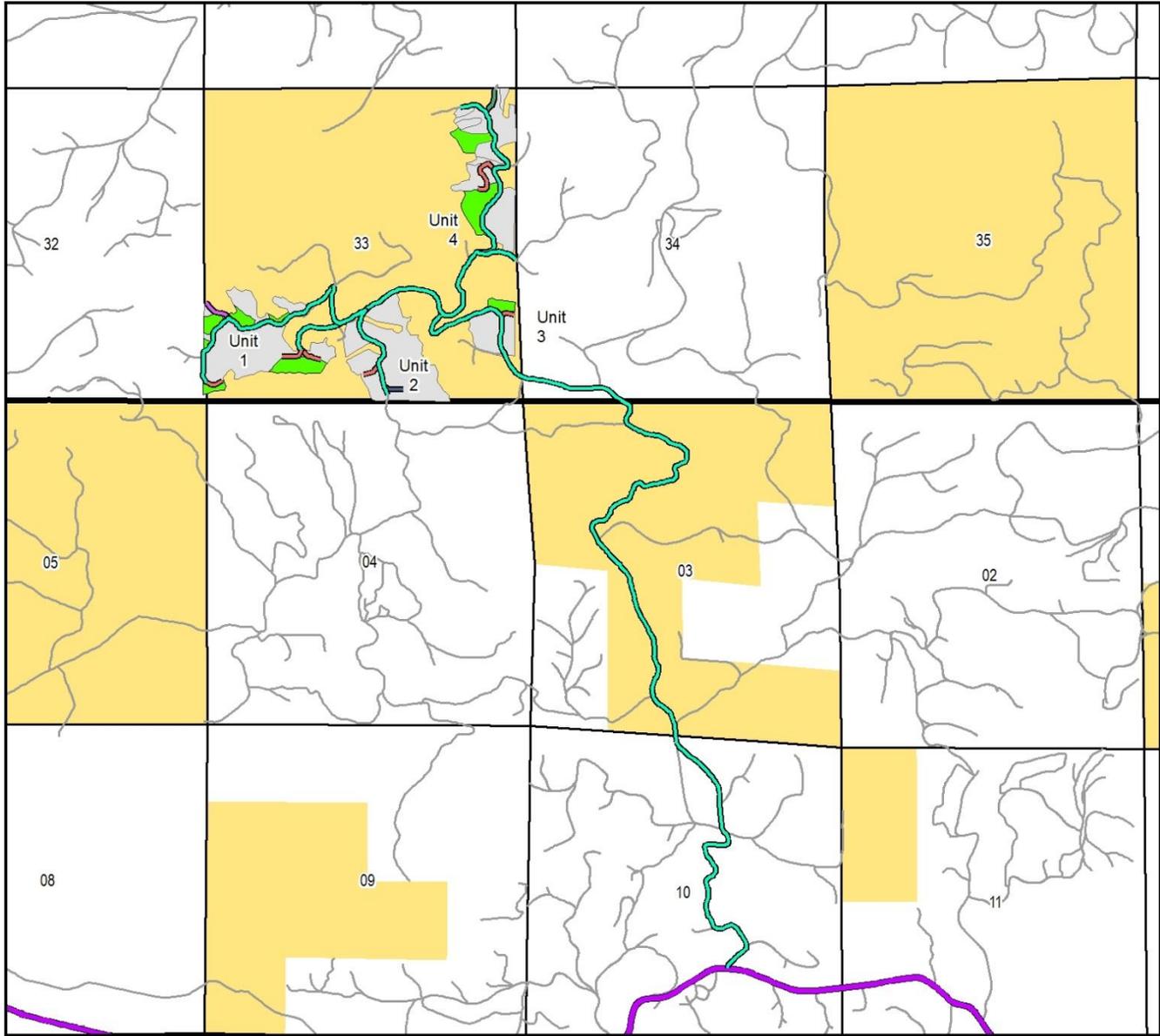
Map 2. Selected Action Map



United States Department of the Interior-BUREAU OF LAND MANAGEMENT

33 MYSTERY PROJECT MAP

T. 5N. R. 3W, Section 33 W. M. - SALEM DISTRICT - OREGON



Road Activity, Proposed road surface, Final road closure status Yarding Method

- | | |
|--|----------------------|
| Natural surface road to be renovated-Long term storage after use | Ground Based Yarding |
| Rock surface road to be renovated-Long term storage after use | Cable Yarding |
| Natural surface road to be constructed-Decommission after use | Other Roads |
| Natural surface road to be renovated-Decommission after use | BLM Lands |
| Rock surface road to be renovated | |
| Scappoose Vernonia Road | |

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.
Prepared By: csween Date: 5/17/2016

4.0 Alternatives Considered

The EA analyzed in detail the effects of the No Action and Proposed Action alternatives. No unresolved conflicts concerning alternative uses of available resources (section 102(2) (E) of NEPA) were identified. Several other alternatives were considered including; a larger project including more acres; thinning and density management only, no regeneration harvesting; and not harvesting any stands 80 years old or older. These other alternatives were not analyzed in detail. The rationales for why these other alternatives were not analyzed in detail are included in the EA on pages 57-58. Complete descriptions of the two alternatives that were analyzed in detail are contained in the EA, pp. 30-50.

5.0 Decision Rationale

Considering public comment, the content of the EA and supporting project record, the management recommendations contained in the *East Fork Nehalem Watershed Analysis*, and the management direction contained in the RMP, I have decided to implement a portion of Alternative 2, the selected action, as described in section 2.0 of this DR. The following is my rationale for this decision.

The Selected Action:

- Best meets the Purpose and Need of the project (EA section 1.1) by offering a timber sale that will efficiently harvest timber to meet the Salem Districts requirements under the O&C Act of 1937, while also providing for valuable ecological function, maintenance of structural features, and providing habitat for a variety of organisms associated with both late-successional and younger forests. The sale will also help contribute to developing a well distributed pattern of forest age classes in the Matrix LUA that will help maintain a sustainable supply of timber over time. The selected action will also change the developmental pathway for several riparian reserve stands from being high canopy, single story stands with little possibility of multiple canopy layer development in the foreseeable future to one where underplanting and the availability of more light would allow for the stands to begin developing additional canopy layering, an important quality of functional late-successional forests.

The No Action alternative was not selected because it does not meet the Purpose and Need directly or would unnecessarily delay the achievement of the Purpose and Need by requiring additional planning in other areas to meet the commitment to contribute a sustainable supply of timber. Selecting the No Action alternative would also cause the BLM to forego the harvest of underproductive and diseased stands and would continue to maintain the unbalanced distribution of age classes across the Matrix LUA that currently exists. This situation is counterproductive to maintaining a sustainable supply of timber of appropriate age, size classes, and merchantability over time (EA pp. 11, 62, 64).

6.0 Compliance with Direction

The 33 Mystery Timber Sale has been designed to conform to the following documents, which direct and provide the legal framework for management of BLM-managed lands within the Salem District:

1. *Salem District Record of Decision and Resource Management Plan, May 1995 (ROD/RMP)*: The ROD/RMP has been reviewed and it has been determined that the 33 Mystery Timber Sale and

associated activities conforms to the land use plan (e.g. complies with management goals, objectives, direction, standards and guidelines) as required by 43 CFR 1610.5 (BLM Handbook H1790-1). Implementing the ROD/RMP is the reason for doing these activities (ROD/RMP p.1-3).

2. The 1995 Salem District RMP is the plan of record for the Salem District. The 1995 RMP incorporated land use allocations and standards and guidelines from the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl*, April 1994 (the Northwest Forest Plan, or NWFP).
3. *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines*, January 2001.
4. *Revised Recovery Plan for the Northern Spotted Owl, (Strix occidentalis caurina)*. U. S. Fish and Wildlife Service, 2011.

The analysis in the East Fork Nehalem Timber Management Project EA is site-specific and tiers to analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement (RMP/FEIS)*, September 1994. The RMP/FEIS includes the analysis from the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl (NWFP/FSEIS)*, February 1994. In addition, the EA is tiered to the *Final Supplemental Environmental Impact Statement For Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (S&M FSEIS)*, November 2000).

Survey and Manage Review

The 33 Mystery Timber Sale is consistent with court orders relating to the Survey and Manage (S&M) mitigation measure of the Northwest Forest Plan, as incorporated into the Salem District RMP. A Survey and Manage Species Review is included in the EA on page 29.

Terrestrial Mollusks

Surveys for S&M terrestrial mollusks were conducted in all areas proposed for harvest including thinning areas with the exception of the very young 31 year old stand (EA unit # 33-25, Timber Sale unit # 2). No S&M terrestrial mollusks were found during these survey efforts (EA p. 19).

Botany Species

All of the selected action acres were surveyed for S&M botanical species and one site of an S&M lichen species was found. The site where the lichen, *Cetralia cetrariodes* (designated S&M category E lichen under both 2001 and 2003 Annual Species Reviews), was found has been protected by excluding it from harvest units (EA p. 19).

