Decision Notice
& Finding of No Significant Impact
Middle Santiam Thin

USDA Forest Service
Sweet Home Ranger District, Willamette National Forest
Linn County, OR

Proposed harvest units are located in T 12 S, R 5 E, Sections 25-29, 34 and 36; T 12 S, R 6 E, Sections 29, 30 and 32; T 13 S, R 5 E, Sections 2, 10, 12 and 24 and T 13 S, R 6 E, Sections 6, 8, 17, and 18, Willamette Meridian

Decision and Reasons for the Decision

Introduction

The Middle Santiam Thin Environmental Analysis (EA) documents the analysis of two alternatives to commercially thin young, densely-stock, managed stands in the Donaca and Headwaters Middle Santiam subwatersheds on the Sweet Home Ranger District of the Willamette National Forest, as well as a No-Action alternative. The environmental document discloses the direct, indirect and cumulative environmental impacts that would result from the proposed action as well as alternative ways of achieving project objectives.

This Decision Notice identifies the alternative that the agency has chosen to implement as well as the rationale for selecting that alternative. The Finding of No Significant Impact (FONSI) documents why this action will not have a significant effect on the human environment and documents consistency with applicable management direction, laws, regulations, or executive orders that apply to the decision being made. It also explains why an environmental impact statement is not necessary for this project.

Background - Why here? Why now?

Recommendations from the Middle Santiam Watershed Analysis (1996) identified thinning in managed stands as a way to improve structural diversity in both the Middle Santiam River corridor and in the Headwaters Middle Santiam subwatershed (*WA, page* 77). It also recommended thinning in managed stands in this portion of the watershed to meet timber harvest objectives in the next decade (*WA, page 76*).

Between 1999 and 2001, queries were made of the district's Geographic Information System (GIS) database of managed stands in the appropriate age ranges for commercial thinning in this watershed and elsewhere on the district. Time was spent ground-truthing these queries and determining when the identified stands would be ready for thinning. Areas were prioritized across the district and those areas most in need of treatment were placed highest on the list of projects needing to be accomplished on the district. Stands in this watershed were prioritized for harvest in about 2007.

The managed stands identified for treatment in this watershed are 30-60 years old, a time when they are most responsive to thinning. In addition, these stands are also showing signs of decreased growth and vigor due to inter-tree competition of light, space and nutrients so they are in need of thinning. Furthermore, the watershed analysis identified a need to develop structural diversity in managed stands

here (*WA pages 77 and 79*). Research has shown that "the options for accelerating forest development may diminish substantially if stands are not thinned when young." *(EA pages 27-30)*.

So given that the age of the stands is optimal to respond to thinning; the stands show a need for thinning as evidenced by inter-tree competition; and a need has been identified to develop structural diversity in these managed stands; the stands proposed for treatment are good candidates in this area and at this time.

The stands being considered for this project.

The managed stands being considered for treatment in this project have average diameters of 9-13 inches and heights of about 70-80 feet. They are predominantly Douglas-fir with lesser amounts of western hemlock, silver fir, noble fir, western redcedar, and Pacific yew with some big leaf maple and red alder. These stands were clearcut between 1949 and 1978 and most were broadcast burned and planted. They contain little or no legacy downed wood or snags because of past harvest practices. Currently the stands average about 270 trees per acre and are beginning to see effects of overcrowding such as reduced stand vigor and mortality (*EA pages 9 and 10*).

When these stands were initially harvested and reforested they were planted densely with the idea that they would be pre-commercially and commercially thinned as they grew and started to crowd each other and compete for light and nutrients. Management of these stands was aimed at maximizing tree growth to provide a sustained yield of timber commodities over time, while also meeting various multiple use objectives (*EA pages 9 and 10*).

With the designation of Critical Habitat (CHU) for northern spotted owls and the Santiam Area of Concern (AOC), the objective for management of these stands has changed. Now the goal is to provide primary constituent elements of nesting, roosting and foraging habitat for spotted owls in the CHU and at a minimum dispersal habitat in the AOC. The change in management direction here responds to the listing of the northern spotted owl as a threatened species (*EA pages 16 and 17*).