Red Tree Vole

None of the timber stands to be harvested under the selected action contain suitable red tree vole habitat

therefore none were surveyed. All of the stands are classified as mid-seral and do not exhibit the structural characteristics of red tree vole habitat that would suggest the need to survey for the voles. Additionally, because the selected action area has been logged and burned several times since settlement in the mid-1800's there is extremely little remaining late-successional forest that could be considered red tree vole habitat in the entire East Fork Nehalem subwatershed. In 2006, the BLM searched the remaining late-successional forest fragments for red tree voles and no evidence of voles was found. Because of the history of the forest landscape where the selected action is located and the fact that red tree voles are poor dispersing animals with low birth rate it is not likely that red tree voles still exist in the project area (EA p. 16).

Compliance with the Aquatic Conservation Strategy

The BLM reviewed the No Action and Proposed Action alternatives relative to the ACS objectives at the project scale. The No Action alternative does not retard or prevent the attainment of any of the nine ACS objectives because this alternative would maintain current conditions (EA pp. 117-123). The Proposed Action also does not retard or prevent the attainment of any of the nine ACS objectives.

Over the long-term, the 33 Mystery Timber Sale and associated activities will aid in meeting ACS objectives by speeding the development of older forest characteristics in the Riparian Reserves that will improve habitat for riparian associated species. In addition, more open stands outside of no harvest buffers, along with strategic underplanting will allow for the development and growth of multi-layered riparian forest. No harvest buffers along all streams will assure that wood routing dynamics will continue to function and the development of coarse wood structures will add structural diversity to the already existing condition (EA pp. 121-122).

Compliance with the National Historic Preservation Act (NHPA)

Compliance with Section 106 of the NHPA was completed using the 2015 Oregon Protocol (BLM – SHPO, 2015). A pre-project survey was completed in February of 2015 for inventoried cultural resources that could occur in the 33 Mystery Timber Sale area and none were located. Project Design Features requiring post-project survey and the stoppage of work if cultural resources are discovered have been incorporated into the project. Consultation with the State Historic Preservation Office is not required.

7.0 Public Involvement, Consultation, and Coordination

Public Scoping

The BLM mailed a scoping letter, dated May 28, 2014, to 19 potentially affected or interested individuals, groups, and agencies. In addition, a description of the proposal was included in the Salem Bureau of Land Management Project Update for Spring/Summer 2014, which was mailed to more than 150 individuals and organizations. The BLM received three responses during the scoping period and utilized those comments to inform issues and refine the action alternatives (EA p. 10).

EA and FONSI Comment Period and Comments

The BLM made the EA and an unsigned Finding Of No Significant Impact (FONSI) document

available for public review from August 28, 2015 to September 28, 2015. Two comment letters were received during the EA comment period. Responses to the public comments can be found in Appendix A of this Decision Record. The scoping and EA comment letters and emails are available for review at the BLM's Tillamook Field Office.

Consultation and Coordination

Wildlife: United States Fish and Wildlife Service (USFWS)

The northern spotted owl would be affected by this timber sale project only through the modification of 99 acres of dispersal habitat which would continue to function in the same capacity after treatment (commercial and Riparian Reserve thinning) and the removal of 37 acres of dispersal habitat (regeneration harvest). There is little likelihood that marbled murrelets inhabit the selected action area due to lack of suitable habitat and distance from the ocean. However, there are a few *potential* habitat trees near the selected action, and in the unlikely event that a murrelet may be using one of those trees, could be disturbed by the selected action.

Due to these potential impacts to the spotted owl and marbled murrelet, informal consultation with the U.S. Fish and Wildlife Service (USFWS) is warranted to assure compliance with section 7 of the ESA. Consultation was completed by including the analysis of effects of the 33 Mystery Timber Sale in the batched programmatic *Biological Assessment of Habitat Modification Projects Proposed During Fiscal Years 2015 and 2016 in the North Coast Planning Province, Oregon, That Are Not Likely To Adversely Affect (NLAA) Northern Spotted Owls Or Marbled Murrelets And Their Critical Habitats (August 2014)*. A Letter of Concurrence (LOC) was received from the USFWS in September 2014 (FWS Reference Number 01EOFW00-2014-I-0234) indicating their agreement that the 33 Mystery Timber Sale would not adversely affect marbled murrelets, spotted owls or their habitat since the design and features of the day 33 Mystery Timber Sale is consistent with that described in the Biological Assessment.

Fish: National Marine Fisheries Service (NMFS)

No effects are anticipated to Oregon Coast Coho salmon or its critical habitat due to design features that prevent impacts to stream morphology, water temperature, sediment transport to Coho habitat, large wood routing, or modification of forests within Coho habitat (EA pp. 15-16); therefore, no ESA consultation is warranted.

Consultation with NOAA- NMFS is required for all projects which may adversely affect Essential Fish Habitat (EFH - Magnuson-Stevens Fisheries Conservation and Management Act) of Chinook and Coho salmon. The treatment area would not affect Coho habitat as noted above and is over one stream mile from habitat potentially utilized by chinook salmon and therefore would not affect chinook either. Since the proposed action would not result in any effects to EFH for either species, consultation with NMFS on EFH is not required for this project.

8.0 Conclusion

Finding of No Significant Impact

I reviewed the comments on the EA and draft FONSI and no information was provided that lead me

to believe the analysis, data, or conclusions are in error or that the selected action needs to be altered. There are no significant new circumstances or information relevant to the selected action or associated environmental effects. I have determined in the Finding of No Significant Impact (FONSI, May 2016) for the East Fork Nehalem Timber Management Project that Alternative 2, the proposed action, will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area, and that no environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27. There are no site specific impacts that would require supplemental/additional information to the analysis done in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS). Therefore, an environmental impact statement is not needed and therefore will not be prepared.

Administrative Review Opportunities

The decision described in this document is a forest management decision and is subject to protest by the public. In accordance with Forest Management Regulations at 43 CFR 5003, protests of this decision may be made within 15 days of the publication of a notice of decision in a newspaper of general circulation. The notice of decision will be published in the South County Spotlight newspaper of Scappoose, Oregon on May 27, 2016.

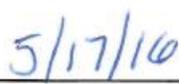
To protest this decision a person must submit a written protest to Karen Schank, Tillamook Field Manager, 4610 Third Street, Tillamook, Oregon 97141 by the close of business (4:30 p.m.) on June 13, 2016. A written protest electronically transmitted (e.g., email, facsimile, or social media) will not be accepted as a protest. A written protest must be on paper.

The protest must clearly and concisely state which portion or element of the decision is being protested and the reasons why the decision is believed to be in error, as well as cite the applicable regulations. Any objection to the project design or my decision to go forward with this project must be filed at this time in accordance with the protest process outlined above. If a timely protest is received, this decision will be reconsidered in light of the statements of reasons for the protest and other pertinent information available and the BLM shall serve a decision in writing on the protesting party (43 CFR 5003.3).

Implementation

If no protest is received within 15 days after publication of this Decision Record (33 Mystery Timber Sale) this decision will become final. The planned sale date is June 22, 2016. For additional information, contact Andy Pampush (503) 815-1143, Tillamook Field Office, Salem District BLM, 4610 Third Street, Tillamook, Oregon, 97141.

Approved by: 
Karen Schank
Tillamook Field Manager


Date

Appendix A: Response to Public Comments Received on the East Fork Nehalem Timber Management Project (EA# DOI-BLM-ORWA-S060-2014-0005)

Comments from: American Forest Resources Council

Submitted by: Andy Geissler - Western Oregon Field Forester

The comments submitted by AFRC were generally supportive of the East Fork Nehalem Timber Sale Project. AFRC specifically indicated that they are glad that the Tillamook Field Office has placed a focus on the objective of producing a sustainable supply of commercial timber products as it pertains to the O&C Act. AFRC also indicated that they appreciated that the Tillamook Field Office is making efforts to develop projects with flexibility built in rather than firm prescriptive restrictions. The following comments were gleaned from AFRC's letter and cover the general topics contained in the letter. The BLM responses follow the comments.

1. *Of the many reasons noted for the shrinking of this project, the most disturbing is the 99 acres of commercial thinning that were deferred due to the inability to complete ESA consultation in a timely manner. We encourage the BLM to remedy its administrative capacity constraints in order to complete this necessary consultation that could permit the necessary treatments to be implemented. Ideally this could be completed in time to include these 99 acres into a planned timber sale with adjacent units; otherwise these acres could be sold and implemented as a stand-alone project... We hope that you can find a way to work through your legal requirements in order to provide these benefits to our membership and to fully implement this project..*

BLM Response:

Managing for species listed under the Endangered Species Act while carrying out the mandates prescribed by other Federal laws can be a complicated process. A member of our staff integral to the consultation process took another position leaving us without enough time to conduct ESA consultation in order to meet the timber sale schedule for this project. We considered other avenues to include the acreage in the project which would avoid the activities with the potential to affect ESA listed fish but quickly realized that these efforts would be unduly restrictive, expensive and not a practical way to manage natural resources. For these reasons, we elected to defer the commercial thinning actions on those acres. We have remedied our staffing situation, but we are not in a position to conduct a separate NEPA process for 99 acres of commercial thinning. Our staff considered if there would be any lasting consequences of not thinning these stands now and determined that there would not because these stands would still be within a reasonable thinning window for at least another decade. Despite not offering the 99-acre commercial thinning for sale at this time, the Tillamook Field Office remains committed to meeting its timber sale obligations annually in a reasonably geographically dispersed way to keep our sales competitive for the regional purchasers.

2. *...These benefits can only be realized if the BLM sells their timber products through sales that are economically viable. This viability is tied to both the volume and type of timber products sold and the manner in which these products are permitted to be delivered from the forest to the mills. There are many ways to design a timber sale that allows a purchaser the ability to deliver logs to*

their mill in an efficient manner while also adhering to the necessary practices that are designed to protect the environmental resources present on BLM forestland.

BLM Response:

We in the Tillamook Field Office are working hard to find ways to minimize the effects of timber sale projects on the environment without being overly prescriptive. We continue to look for ways to evaluate effects based on resource conditions rather than expectations based on methods, equipment, or presumed weather. We are seeking to balance greater operational flexibility with the potential for a heavier administration workload beyond our staffs' capacity.

- 3. The primary issues affecting the ability of our members to feasibly deliver logs to their mills are firm operating restrictions. As stated above, we understand that the BLM must take necessary precautions to protect their resources; however, we believe that in many cases there are conditions that exist on the ground that are not in step with many of the restrictions described in BLM EA's and contracts (i.e. dry conditions during wet season, wet conditions during dry season). We would like the BLM to shift their methods for protecting resources from that of firm prescriptive restrictions to one that focuses on descriptive end-results; in other words, describe what you would like the end result to be rather than prescribing how to get there.*

BLM Response:

See previous response.

- 4. To address this issue we would like to see flexibility in the EA and contract to allow a variety of equipment to the sale areas. We feel that there are several ways to properly harvest any piece of ground, and certain restrictive language can limit some potential operators. Though some of the proposal area is planned for cable harvest, there are opportunities to use certain ground equipment such as fellerbunchers and processors in the units to make cable yarding more efficient. Allowing the use of processors and fellerbunchers throughout these units can greatly increase its economic viability, and in some cases decrease disturbance by decreasing the amount of cable corridors, reduce damage to the residual stand and provide a more even distribution of woody debris following harvest.*

BLM Response:

The BLM analyzed the effects to soil resources by timber harvesting on pages 112-115 of the EA. Best management practices have been incorporated into the project that limit ground based equipment to slopes of 35% or less and equipment must proceed on slash mats when not on designated skid trails. We believe if these BMPs are followed that erosion and detrimental impacts to soil productivity by soil compaction would be minimized. For the East Fork Nehalem Project, we did not evaluate the situation where the equipment would proceed without slash mats or operate on slopes greater than 35%. We believe that the analysis would cover ground-based equipment, such as processors, operating on slash mats and on slopes of 35% or less in cable units. What was not analyzed in this project is the situation where the equipment would operate under conditions where no slash mats are present, such as would be the case with the use of feller-bunchers. The Tillamook Field Office is currently investigating the possibility of using ground-based equipment without slash mats and under what types of conditions that

could occur. However, that discussion and analysis did not occur during the development of the East Fork Nehalem Project and therefore the effects analysis does not address it.

5. *We appreciate that you focused on residual resource damage levels rather than implementing arbitrary log length restrictions. We encourage the Tillamook Resource Area to use a similar methodology for permitting ground based felling/harvesting equipment.*

BLM Response:

See responses to comments 2 and 4 above.

Comments from: Oregon Wild

Submitted by: Doug Heiken

Comments submitted by Oregon Wild covered a variety of topics ranging from the requirements of the National Environmental Policy Act, regeneration harvest, Riparian Reserve management, to greenhouse gas emissions. The comments below are those that appear to be specific to the East Fork Nehalem Project. The comments are organized by topic with headings in bold type. The BLM's response follows the comments.

NEPA

1. *BLM should have considered an alternative that involved thinning the stands to achieve ecological benefits, produce some timber as a by-product, and extend the culmination of mean annual increment.*

BLM Response:

The purpose and need (P&N) for the East Fork Nehalem project reflects the need to comply with federal law (O&C act), and doing so consistent with the RMP (EA p. 26). The proposed action is necessarily constrained by our RMP. With that in mind, the BLM feels that there are no unresolved conflicts concerning alternative uses of available resources. The project has also been designed to provide some ecological benefits such as maintaining valuable structural components (down logs, snags, and large trees), as well as complex early seral habitat. A primary objective of the Matrix land use allocation is to produce a sustainable supply of timber rather than produce timber as a byproduct of other activities. Only using thinnings to manage forests is not a practical means of producing a sustainable supply of timber over time because eventually a stand cannot be thinned anymore. Culmination of mean annual increment is not an objective of the RMP; it is simply a metric that can be used for determining when to harvest a forest stand because it is growing at a decreasing rate.

2. *The EA (p 57) rejected consideration of an "all thinning" (no regen) alternative based on erroneous ideas about community stability and even flow harvest. BLM said: "In considering an alternative that included only thinning, and density management in Riparian Reserves, we found that the Purpose and Need would mostly not be met. The acres proposed for regeneration harvest*

are in the Matrix land use allocation where providing a sustainable supply of timber and other forest commodities to contribute to community stability is a primary objective (RMP p. 20)”.

BLM is now on record (in the Western Oregon RMP Revision DEIS) acknowledging that timber production does not contribute to community stability.

Also, thinning does product (sic) timber so it contributes to whatever values that regen does, just not quite as much.

BLM Response:

The BLM must follow the guidance contained in the Resource Management Plan (43 CFR 1610.5-3), which for the Tillamook Field Office is currently the 1995 Salem District RMP. The P&N for the project is clear that the objective is a sustainable supply of timber – produced in a cost effective way with consideration for other objectives, including ecological ones. A thinning only alternative does not address management of understocked, diseased, and underproductive stands, and in areas intended for timber volume production, thinning stands that have reached a point in their development where growth is declining is counter-productive in terms of producing wood volume on a given area of land. The BLM’s O&C lands are part of the landscape where trees are a commodity that is used by people for producing wood products for various purposes. The overriding purpose of the O&C act is to contribute a sustainable supply of timber for the economic benefit of local communities.

3. *NEPA mandates that an agency “shall to the fullest extent possible: use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these action (sic) upon the quality of the human environment.” 40 C.F.R. § 1500.2(e).*

BLM Response:

We believe that we have done that. Considering the objectives of the landscape where the project would occur, the guidance in our RMP, the condition of the forests proposed for treatment, and the design features incorporated to minimize adverse effects, we considered several alternatives. The alternatives considered included those mentioned by you in your scoping comments, including, a thinning only alternative and an alternative that precluded harvest in stands over 80 years old. NEPA requires that we consider reasonable alternatives, but does not require that all be analyzed in great detail. We feel that we have been clear as to why there was not a need to analyze the other alternatives in further detail.

4. *If the NEPA document considers only a restricted range of alternatives this would violate the very purpose of NEPA’s alternative analysis requirement, which is to foster informed decision-making and full public involvement... The purpose of the multiple alternative analysis requirement is to insist that no major federal project be undertaken without intense consideration of other more ecologically sound courses of action,...*

BLM Response:

It has been decided by law that the BLM will offer for sale a sustainable supply of timber from O&C lands. It has also been decided through administrative decision supported by an EIS analysis that lands

designated as Matrix would be where most of that sustainable supply of timber would come from. With these considerations, at the EA level of analysis, the range of alternatives of how to manage forests to meet these legal mandates is already considerably restricted. Additionally, we have chosen to incorporate many detailed design features into the proposed action that effectively eliminate many less ecologically sound courses of action, such as not allowing ground-based harvest activities when soils are saturated, or excluding legacy old-growth trees from harvest units for example. We feel that we have considered a reasonably broad range of alternatives within the current legal constraints. At the EA level, it would not be helpful to consider alternatives that we have no legal authority to select.

5. *It is not enough to consider just one action alternative as BLM often does. The CEQ regulations specifically require that Environmental Assessments shall follow the alternatives language in NEPA.*

40 CFR § 1508.9

"Environmental Assessment":

...

*(b) Shall include brief discussions of the need for the proposal, of **alternatives as required by sec. 102(2)(E)**, of the environmental impacts of the proposed action and alternatives ..."*

(The alternatives requirement is triggered where unresolved conflicts as to the proper use of resources exist, whether or not an EIS is required).

BLM Response:

We did consider alternatives to the proposed action. The IDT had considerable discussion related to three alternatives to the proposed action and determined that detailed analysis of these alternatives would not provide any greater insight than what is presented on page 57 and 58 of the EA. Considering the constraints imposed by law, the direction and analysis contained in the Salem District RMP and EIS and the design features incorporated into the proposed action we feel that there are no unresolved conflicts concerning alternative uses of available resources.

6. *"[O]ne important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences" of a proposed action. Robertson, 490 U.S. at 351. As one aspect of evaluating a proposed course of action under NEPA, the agency has a duty "to study all alternatives that appear reasonable and appropriate for study... , as well as significant alternatives suggested by other agencies or the public during the comment period."*

BLM Response:

See responses to # 3, 4, and 5 above. We did consider alternatives suggested by you during the scoping process. The design features in the proposed action effectively mitigate most adverse environmental consequences. NEPA requires analysis of reasonable alternatives, and reasonable alternatives are those that respond to the Purpose and Need, are technically and economically feasible, are consistent with the basic policy objectives for management of the area (RMP) and are not substantially similar in design and effects to an alternative that is already analyzed. Several of the alternatives proposed by the public did not meet the criteria of a "reasonable" alternative.