Purpose of the Project

The proposal is to commercially thin about 1550 acres of young, densely-stocked, managed stands to accomplish the following objectives:

- to increase growth and vigor of the remaining trees;
- to accelerate development of structural and compositional complexity in the stands; and
- to contribute commercial wood products to the district's harvest target for fiscal years 2007-2009 (*EA page 25*).

Proposed stand treatments are intended to improve habitat conditions, habitat function and connectivity within the Critical Habitat Unit (CHU) for northern spotted owls, the Middle Santiam River Corridor and the Santiam Area of Concern (AOC) (*EA pages 26-27*). An additional purpose is to meet Aquatic Conservation Strategy Objectives by improving stand health and vigor and enhancing tree growth to accelerate development of larger trees which will eventually provide better shade for streams, moderate microclimate, improve overall structural diversity, and provide future sources of recruitment of large wood for streams (*EA page 26*). Finally, about 12 acres would be thinned to promote stand health and

vigor on an active earthflow to encourage the potential for long-term stability of the earthflow (*EA page 29*).

Need for the Project

The action is needed because these young, overstocked, managed stands are beginning to experience a slowing of growth due to inter-tree competition for water, nutrients and sunlight (*EA page 27*).

In addition, because of the checkerboard ownership pattern in the analysis area, the Middle Santiam Watershed Analysis recommended that the Middle Santiam River Corridor be developed to connect habitat with the Late Successional Reserve RO 215 to the south. (*EA page 21*). The stands proposed for treatment in this area do not yet meet desired conditions to provide an "interior old-growth" habitat connection to the Late Successional Reserve (LSR).

Furthermore, the stands in the CHU do not currently meet the tree size or compositional and structural habitat conditions desired in critical habitat (CHU) for northern spotted owls. In addition, the stands in the Santiam Area of Concern (AOC) are currently providing poor quality dispersal habitat which affects the ability of northern spotted owls to disperse between areas of suitable habitat which is important for genetic exchange and for young owls to move from their natal areas (*EA pages 28-29*).

There is some urgency in developing habitat in young, managed stands more quickly than might occur without treatment to ensure viability of threatened spotted owl populations. Recent research indicates that "if the plantations in …owl habitat areas are treated with the proper types of thinning and some other management actions, the actions may accelerate the development of some old-growth characteristics by decades. Some benefits in biological diversity could occur within the next two or three decades" *(Resorting Complexity: Second-Growth Forests and Habitat Diversity. Pacific NW Research Station Science Update 2002).*

Another need for this action is that the lack of complexity in Riparian Reserves makes these young stands poorly suited for supporting many riparian-dependent species and meeting Aquatic Conservation Strategy Objectives of providing adequate stream shade, moderating microclimate and eventually providing sources of large wood for streams (*EA page 29*).

Finally, the stand on the earthflow is beginning to slow in growth and vigor making it more susceptible to insects or diseases and/or fire which could greatly weaken or kill the stand which is important for slope stability on this site. More vigorous trees take up more soil moisture than stagnant stands; in addition larger trees will provide a future source of large wood material for the adjacent stream (*EA pages 29-30*).

The need for habitat development for spotted owls and within riparian areas is somewhat tempered within the primary shade zone portion of Riparian Reserves because the Middle Santiam River, from river-mile 5.3 (Green Peter Reservoir) to 3.7 (headwaters), is a 303 (d) listed stream for temperatures that exceed state water quality standards for salmonid rearing during a portion of the summer. The primary shade zones, which consist of vegetation that intercepts solar radiation and provides stream shade during the hottest part of the day, will not be thinned along the Middle Santiam River and all perennial streams that flow into it. Retention of these shade zones along the Middle Santiam River will aid in the recovery

of water temperatures here while retention of shade zones along tributary perennial streams will ensure that water entering the Middle Santiam River does not contribute to its warming (*EA page 29*).

Decision

Based upon my review of all alternatives, I have decided to implement Alternative 2 as described on pages 46-62 in the EA. Alternative 2 commercially thins about 1549 acres of 30-60 year-old, even-aged managed stands in the Donaca and Headwaters Middle Santiam subwatersheds to increase growth and vigor of residual trees; accelerate development of structural and compositional diversity in the stands; and contributes about 30,980 CCF (hundred cubic feet) to the district's harvest target.