REGENERATION HARVEST

7. *We appreciate the BLM is focusing on younger stands instead of mature stands over 80 years.*

If BLM persists in its ill-considered plans for regen harvest, we urge that they mitigate adverse effects by adopting the following guidelines:

- *Avoid road construction; inaccessible areas should be included in the untreated portion of the landscape mosaic;*
- *Provide wider stream buffers adjacent to regen harvest;*
- *Mimic natural processes by retaining generous amounts for woody structure, both live and dead trees, and both clumped and dispersed across the entire treatment unit. No area larger than 1 acres should be devoid of trees.*
- *Retain all large trees;*
- *Retain all non-conifer tree species and all non-Douglas fir conifers;*
- *Retain all trees with wildlife character such as forked tops, dead tops, leaning;*
- *Do not replant conifers;*
- *Treat non-native weeds if necessary to promote diverse native vegetation after harvest;*

BLM Response:

The BLM plans to do many of the things you suggest. No regeneration harvest would occur with 240 feet of any stream; 16 – 25 trees per acre would be left, mostly in clumps with an average of 4-6 per acre scattered between clumps; retained trees would favor large trees and trees desirable for wildlife, especially for the scattered trees; all existing coarse wood as well as newly introduced coarse wood would be retained (EA pp. 40-43). New road construction would occur to access harvest units in order to meet land use allocation objectives, of which 93% would be permanently decommissioned and replanted after use. Because most of the treatment areas are Matrix lands it would not meet objectives to retain all hardwoods and non-Douglas fir species or to forego replanting.

8. *BLM lacks a compelling rationale for regen harvest, especially in this watershed where late successional forests are in extreme deficit. After considering all the new information about the reduced value of wood production and the increased value of conservation in the 20+ years since the RMP was approved, BLM should instead variably thin these stands to achieve higher priority ecological goals, and produce wood as a by-product.*

BLM Response:

Recent timber sales have commanded high prices indicating that demand for wood is high. The O&C Act governs the BLM lands analyzed in the East Fork Nehalem Project and requires sustained yield management of timber to be cut and sold. Regeneration harvest is compelling in landscapes allocated to timber production because it is much more economically efficient for wood production. It should be noted that our regeneration harvests would not be devoid of trees but would leave 16 – 25 trees per acre, which will confer ecological benefits to the watershed into the future.

9. *BLM failed to use the detailed scoping comments we submitted (June 19, 2014) to identify significant issues with regen harvest, in particular the question of whether the RMP is up to date.*

BLM has a continuing duty to ensure that its RMP is up-to-date and to consider new information and changed circumstances that render RMP goals related to regen harvest undesired and unneeded. We incorporate our scoping comments by reference and urge BLM to more carefully consider all the issues raised.

BLM Response:

We considered your scoping comments as we developed the East Fork Nehalem Project and included many of your points in issues that we analyzed including, habitat destruction and fragmentation (EA p. 97), soil erosion (EA pp. 84-93), soil compaction (EA pp. 112-116), degraded water quality (EA pp. 112-116), future snag recruitment (EA pp. 80-84), edge effects including blowdown (EA pp. 72 and 105), rain-on-snow effects including peak flows (EA p. 14), degraded scenic values (EA pp. 21-22), release of sequestered carbon pools (EA p. 21), and increased fire hazard (EA p. 20). We also considered other public comments imploring us to do more regeneration harvesting. The BLMs authority and mandate to manage public lands is governed by Federal law and its Resource Management Plan, which for us is the Salem District RMP of 1995. We have used the best available science in analyzing the effects of the East Fork Nehalem Project, but “updating” the RMP is beyond the scope of the project. A new RMP has recently been released for public comment. Because planning for the East Fork Nehalem Project began several years ago, its objectives and implementation would be guided by the 1995 RMP.

10. *The draft FONSI errs when it says that regen harvest is not significant because “no late successional forest would be harvested.” Regen harvest is significant because it will prevent stands from developing late successional characteristics, and this will occur in a watershed where late successional forests are extremely rare.*

BLM Response:

Within the context of NEPA *not growing* late succession forest is not a significance factor. The RMP allocated the area where the East Fork Nehalem Project would occur primarily to timber management while designating other lands primarily to the development of late succession forest. What little late successional forest exists on BLM land in the analysis area would be unaffected by the project.

11. *Currently, only 1% of the East Fork Nehalem watershed is suitable spotted owl habitat. And, at the North Coast province scale, spotted owl habitat is in short supply due to the shortage of federal land. Regen harvest that prevents mid-seral stands from developing into northern spotted owl habitat should be discouraged.*

BLM Response:

Your comment is an opinion that is not supported by our RMP or by the US Fish and Wildlife Service. We have consulted with the US Fish and Wildlife Service regarding our proposed actions in the East Fork Nehalem Project and they agree with us that our action would have only small effects to very low quality habitat that is not likely used by spotted owls.

CUMULATIVE IMPACTS OF GHG EMISSIONS MUST NOT BE MINIMIZED

12. *The draft FONSI is in error that the carbon storage effects of this project are insignificant. This project will contribute to globally significant cumulative effects.*

The agency may argue that logging a few small patches of forest won't make a difference in the global scheme of the climate problem, but as Voltaire said, "No snowflake in an avalanche ever feels responsible." The NEPA analysis must recognize that global warming will not be solved by one miraculous technological fix or by changing one behavior or one economic activity. The whole global carbon cycle must be managed to reduce carbon emissions and increase carbon uptake. Recent evidence supports the conclusions that all net emissions of greenhouse gases are adverse to the climate. None can be considered de minimus.

BLM Response:

Greenhouse gas emissions as it relates to climate change is an inherently global concern. We have reported our modeled estimate of carbon changes associated with this project and we have reported the estimated size of that contribution relative to global forest carbon stores for context. The findings are that the emissions are so tiny relative to global emissions as to be meaningless and unhelpful to the decision-maker and therefore not required to be discussed in detail in the EA (Hapner v. Tidwell, 621 F. 3d 1239 - Court of Appeals, 9th Circuit 2010). Moreover, The U.S. Geological Survey, in a May 14, 2008 memorandum to the U.S. Fish and Wildlife Service, summarized the latest science on greenhouse gases and concluded that it is currently beyond the scope of existing science to identify a specific source of greenhouse gas emissions or sequestration and designate it as the cause of specific climate impacts at a specific location. This defines the spatial scale for analysis as global, not local, regional or continental. Finally, IBLA found in *POWDER RIVER BASIN RESOURCE COUNCIL, 180 IBLA 119*, decided November 2, 2010 that... "declining to posit a precise correlation between specific climatological changes or the environmental impacts thereof attributable to projected greenhouse gas emissions from the particular project, does not fall short of NEPA's "hard look" requirement for promoting informed decisionmaking, where evidence in the record as to the state of the science confirms the speculative nature of such impacts".

13. *The draft FONSI is in error when it says that the effects of logging and no action would be similar after 35 years. The draft FONSI makes the error of comparing carbon storage before and after logging, instead of with and without logging. If these stands are not subject to regen logging they will grow quick significantly and remove a lot of additional carbon from the atmosphere.*

...The EA (p 21) says "We also found that after about 35 years the growth of the residual and planted trees, coupled with the carbon stored in products developed from the proposed action that the level of carbon sequestered and stored would be at a level similar to the No Action alternative after 35 years." This is confusing and may be a typographical error with significant difference of effects. It is simply not plausible that carbon accumulation on logged sites would catch up with the carbon accumulation on unlogged sites after just 35 years. The EA failed to "show the math" to support this unexpected conclusion. It typically takes much longer to repay the "carbon debt" associated with logging green growing forests...

...Even if it was true that the carbon accumulation on logged forests caught up with the carbon accumulation on unlogged sites, it remains that the climate effects may be significant during the

35 years period that the extra carbon was in the atmosphere. BLM has not explained how those 3.5 decades of climate effects would be mitigated...

BLM Response:

See response to previous comment regarding the efficacy of determining effect to climate change from our project. Regarding carbon storage and emissions, we modeled the proposed action alternative (with logging) and also modeled the no action alternative (without logging) over the same time period. In fact, our modeling does show that about 35 years after implementing the proposed action the stored carbon would be equivalent to that stored in the same forests if no harvesting occurred (the model runs are contained in a specialist report that is part of the project record). There are several things to keep in mind, most of the harvest treatment acres would be thinnings leaving and releasing the largest trees to grow more rapidly, many of the acres of forest proposed for regeneration harvest are currently underproductive due to poor stocking, disease, or are heavily stocked with hardwoods that don't have the biological capacity to store carbon like conifers, and we are leaving 16 – 25 trees per acre in the regeneration harvest units, including many of the largest healthiest trees. In addition, after 35 years, we expect that the regeneration harvest acres would have about 25,000 board feet to the acre resulting from the replanted trees, which would be poised to gain more volume quickly, and the trees underplanted or released in the riparian reserves would also be contributing wood volume. Moreover, when one adds in the carbon that is in long-term storage as finished products, or is stored in landfills, or that resulted in energy capture (substitution for fossil fuel burning), it is not surprising that the acres harvested in East Fork Nehalem would be back to a net positive at about 35 years.