The following techniques would be used to accelerate development of structural and compositional diversity in these stands:

- Occasional small openings (gaps) would be scattered among some of the thinned areas in the uplands to simulate gaps that naturally occur in late-successional stands. These gaps would be planted with cedar;
- Portions of harvest units would be left intact (skips);
- Snags and down wood would be created to increase structural diversity;
- Species and tree size diversity would be encouraged through retention of minor conifer species such as western redcedar, Pacific yew, western white pine and most hardwoods.

Riparian Treatments in the Proposed Action:

- None of the scattered, small openings (gaps) would occur in the Riparian Reserves.
- Portions of Riparian Reserves within proposed harvest units, which are not contributing to primary stream shade or channel bank stability, would be thinned to enhance stand growth and diversity. Thinning in these areas would retain at least 50% canopy closure as required in the *Northwest Forest Plan Temperature TMDL, Implementation Strategies* (Sept. 2005).
- No-harvest buffers of at least 50 feet would be maintained in the primary shade zones along all perennial streams to provide the shading necessary to maintain water temperatures on the 303 (d)-listed Middle Santiam River and its tributaries and to create filter zones necessary to reduce sediment delivery to streams.

Finally, a portion of one harvest unit would be thinned on an active earthflow to increase vigor and tree size within the stand thus affecting the water balance on the earthflow and encouraging more long-term stability here.

These stand treatments would be accomplished using a combination of helicopter, skyline and ground-based yarding systems to harvest a total of 47 units.

To access the proposed harvest units approximately 1 mile of new, native-surface, temporary spur roads would be constructed and approximately 2.2 miles of closed native surface, non-system spur roads that were created during the last harvest entry would be re-opened. These spur roads would be closed with berms, scarified and seeded following timber harvest. In addition, twenty roads, totaling 36 miles, would

require various maintenance activities such as spot rocking, brush cutback to provide a safe site distance, road blading, and ditch cleanout. Another 37 miles of road reconstruction would be required. This would include ditch culvert replacement, grubbing/brushing, slump repair, danger tree removal and repairing a hole in the road.

Design criteria and mitigation measures (*EA pages 57-58 and 70-74*) include: snag and down wood creation, fuel reduction treatments in high risk areas, buffers on special habitats, various measures to minimize soil disturbance and compaction, haul restrictions to ease conflicts between logging and recreation traffic, road closures, erosion control, protection of heritage resources, and seasonal restrictions on operations to protect fish, soil and wildlife (***note***: the terms and conditions of the Biological Opinion include a seasonal restriction from March 1 to July 15 on activities within the disruption distance of any known spotted owl activity centers. These terms and conditions were incorporated into the project design criteria/mitigation measures) (*EA, page 70 and Appendix D - Biological Opinion, page 17-19*).

This alternative meets requirements under the amended Willamette Forest Plan and was prepared in accordance with Forest Plan standards and guidelines (*EA page 13-15*). The EA also follows guidance in the Middle Santiam Watershed Analysis, the NW Forest Plan Temperature TMDL Implementation Strategies (September 2005), the Willamette Forest Road Analysis (as amended in 2003), (*EA, pages 13-24 and 237-243* and Appendix 0).

This decision is consistent with all applicable State and Federal laws regulations and policies including the National Environmental Policy Act (NEPA) of 1969; Endangered Species Act (ESA) of 1973; Clean Air Act of 1955 as amended; Federal Water Pollution Control Act (Clean Water Act) of 1972 as amended; Magnuson-Stevens Fishery Conservation and Management Act of 1976,;Wild and Scenic Rivers Act of 1968 as amended; Wilderness Act of 1964 as amended; Executive Order 13186 on Neotropical Migratory Birds; National Historic Preservation Act of 1966 as amended; Executive Orders 11988 and 11990 on Floodplains and Wetlands; Executive Order 12898 on Environmental Justice in Minority Populations and Low Income Populations; Executive Order 13112 on Invasive Species; Oregon State Best Management Practices (BMP's); Oregon Smoke Management Plan; Sufficiency Analysis for Stream Temperatures – Evaluation of the Adequacy of the Northwest Forest Plan Riparian Reserves to achieve and maintain stream temperature water quality standards (*EA, pages 237-243* and Appendix 0).