CLIMATE CHANGE IS AN ENVIRONMENTAL JUSTICE, HUMAN RIGHTS ISSUE, AND HUMAN HEALTH ISSUE

14. *The draft FONSI errs when it says that this project will not cause health and safety concerns. NEPA and various executive orders require agencies to consider the effects of their actions on environmental justice and human rights. ... To the extent that this project causes net carbon emissions and contributes to global warming, this project will adversely affect human health and safety. The IPCC expects heat waves, floods, storms, fires, and droughts related to global warming to contribute to increased rates of death, disease, and injuries for millions around the world. The agency should review, disclose, and consider the human health effects of climate change...*

BLM Response:

See response to #12 above. Environmental justice, human rights, and human health were not raised as issues during scoping either internally or by the public. We did not identify any low-income, minority populations, or Native American tribes that would be affected disproportionately by our project (Executive Order 12898). Because the current state of the science is such that we cannot link specific sources of greenhouse gas emissions to specific causes of climate impacts at specific locations, we are unable to conduct an analysis regarding climate change effects to any specific human populations.

LOGGING RIPARIAN RESERVES

15. *BLM failed to look at wood recruitment as a key issue because logging would only affect a small subset of streams in the sub-watershed (EA p 13). This is an improper analysis. The ACS requires BLM to meet ACS objectives at all spatial scales, including the site scale, which is the scale where fish live.*

BLM Response:

The BLM did consider wood recruitment to stream as an issue but determined that it did not warrant in-depth analysis (EA p. 13). Over 90% of wood recruitment potential would remain at project completion due to the width of no-harvest buffers. Riparian Reserve treatments outside of no-harvest buffers would be thinnings that would leave the best and largest trees, which would further reduce the loss of potential wood recruitment. We have disclosed that there is little possibility of actual effect to in-stream wood potential.

The BLM did consider wood recruitment potential at all relevant scales. We determined that there would be little effect at the site scale, which represents only 3% of the watershed within 240 feet of streams. And, we considered the effect at the watershed scale, which is relevant because, in the case of anadromous fish, the health of the population is far less dependent on the living conditions of any individual fish versus overall habitat conditions for the population as a whole.

16. *BLM also failed to consider the trade-offs associated with 3 acres of clearcuts (for road construction) in riparian reserves. Clearcuts have no value toward ACS objectives. In accessible (sic) areas should be treated non-commercially or left untreated, so that natural processes can operate to create desired ecological conditions in riparian reserves.*

BLM Response:

The BLM analyzed the effects of road construction on the appropriate resources. Road construction in Riparian reserves would occur in approximately 15 scattered segments with more than 27% occurring in the second site-potential tree height Riparian Reserve (>240 feet from streams). Considering the variably spaced nature of riparian thinning, short or sinuous segments of tree removal for temporary roads would be most analogous to more widely spaced, more heavily thinned areas within the larger thinning acreage. We do not consider this level of tree removal to be “clearcut”. Even at the one-acre scale, a temporary road segment passing through would only remove trees from about 14% of the acre.

Our decadal harvest commitment on Matrix lands is based on all acres being available for harvest. That means that there will be cases where we will need to cross through Riparian Reserves in order to harvest timber. This had been considered in the analysis for the RMP. We have taken considerable measures to minimize effects to Riparian Reserves and believe that our project would not have significant effects on Riparian Reserves or the attainment of ACS objectives.

17. *The agency often claims that logging in riparian reserves is necessary to improve attributes other than large wood. However, these benefits are often minor and transitory, and do not outweigh the significant long-term adverse effect of logging on recruitment of dead wood. The agency must focus on the most significant contributions of vegetation toward ACS objectives and the most significant effects of logging on the ACS objectives.*

BLM Response:

Diverse, multispecies, multilayered forest structures are hallmarks of functional late-successional riparian forests and are not minor or transitory. We considered the effect of the East Fork Nehalem Project on dead wood recruitment both inside and outside of Riparian Reserves (EA p. 11, pp. 80-84) and determined that by retaining existing coarse wood and augmenting wood during and after harvest that down wood and snag levels would be similar or better than if we did nothing at all. The prescriptions for treatments in Riparian Reserve are intended to improve the future development of these forests for riparian associated terrestrial species while also allowing for the continued function of the near stream forests as they relate to water quality and stream dynamics.

18. *If the agency intends to log in riparian reserves to increase some nebulous goal like “vegetation diversity and complexity,” then please explain why the biophysical indicators for the ACS objectives do not include any mention of vegetation diversity or complexity.*

BLM Response:

ACS Objective #8: “Maintain and restore *species composition and structural diversity of plant communities* in riparian areas and wetlands...”

19. *The Northwest Forest Plan and its supporting documentation make clear that the primary value of riparian vegetation is as a source of large wood and shade, not vegetation diversity and canopy layering, as often asserted by the agency to justify logging in riparian reserves.*

BLM Response:

The NWFP says - “Under the Aquatic Conservation Strategy, Riparian Reserves are used to maintain and restore riparian structures and functions of intermittent streams, confer benefits to riparian-dependent and associated species other than fish, enhance habitat conservation for organisms that are dependent on the transition zone between upslope and riparian areas, improve travel and dispersal corridors for many terrestrial animals and plants, and provide for greater connectivity of the watershed.”(NWFP ROD p. B-13). Clearly, Riparian Reserves are intended to provide for more ecological benefit than just large wood and shade. Our project would maintain streamside no-harvest buffers on perennial streams sufficient to account for over 90% of wood recruitment potential as well as maintain 100% of the primary shade zone. Outside of the no-harvest buffers in Riparian Reserves, the forest stands would be thinned, not regeneration harvested and would maintain a weighted average canopy closure of 64% (according to the Organon forest growth and yield model), which would maintain most if not all of the secondary shade (EA p. 12).

We think that since over 50% of federal lands in the Coast Range are within the Riparian Reserve land use allocation, and that objectives also include benefitting riparian dependent and associated organisms other than fish, as well as transition zone habitat to improve travel and dispersal corridors, that the proposed action objectives of developing complex forest habitat in Riparian Reserves is an important goal completely consistent with Riparian Reserve objectives.

20. *The Northwest Forest Plan Aquatic Conservation Strategy Objectives (1994 ROD p B-11) enumerates specific purposes for “Maintain[ing] and restor[ing] the species composition and structural diversity of plant communities in riparian areas and wetlands” that is –*

“to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.”

All these values are provided as well or better by unthinned riparian stands.

BLM Response:

We evaluated over 800 acres of Riparian Reserve to determine if the forest stands there are functioning to provide conditions suitable to meet ACS objectives. We found many that were and many that were not. We propose to treat only those stands that could benefit from structural change in order to reset their trajectory onto a path that will develop forests that will better meet riparian ecological objectives. It is important to keep in mind that our treatments along perennial streams would only treat the outer 58% of the Reserves and that there is little likelihood that streamside conditions will be affected by the treatments, despite the fact that some near stream forests could benefit from thinning.

21. *The effects of thinning on crown development are not very significant.*

Aquatic/Riparian Ecosystem Dynamics and Associated Management Implications - Recent Findings. Powerpoint, 32.6M. This topic was presented at the Regional Interagency Executive Committee meeting on January 7, 2003.

http://www.reo.gov/library/presentations/Szaro_present_Aquatic_Rip_Final.ppt

BLM Response:

Chan, in the powerpoint presentation you cite, finds that crown development *is* significant after thinning. The findings indicate that thinning maintains and promotes live crown size, old-growth forest stands are characterized by large live crowns, and unthinned stands lose live crown. Chan’s conclusion is that canopy development responds quickly to thinning. The findings are that 8 years after thinning to 100 trees per acre the amount of available light reaching the forest floor was not different than the control. We believe that these findings support our project and we used them in the analysis.

22. *Stimulating the development of a diverse understory is often used as a justification for thinning, but this may not be justified in stands older than about 40 years.*

BLM Response:

The brush and forb layers of the stands proposed for treatment are already fairly diverse. What is lacking is a developing understory tree layer moving into the mid-story (EA. pp. 62-64). One of the primary objectives of the Riparian Reserve treatments is to change the developmental trajectory of the tree layers and is not especially focused on the development of the understory brush/forb layer

23. *The draft FONSI errs in concluding that “The project will accelerate the growth of trees in the outer portion of riparian reserves which will result in the potential for higher quality in-stream large wood sooner if and when natural processes recruit wood to the streams.” This is misleading because it implies that logging is beneficial to wood recruitment, when just the opposite is true. A more careful analysis will show that any increase in very large wood caused by thinning comes at the expense of a significant and long-lasting reduction in the recruitment of functional wood to streams (and uplands).*

BLM Response:

Whether these stands are thinned or not has little bearing on *actual* wood recruitment to streams. Our statement implies that if some stochastic event results in a given tree being recruited to the stream, it is likely to be larger (sooner) due to thinning, and therefore potentially function better or longer than if it were smaller when recruited. Again, all perennial streams would have 100-foot no-harvest buffers along them, and according to McDade et al. (1990) over 90% of *all* wood, including “functional wood”, recruited to streams in forests similar to ours come from within 100 feet of the stream edge. We have fully disclosed the potential effects of the Proposed Action on coarse wood, including snags and down dead wood on pages 80-84 of the EA.

24. *The draft FONSI failed to consider the cumulative effects of regen logging in the uplands combined with aggressive thinning in the riparian reserves.*

BLM Response:

It is not clear from the comment what effects were not considered. We analyzed the direct, indirect, and cumulative effects of the Proposed Action including effects related to regeneration harvest and Riparian Reserve thinning (EA pp. 71-80). Nothing in the analysis indicated that activities outside of Riparian Reserve would affect actions or conditions inside Riparian Reserves, or vice versa, therefore there would not be effects to analyze cumulatively.

25. *The NEPA analysis should therefore disclose the effects of logging not only on absolute size of wood but on the size of wood relative to stream size and gradient. Dead wood of all sizes is important to streams and riparian function.*

BLM Response:

This comment is not relevant to the East Fork Nehalem Project. We have done a thorough analysis of the effects of the project on coarse wood. Furthermore, with 100-foot no-harvest buffers we are unlikely to have any effect to any sized wood regardless of stream size.

26. *Dead wood is important to both aquatic and terrestrial purposes of the riparian reserves network, so the NEPA analysis cannot just focus on recruitment of wood to streams, but must also address the need to recruit optimal levels of snag and dead wood to meet the needs of terrestrial wildlife (primary cavity excavators, secondary cavity users, amphibians, mollusks, lichen, fungi, etc) which were intended to be benefited by riparian reserves.*

BLM Response:

See response to previous comment. In addition to a thorough analysis of snag and down wood resources, we also analyzed the effects of the Proposed Action on terrestrial wildlife species or groups that have special status or are specifically identified in the RMP for consideration. We analyzed in detail the potential effects on cavity nesting birds (EA pp. 101-104) and discussed the potential for effects to terrestrial mollusks and certain species of bats (EA pp. 18-19).

27. *Rosenfeld & Huato (2003) found that large wood formed pools more reliably than small wood. Wood >24" dbh formed pools 42% of the time, while wood 6-12" dbh formed pools 6% of the time. However, from this one can conclude that the cumulative influence of several pieces of small wood can approach the pool-forming function of large wood. For instance, seven pieces of small wood are just as likely to form a channel-spanning pool as a large piece of wood.*

BLM Response:

The East Fork Nehalem Project includes a minimum 100-foot no-harvest buffer on all perennial streams. McDade *et al.* (1990) finds that over 90% of in-stream wood comes from the first 100 feet of distance from the stream. The East Fork Nehalem Project will have little possibility of affecting in-stream wood, small or large (EA p. 13). While small dead wood has some functionality in streams, Gordon Reeves acknowledges that without large wood, small wood flushes from stream systems (THINNING AND DEAD WOOD: "BEST AVAILABLE SCIENCE" Cheryl Friesen, Science Liaison, December 15, 2009, personal communication with Gordie Reeves). Also, as you point out, Rosenfeld and Huato found that wood smaller than about 12" formed pools in any streams, regardless of size, only about 6% of the time.

28. *Don't make the mistake of assuming that thinning is always consistent with the ACS because it helps grow large trees faster. First, thinning captures mortality and actually delays recruitment of large wood. Second, the agencies often misinterpret the Northwest Forest Plan ROD by confusing accelerated attainment of ACS objectives with ACS compliance. The NWFP ROD actually says that silviculture in riparian reserves is generally prohibited, and allowed only "if needed to attain" ACS objectives, not (as implied by the EA) if needed to "accelerate" ACS objectives.*

BLM Response:

We have thoroughly considered whether the East Fork Nehalem Project is compliant with ACS objectives and found that it is (EA pp. 117-123). BLM does not interpret the language in the NWFP ROD as requiring a showing that treatment is absolutely "needed" to achieve ACS objectives when compared to taking no action and the courts have agreed with us (BARK v. U.S. Bureau of Land Management, 643 F.Supp.2d 1214 (D. Or. 2009)).

29. *The NEPA analysis must reflect accurate scientific analysis such as that presented by the NMFS:*

A strategy of thinning to accelerate the development of a few healthy, large-diameter trees does not translate into more large wood in streams. ... Overall, an unthinned stand will produce a higher number of both live and dead trees across a range of diameter classes and will produce far more dead wood over a much longer time frame relative to a heavily thinned stand. ... The

tradeoff of getting a few more large standing live trees sooner at the expense of a continuous supply of both large and small trees over the long term period always needs to be considered... Managing for large instream wood also results in the creation of large riparian wood and large snags, both of which are beneficial to numerous species other than salmonids, such as cavity nesting birds and certain amphibians...

...Recommendations

- *The USFS and BLM should include all sizes of wood in describing environmental baseline conditions and in analyzing the effects of its proposed actions, not just pieces of wood that are greater than 24 inches in diameter and greater than 50 ft in length.*
- *The USFS and BLM should adjust their tree diameter targets based on stream size. Databased curves are available for both functional-sized and key pieces of wood (e.g., Fox and Bolton 2007).*
- *The USFS and BLM should leave more thinned trees on the ground in riparian areas, particularly close to streams, on floodplains, and on steep sideslopes where some trees are likely to slide down into streams, than are required to meet wildlife needs.*
- *n (sic) order to better portray environmental baseline conditions and to understand the likely effects of thinning proposals, the USFS and BLM should develop stand data separately for riparian and upland forests.*
- *In order to insure adequate recruitment of conifer wood to streams, the USFS and BLM should measure riparian buffers from the outer edge of streamside hardwood forests, where present.*
- *The USFS and BLM should work with NMFS to develop reliable methods of wood recruitment modeling and procedures that could be used routinely in ESA section 7 consultations to promote decisions based on data instead of concepts and generalizations from the scientific literature.*

Recommendations related to thinning in riparian reserves must be reconsidered in light of new information showing that logging does NOT increase the recruitment of functional wood, and the minor increase in very large live trees comes at great cost in terms of a significant reduction in recruitment of functional wood in medium and large size classes (smaller than “very large.”).

BLM Response:

Most of what is included in these comments are not relevant the East Fork Nehalem Project. The proposed Riparian Reserve treatments are not aimed at only growing large trees. The primary need for these stands is the introduction or release of shade tolerant understory conifers that would develop into a multi-layered canopy structure. Larger trees would be a by-product. However as you point out, there are benefits to growing larger trees in riparian stands that can benefit in-stream resources (sometime in the future – possibly) as well as terrestrial resources such as certain wildlife species. No-harvest buffers will assure that the vast majority of potential in-stream wood will be unaffected by the project. We have used the best available science to support our analysis. We considered all sizes of coarse wood not just large wood, and our design features include leaving all reserve trees cut for operational purposes in Riparian Reserves on site (unless there are safety concerns, which would be evaluated on a case-by-case basis). The measurement of riparian buffers is from stream edge. The relevant science measured wood inputs from the stream, not the edge of the conifer forest, and found that less than 10% of the wood found in streams is recruited to the stream from beyond about 100 feet. Regarding reliable methods of modeling wood recruitment, we use caution. We have reviewed the literature on modeling of riparian stands that

would indicate that unthinned stands result in more “large” trees over time than thinned stands. These modelling efforts have been for young dense stands that are thinned heavily, not what is typically done for restoration treatments in the Tillamook Field Office. We also found that what these modeling efforts called a “large” tree (19.7” in diameter) would be smaller than the mean diameter of many of the stands we proposed to treat. If a large tree were considered to be 30” in diameter then the results of the modeling would show that thinning produces far more “large” trees than unthinned stands over a shorter timeframe. This is just one example of why we use caution in relying on models for absolute targets without consideration for how the real situation may differ from the modeled ideal.

The Commenter presented the 15 Key Points from the *Riparian Science Papers* (2013). We used the *Riparian Science Papers* to help inform the analysis in the EA. While the Key Points have little relationship to our project, we will respond to those Key Points where the commenter added comments or suggestions. The portions of the Key Points comments that are in [brackets] were added by Oregon Wild.

30. “... In general, there is very little published science about the effects of thinning on dead wood recruitment and virtually none on thinning effects on wood recruitment in riparian zones. We conducted some limited simulation modeling to illustrate some of the relationships between thinning and dead wood recruitment. The simulations (and comparison of models) were not comprehensive or a rigorous analysis of thinning effects and should be viewed as preliminary. Below we provide 15 key points from our efforts:”

BLM Response:

As noted above, the authors of the *Riparian Science Papers* conducted limited simulation modeling and stated that the results should not be taken as a comprehensive rigorous analysis. In other words, this effort could be viewed as “concepts and generalizations” from the literature (noted in the previous comments), rather than hard, useful, site-specific data.

31. KEY POINT 2. Results may not be applicable to all stand conditions. For this synthesis, many of our conclusions were based on modeling the effects of thinning 30 to 40 year old Douglas-fir plantation stands that range in density from 200 to 270 trees per acre (tpa). We consider such stands moderately dense, as young plantation stand densities range from less than 100 to greater than 450 tpa. In terms of dead wood production, higher density stands are likely to see more benefits from thinning, and lower density stands less benefits. [Portions of this project are probably less dense and less in need of thinning, compared to the very dense, very young stands addressed in this report.]

BLM Response:

This key point would only apply to one stand in the east Fork Nehalem Project (33-25) of which only one acre is within Riparian Reserve. All of the remaining stands are 67-79 years old and have high to very high relative densities but generally less than 200 trees per acres. This demonstrates that the metric of trees-per-acre is overly simplistic and not a good measure of stand density, or relative need for thinning.