In addition, the August 1, 2005, and the January 9, 2006, U.S. District Court orders in the Northwest Ecosystem Alliance et al. v. Rey et al (NEA), Civ. No, 04-844, WD Wash. set aside the 2004 Record of Decision (ROD) to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines. The Court re-instated the January 2001 ROD for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, as amended by the 2001and 2003 Annual Species Reviews. The Order allowed projects to continue or be implemented if they complied with the 2001 ROD as amended. As described below, the Middle Santiam Thin project is in compliance with the 2001 ROD (*EA page 118*).

Subsequently, on November 6, 2006, the Ninth Circuit Court of Appeals in Klamath-Siskiyou Wildlands Center et al. v. Boody et al. (Klamath) No. 06-35214 (CV 03-3124 District of Oregon) held the 2001and 2003 Annual Species Reviews regarding the red tree vole were invalid under Federal Land Policy and Management Act and National Environmental Policy Act as to the two Bureau of Land

Management sales at issue in that case. Although the Klamath opinion is specific to the two named BLM timber sales, I believe it is prudent to assure you that for this project this court case that invalidated the 2001 and 2003 Annual Species Reviews survey requirements for red tree vole are not applicable in this project because the small size of the timber proposed for harvest is not considered suitable red tree vole habitat under the 2001 ROD requirements and did not require red tree vole surveys (*EA, page 119 and 121).*

As a result, I conclude that the Middle Santiam Thin Project complies with the January 9 NEA Order and the Klamath opinion by complying with all survey and manage requirements in the 2001 ROD for Amendments to Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, which in this case did not require surveys for red tree voles.

Decision Rationale

I have selected Alternative 2 based on a review of the information presented in this Environmental Assessment including its analysis of the environmental consequences of the various alternatives, proposed design criteria to minimize anticipated effects and other supporting documentation as a basis for making my decision regarding this project.

When compared to the other alternatives (*EA pages 45-79*), this alternatives best meets the purpose and need of the project because it:

- Thins the most acres of young, densely-stocked, managed stands to improve growth and vigor of remaining trees;
- Accelerates the development of both structural and compositional complexity on more acres of CHU, AOC and in the Middle Santiam River Corridor than the other alternatives, and
- Contributes the most volume toward meeting the District's timber target.

In addition, Alternative 2 best addresses the significant issues associated with this project because:

- At best, some of the proposed harvest units are providing marginal dispersal habitat for northern spotted owls in the CHU and the remaining units are not yet dispersal habitat. Treatment of these stands will accelerate the transition from dispersal to foraging habitat and from non-habitat to dispersal habitat. I understand that in units that are currently marginal dispersal habitat, thinning will degrade this habitat in the short-term. As the tree crowns begin to close together again after the thinning, more northern spotted owl habitat will be enhanced over the current condition than would occur in the other alternatives. This short-term trade-off appears to be outweighed by the long-term habitat gains for this threatened species (*EA, pages 99-101*).
- It is the only alternative that treats a stand that includes about 12 acres on an active earthflow to encourage growth and vigor of that stand. After thinning, the stand's increased vigor is expected to maintain or improve stand health as well as to take up soil moisture with greater efficiency than a stagnant stand would, thus encouraging longer-term stability of the earthflow. It will also accelerate development of larger trees that will eventually contribute large woody material to an adjacent stream channel *(EA page 29 and 30*). It was felt that the

short-term risk of possibly adversely affecting slope stability, immediately after thinning, on this earthflow outweighed the risks of not treating this stand and potentially losing these trees, and the stability they provide, to insects, disease and/or fire.