32. *KEY POINT 3. Accurate assessments of thinning effects requires site-specific information. The effects of thinning regimes on dead wood creation and recruitment (relative to no-thinning) will depend on many factors including initial stand conditions, particularly stand density, and thinning prescription—it is difficult to generalize about the effects of thinning on dead wood without specifying the particulars of the management regime and stand conditions. [The NEPA analysis needs to provide a site-specific, quantitative analysis to show that silviculture is needed to meet ACS objectives in these riparian reserves.]*

BLM Response:

The EA describes site specific stand histories and current stand attributes on pages 75-79. The EA discloses site specific effects expected from both the proposed action and the no action alternatives also on pages 75-79. The ACS objectives are qualitative and do not prescribe quantities or targets. We feel that we have adequately presented a rationale for why we would treat stands in Riparian Reserves and what we expect the impacts to be (EA p. 28, pp. 118-123).

33. *KEY POINT 4. Conventional [i.e., commercial] thinning generally produces fewer large dead trees. Thinning with removal of trees (conventional thinning) will generally produce fewer large dead trees across a range of sizes over the several decades following thinning and the life-time of the stand relative to equivalent stands that are not thinned. Generally, recruitment of dead wood to streams would likewise be reduced in conventionally thinned stands relative to unthinned stands. [This result is highly relevant to the proposed logging to meet ACS objectives.]*

BLM Response:

This Key Point is not relevant to the East Fork Nehalem Project. We are aware of the modeling that shows that thinning reduces the numbers dead trees in the long term relative to not thinning. We also note that the authors readily admit that there are no empirical studies showing the relationship between thinning and dead wood production and that there are problems matching the modeling output with existing empirical stand data. Interestingly, two of the models used do not show much of a difference in the production of snags between 20 – 40 inches between the thinned and unthinned stands. This is much more relevant considering that pileated woodpeckers, perhaps the most important primary excavator (and considered by some to be a keystone species), require snags at least 25 inches for foraging and nesting and at least 43 inches for roosting and resting (DecAid 2009). Also, The East Fork Nehalem Project would include at least 100 foot no-harvest buffers on all perennial streams, a distance at which McDade *et al.* (1990) found that over 90% of in-stream wood comes from.

34. *KEY POINT 5. Conventional [i.e., commercial] thinning can accelerate the development of very large diameter trees. In stands that are conventionally thinned, the appearance of very large diameter dead trees (greater than 40”) may be accelerated by 1 to 20 years relative to unthinned plantations, depending on thinning intensity and initial stand conditions. Trees of such sizes typically begin to appear 5 to 10 decades after thinning 30 to 40 year old stands. [Note: any small gains in very large trees, comes at the expense of large numbers of large trees, so net benefits to ACS objectives are highly unlikely.]*

BLM Response:

As stated in the previous response, the only real difference in model runs occurs in *small* snags 10-20 inches, not large snags as you infer. There is little difference in 20-40 inch snag production between thinned and unthinned model runs of these young plantations where the data used were the means of three stands (not the empirical data from a range of stands). This Key Point is not relevant to the East Fork Nehalem Project.

35. KEY POINT 6. Nonconventional [i.e., non-commercial] thinning can substantially accelerate dead wood production. *Stands thinned with prescriptions that leave some or all of the dead wood may more rapidly produce both large diameter dead trees in the short-term and very large diameter dead trees (especially greater than 40") in the long-term, relative to unthinned stands. Instream wood placement gets wood into streams much sooner than by natural recruitment, and can offset negative effects of thinning on dead wood production.*

BLM Response:

We understand that if trees are cut and left in place dead wood production would be accelerated. Page 61 of the EA shows that the BLM has completed 216 acres of snag and down wood development in riparian areas within the East Fork Nehalem subwatershed. Under the Proposed Action if any reserve trees need to be cut for operational purposes during Riparian Reserve treatments they would be left on site to augment currently existing dead wood resources. In addition, all existing snags and down wood would be reserved and protected from damage to the extent possible. Leaving all of the trees proposed for removal would not meet the Purpose and Need for the project because it could preclude understory planting of shade tolerant trees, hamper the release and growth of saplings where they currently exist, and may result in an unacceptable build-up of bark beetles resulting in additional stand damage (EA p. 6).

36. KEY POINT 9. 95% of near-stream wood inputs come from within 82 to 148 feet of a stream. *The distance of near-stream inputs to streams varies with forest conditions and geomorphology. Empirical studies indicate that 95% of total instream wood (from near-stream sources) comes from distances of 82 to 148 feet. Shorter distances occur in young, shorter stands and longer distances occur in older and taller stands. [Don't forget: riparian reserves were established to serve both aquatic and terrestrial objectives, and many terrestrial wildlife depend on abundant snags and dead wood.]*

BLM Response:

We recognize that Riparian Reserves are designated to serve both aquatic and terrestrial species. The analysis in the EA shows that there is little likelihood that the proposed project would have any negative effects to the potential for in-stream wood recruitment (EA p. 13).

37. KEY POINT 10. Thinning can increase the amount of pool-forming wood under certain conditions. *Thinning can increase the amount of pool-forming wood only when the thinned trees are smaller in diameter than the average diameter of pool-forming wood (which varies with stream size). [Smaller wood is functional in smaller streams, which means that thinning any commercial-sized trees near small streams is unlikely to advance ACS objectives.]*

BLM Response:

The proposed action includes no harvest buffers on all perennial streams wide enough to assure that over 90% of the potentially recruitable trees would remain (EA pp. 13). Thinning from below in the outer portion of the Riparian Reserve would retain the largest trees and we expect that, based on Organon modeling that crown closure would remain on average above 64%. For these reasons we believe that the proposed project would have little possibility to affect actual in-stream wood recruitment and therefore this Key Point is not relevant to the East Fork Nehalem Project.

38. *The statement in #5 that "thinning can accelerate development of very large diameter trees" should be kept in proper perspective:*

- *The alleged gain in very large trees is very minor, compared to not logging;*
- *The alleged gain in very large trees is overwhelmed by the significant loss of functional wood in smaller size classes (including "large" wood), and even "medium" and "small" wood that serves vital functions in small streams that are typical in most projects; and*
- *The alleged gain in very large trees is in the distant future and more speculative; while the loss of smaller functional wood is in the near-term and more certain. Predicting future mortality in thinned stands is difficult. If the trees do not die and fall down there is no benefit in terms of down wood.*

BLM Response:

See response to 37 above. This is not relevant to the East Fork Nehalem Project, which includes no-harvest buffers adjacent to all streams.

39. *The apparent dissonance between the fact that thinning reduces wood recruitment (#4), but also has the potential to increase production of the very large trees (#5) might be resolved by looking to the right mix of different treatments as suggested in #14 – with some riparian reaches left unthinned to provide for recruitment of large amounts of wood in a range of sizes, some areas thinned non-commercially, and some riparian patches thinned to produce those very large trees. Also, the statement in #10 that thinning can increase pool-forming wood depending on stream size, needs more explanation. Most riparian thinning occurs near small streams where small wood can be pool-forming.*

BLM Response:

Most riparian stands in the vicinity of the treatment units are excluded from harvest. Your comments have focused only on those riparian reserve stands in the analysis area that are planned for thinning while most will not be thinned (only 3% of the stands in the watershed within one site-potential tree height of streams would be thinned). As for thinning non-commercially, to fall and leave enough trees to effectively open the canopy for the establishment of an understory would make underplanting these areas effectively infeasible which would negate an important objective of the project. The project will leave all existing snags and down wood, and add down wood as trees are needed to be cut for operational purposes.

BLM SHOULD EXTEND CMAI BY THINNING

40. *Regen harvest is not needed for stands that have reached CMAI, because CMAI can be extended by thinning, especially in stands dominated by long-lived Douglas fir trees growing on relatively productive sites in the Oregon Coast Range.*

BLM Response:

One of the primary objectives for BLMs Matrix lands is to produce a sustainable supply of timber. Culmination of mean annual increment (CMAI) is simply one of the metrics that is used to help determine if a forest stand should be regeneration harvested to help meet the timber supply objective. CMAI is not an objective in itself. Our Proposed Action does include commercial thinning in stands that show slowed growth but have not reached CMAI.

MARbled MURRELETS

41. *BLM chose not to analyze effects on marbled murrelet as a key issue “Given that only a handful of trees in the 20,000+ acre analysis area are capable of supporting murrelets, all of which are excluded from treatment units by at least 330 feet; that the proposed treatment areas are located approximately 40 to 45 miles from the ocean where there are no known occupied murrelet sites; and that the historical surveys were negative; it is highly unlikely there are any unknown murrelets currently inhabiting the project area or would be expected to occupy the area within the foreseeable future. Therefore, the chances are immeasurably small that the proposed action would affect marbled murrelets” (EA p 18).*

This fails to recognize that in a watershed with such a severe deficit of late successional habitat, restoration of such habitat should be a priority. Regen harvest will prevent or significantly delay the opportunity to restore well-distributed habitat for marbled murrelets. This is a significant effect worth considering more closely. Even though this project may not have direct effect on current habitat, it will foreclose opportunity for future restoration. This can be significant.

BLM Response:

Growing future Marbled Murrelet habitat is not an objective of the Matrix land use allocation. The Purpose and Need for the East Fork Nehalem Project makes clear that the project would respond to the need for helping the Salem District meet its obligation for contributing to a sustainable supply of timber. Riparian Reserve treatments would promote the development of late-successional stands that could be desirable to murrelets; however, even that desirable habitat is unlikely to be used by murrelets due the great distance from the ocean.