- Unit prescriptions provide for no-harvest buffers along stream channels to protect stream shade. This helps to ensure that project activities do not contribute to increased stream temperatures on 303 (d) listed streams and their tributaries (*EA page 16, 32,49 and 71*)
- The use of a limited amount of helicopter logging allows for treatment of additional acreage that is not accessible to conventional logging systems. In addition, it allows for harvest on the 12-acres on the active earthflow that is not recommended with conventional harvest systems. Finally it allows harvest in unit 36 without reconstructing a stream crossing that could encourage ATV use and vehicular traffic closer to a wilderness area.
- It is an economically viable alternative while also meeting resource objectives (*EA, pages 234-235 and Appendix C),*

Other Alternatives Considered

In addition to the selected alternative, I considered two other alternatives. A description of these alternatives can be found in the EA on pages 45, and 63-69. In addition, a comparison of these alternatives can be found in the EA on pages 76-79.

Alternative 1
No Action

Under the No Action alternative, current management plans would continue to guide management of the project area (*EA page 45*).

Accomplishing the project objectives of increasing growth and vigor of residual trees and accelerating the development of structural and compositional diversity of young, densely-stocked, uniformly-spaced, managed stands under the *No Action* alternative would mean that desired stand characteristics in the Critical Habitat Unit (CHU), Middle Santiam River Corridor and Area of Concern (AOC) would occur passively, without timber management intervention. It is expected that over time, many stands would advance through the natural growth cycle of competition for growing space resulting in growth reductions and eventual mortality of some trees and then expression of further dominance by some trees and development of shade-tolerant canopy layer; and so on until eventually the desired stand characteristics would be attained.

The rate at which these stands develop the desired stand characteristics is not only dependent on growth rates but also on the amount and frequency of natural disturbances such as fire, insects and diseases.

The ***No Action*** alternative provides a basis for comparison to evaluate changes in the existing condition associated with the action alternatives.

This alternative was not selected because it will likely take much longer, perhaps decades longer, to achieve desired stand characteristics than active treatments will. There is also some risk with passive management in these dense plantations. Disturbance events that will likely occur here can either put these

plantations on a “path that leads to complexity” or can begin to unravel the stands depending on a variety of factors. The alternative will also delay contribution to district harvest targets to sometime in the future.

Alternative 3

Alternative 3 (EA pages 63-69) is similar to Alternative 2 in achieving many of the project objectives but it places additional emphasis on economic viability and utilization of conventional yarding systems (ground-based and skyline). Elimination of helicopter logging in this alternative means fewer acres are treated including the portion of the earthflow to improve long-term stability.

This alternative would reconstruct road access to Unit 36 instead of logging that unit by helicopter as it was in Alternative 2. The road access to this unit was removed by a landslide in a storm event in 1996. Once road access is achieved, this unit would be logged with ground-based and skyline systems.

Finally Unit 18 is dropped in this alternative as the trees are small in size and less commercially valuable at this time when not logged in conjunction with the units that use the helicopter landing located in this unit.

This alternative was not selected because it treats fewer acres to improve tree growth and vigor; accelerates development of desired structural and compositional complexity on a smaller area and provides less commercial wood products to the district’s harvest target. In addition, it does not address long-term stability on the earthflow. The road accessing Unit 36 only addresses a small portion of a larger road system which is currently impassable due to washouts and landslides. It may also encourage ATV use and other vehicular traffic in closer proximity to the wilderness.

Public Involvement

The Middle Santiam Thin Project was listed in the Willamette National Forest’s Schedule of Proposed Action (SOPA) starting in the winter of 2006. The SOPA is mailed out to a Forest mailing list of people interested in the management activities of the Forest and is also available on the Willamette Forest website. The SOPA provides a way of informing the public about upcoming projects and keeps them abreast of progress of individual projects.

A scoping letter with a description of the proposed action and additional project area information was sent out in April 2006 to people who had expressed an interest in the project after seeing it in the SOPA as well as the district’s mailing list of individuals, interest groups, organizations, tribal representatives, and other federal and state agencies who have shown interest in similar projects. The cover letter explained the purpose and need for the project, provided a map of the project area, and solicited comments on the proposed action. A copy of the letter and the mailing list can be found in the project record.

The Middle Santiam Thin Project has also been included in the Annual Program of Work Review with the Confederated Tribes of the Grand Ronde on February 23, 2006 and the Confederated Tribes of Siletz Indians on March 15, 2006. No comments have been received specific to the Middle Santiam Thin Project as a result of these meetings.