MANAGING FOR AN EVEN AGE-CLASS DISTRIBUTION IS ARBITRARY AND CAPRICIOUS

42. *The EA (p 7) says “There is a lack of age class distribution on BLM lands in the subwatershed which has a negative impact on future regulated forest management.”*

- A “regulated forest” is a myth. See Jack Ward Thomas 1997. *The Instability of Stability*, <http://web.archive.org/web/20001201174000/http://coopext.cahe.wsu.edu/~pnrec97/thomas2.htm>. See also: Donald Ludwig, Ray Hilborn, Carl Waters 1993. *Uncertainty, Resource Exploitation, and Conservation: Lessons from History*. Science, New Series, Vol. 260, No. 5104 (Apr. 2, 1993), pp. 17-36. http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/exhibits/swrcb/swrcb_ludwig1993.pdf
- The myth of the regulated forest perpetuates the myth of community stability provided by an even flow of timber. In reality, timber supply and demand are never regular and predictable. The timber industry is inherently volatile and causes community instability. See below.
- There is no public benefit provided by “regulated forest management.” Our forests should not be managed as tree farms. In this biophysical setting with infrequent fire, natural forests will have a right-skewed age-class distribution, with far more old forests and few young forests. Currently we have the opposite – too many young forests. We should be growing more old forests, not create more young forests.

BLM Response:

There may be many reasons why achieving regulated forest management on public lands may be difficult or impossible, but from a strict forest management perspective, it remains a sound practical goal. The Salem District RMP allocates the lands where the East Fork Nehalem Project would occur primarily to timber production and any difference of opinion concerning how to manage these lands is beyond the scope of the project. Without knowing what the future portends, we must look ahead with the expectation that we need to produce a supply of timber into the future. While timber production is a primary goal of Matrix lands, it is not the only objective and we are not managing these lands as “tree farms”. The East Fork Nehalem Project includes design features that would require the reservation of 16 – 25 trees per acre as well as maintaining existing and adding new coarse wood. The replanted stands would be managed without herbicides and management would only involve brush cutting around the seedlings rather than the whole acreage, which would allow for a species diverse early seral landscape. These practices are considerably different from the tree farming practices used by other forest managers.

43. *Why does there need to be an even age-class distribution? The EA (p 12) describes the problem of an uneven age-class distribution as “Currently the age classes on matrix lands are heavily skewed to the 60 – 80 year age classes ... in the future there would be decades where there would be a deficit of appropriately aged timber available for harvest thus negatively affecting sustained yield output required under the O&C Act.” Wood is quite useful whether trees are large or small. In fact, larger-older trees have more wood and more valuable wood than small trees, so the “problem” is too much good wood in the future?? This is a very strange problem to have. There is no need for BLM to engage in controversial regen logging in order to solve a problem like this. The EA erroneously states “regeneration harvest approximately 299 acres ... would contribute to a partial balancing of age classes. Further analysis would not provide greater insight to address this issue and RMP management direction ...” (EA p 12). The RMP standard is designed to avoid situations where BLM logs too much and leaves too many young forests and causes a future shortage of wood, not a situation where BLM retains more growing forests and causes a future abundance of wood.*

BLM Response:

The BLM manages forests intended for timber production on a rotation basis using scientifically accepted parameters (CMAI, unless there are other factors causing under-productivity) for determining when to harvest a forest stand and replace it with a new young stand. Allowing stands to continue to grow beyond CMAI would not meet the intended purpose of Matrix lands, which is to continuously supply timber. By and large, milling facilities are no longer capable of handling large diameter logs so growing that size material over a much greater time period would not meet the intent of the land use allocation or the Purpose and Need for the project.

44. *Why does BLM exclude private land from the age class distribution? The timber industry obtains raw material from both public and private lands. There is (sic) already too many young stands on non-federal lands in this area. There is no compelling need to create more young stands on federal lands.*

BLM Response:

Table 10 of the EA shows the age class distribution of stands on all lands, including non-BLM lands, and the cumulative effects analysis on page 79 discloses the effects of the BLM harvest relative to all forest stands in the analysis area, including those on non-BLM lands.

45. *Why does there need to be an age-class distribution at the sub-watershed scale? The timber industry obtains wood from many different sub-watersheds.*

BLM Response:

There does not necessarily need to be an even age class distribution at the sub-watershed scale. However, the age classes should be distributed geographically over the Matrix lands such that administrative units can effectively plan and manage a timber sale program. The Tillamook Field Office manages about 16,000 acres of matrix lands, mostly in the part of the state that encompasses the East Fork Nehalem sub-watershed. For analysis purposes the sub-watershed was chosen because it is a large enough area of BLM land to effectively carry out planning actions. We are aware of the age class distribution of forests on all Matrix lands in the Tillamook Field Office and the distribution is similar to that found in the East Fork Nehalem sub-watershed (EA pp. 11-12).

NEW INFORMATION REQUIRES MODIFICATION OF MATRIX OBJECTIVES.

46. *The purpose of this project is to produce timber to contribute to community stability and meet RMP objectives. (EA p 6). There is new information indicating that producing timber does not enhance community stability, in fact it may destabilize communities because the timber industry is inherently volatile.*

There is a trade-off between ecological objectives and timber objectives, and new information indicates that these trade-offs are becoming more acute. Before sacrificing older forests in order to produce timber, the agency needs to carefully consider new information developed since the Northwest Forest Plan was adopted in 1994. Several significant new developments indicate a

need to increase emphasis on conservation and restoration of more mature & old-growth forests, and reduced emphasis on Matrix objectives such as timber production from logging of mature & old-growth forests. Unfortunately, the agencies have not taken steps to account for new information and adjust Matrix objectives accordingly.

BLM Response:

The lands where the EFN project would occur are Federal lands managed under the O&C act. That Federal law mandates that these lands be managed for timber production and the RMP is our publicly vetted plan for managing those lands. We, at the project level, do not have discretion to modify objectives of the RMP therefore this comment is beyond the scope of the East Fork Nehalem Project.

RED TREE VOLE

47. *The draft FONSI errs when it says there would be no effect on red tree vole because there is no suitable habitat. It is more accurate to say that there is no high-quality habitat that triggers surveys under the RTV protocol. In fact, red tree vole do sometimes use habitat like that proposed for logging in this project, and red tree vole in this watershed are warranted for listing under the Endangered Species Act. This project may cause significant effects because there is significant uncertainty whether occupied but unsurveyed red tree vole sites may be degraded or removed by logging.*

The EA errs when it says there would be no effect on red tree vole because 90 acres of purposive surveys were conducted in this watershed and found no voles. This fails to recognize (1) that RTV use a variety of habitats, (2) that vole populations tend to be patchy in their distribution, especially in this province, so the survey effort must be large in order to draw conclusions with a high degree of confidence., and (3) RTV are difficult to find and surveys often result in false-negatives. This adds significant uncertainty to the conclusion that voles are not present.

Ground-based transects are unreliable because many RTV nests are not visible from the ground. The survey protocols are supposed to determine presence or absence of voles with a high degree of confidence. The RTV survey protocol fails to do this...Swingle found that only about 45% of known nests are detectable from the ground. Even fewer nests will actually be detected when the survey area contains nests are not already known.

The fact that the agency found so few Red tree vole nest is highly suspect. The protocol says that Red tree vole populations tend to be clumped (protocol at page 3). They appear to be a colonial or semi-colonial species that move from nest to nest over the course of several weeks. (protocol at page 7).

Even if RTV surveys are not required by the survey and manage protocol, BLM should conduct surveys based on ESA policies to avoid trends toward listing and NEPA policies requiring informed decision-making.

Since the red tree vole is important prey for Threatened spotted owls, the BLM should have disclosed the presence or absence of red tree vole in order to comply with NEPA and the ESA.

The agency cannot make an informed decision on how this project affects spotted owls survival and recovery without knowing if red tree vole population may be killed by this project.

We also urge the agency to fulfill the NEPA mandate for informed decision-making by surveying for red tree vole, and we urge the agency to fulfill the ESA mandate to conserve Threatened spotted owls by buffering and protecting red tree voles sites (i.e. spotted owl prey).

BLM Response:

The East Fork Nehalem Project area does not contain habitat for red tree voles and therefore does not require surveys. While it is true that red tree voles have been found occupying younger stands, they tend to be younger stands near older stands. The East Fork Nehalem area has a disturbance history that makes occupation by red tree voles very unlikely. The whole watershed has been logged and burned repeatedly beginning in the mid-1800's. There is no remaining intact late-successional forest, only small remnant patches of mature forest with the occasional old-growth seed tree. We searched the best habitat in the sub-watershed hoping to find an extant population but no red tree voles were found. We searched that habitat by climbing the trees, not just ground surveys. The nearest known red tree vole sites are in the Nestucca drainage 38 miles southwest of the project area, south of the areas burned by the Tillamook Burns. No sites have been found in any of the Tillamook Burn areas. Therefore, as explained in the EA, due to the tree vole's poor dispersing capabilities it is not likely that any could move in from other population source areas. Regarding the importance of red tree voles to spotted owls, Eric Forsman, noted spotted owl and red tree vole biologist found that red tree voles made up 6% of prey items for spotted owls in the north Coast Range (compared to 42% for flying squirrels), and only 1% of their diet by mass. So even if there were spotted owls in the East Fork Nehalem Project area, the lack of red tree voles would be of little consequence to them.