After the scoping letter written comments were received from Oregon Natural Resources Council (currently called Oregon Wild), a private citizen and the Linn County Board of Commissioners. Copies of these letters can be found in the project record. The following is a brief summary of topics they raised regarding this project:

- Impacts of road construction and reconstruction on various resource values;
- Impacts of thinning on future snags and down wood and using a variety of snag creation techniques to provide diversity of snag and down wood habitat;
- Decommissioning roads in an "unroaded" area;
- Addressing Aquatic Conservations Strategy Objectives separately;
- Controlling populations and spread of invasive weeds;
- Improving habitat in CHU;
- Long-term soil productivity trade-offs with long-term benefits from logging which can cause soil degradation; and
- Providing a full range of alternatives.
- Thinning is needed and will provide habitat diversity lacking in the LSR (although no LSR is being treated with this project).
- There is no reason to extend buffers along streams
- Considering the long list of adverse consequences that would result from this sale, any benefit to riparian areas would be negligible by comparison
- Overstocking and reducing tree vigor are insignificant compared to despoiling and further endangering northern spotted owls, heating up streams, increasing erosion and sediment, generating more weeds and fuel for wildfires.
- The price to habitat for the timber is not worth the monetary gain.

The interdisciplinary team reviewed the written comments and incorporated the concerns into the issues where applicable and appropriate. Information related to these concerns was either addressed in the discussion of the issues and environmental consequences or were used in the project design or in various sections of the environmental analysis, analysis file or Decision Notice.

Using the comments from the public and other agencies, the interdisciplinary team identified several issues regarding the effects of the proposed action. The significant issues included:

- Short-term tradeoffs such as degradation of marginal dispersal habitat and noise and disturbance to northern spotted owls from harvest operations in the short-term with long-term gains in habitat improvement within the CHU (EA page 38-39).
- Short-term risk of adversely affecting slope stability immediately after thinning when compared with potential long-term benefits to the stability of about 12 acres of an active earthflow (*EA page 39-40*)
- The expense of yarding Unit 36 with a helicopter when compared to the cost of a replacing a road that was removed by a landslide in 1996 and the potential environmental affects of ATV traffic and other vehicles in close proximity to the Wilderness (*EA page 40*)
- Use of expensive helicopter yarding systems on small size timber allows treatments of some areas that are not accessible to conventional yarding systems to accomplish project objectives with minimal environmental impacts. On the other hand, it makes the timber sales less desirable to purchasers. If the sale is not sold then none of the project objectives are realized. (*EA page 41*).

To address these concerns, the Forest Service created the alternatives described above.

A legal notice appeared in the Eugene Register-Guard (the newspaper of record) on April 2, 2007 advertising the 30-day public review of the draft environmental assessment. In addition, letters were sent to interested publics. Three individuals/organizations commented on the project. A draft environmental assessment was posted on the Forest Website and was available to download from the Forest website or could be viewed directly from the forest website. It was also made available at the District Office or was mailed in hardcopy to those who requested it. Comments received during the 30-day public review of the draft EA and responses to those comments follow:

Comment #1 – All *timber sales should be economically viable. We are happy to see that the USFS is using appropriate harvesting systems to achieve an economically viable sale and increase revenues to the government.*

Response to Comment #1: Each stand was examined to determine the appropriate logging systems to meet a variety of resource protection requirements. The most cost-effective system that met these resource objectives was prescribed in both action alternatives. Both action alternatives show a positive cost/benefit ratio and would be economically viable projects (*See EA pages 234-235 and Appendix C*).

Comment #2 – *The sale is located within big game emphasis areas. It is important in these areas, that elk habitat adequately incorporate the importance of nutritional needs and does not overemphasize the importance of thermal cover. The Wisdom Model shows extremely low forage values within the project area. Thinning treatments do not provide the quantity or quality of forage that would be sufficient to sustain wild ungulate populations. Look for opportunities to enhance elk forage and habitat in this area.*

Response to Comment #2: Units proposed for harvest are located within Bachelor and Tommy Big Game Emphasis Areas (BGEA). About 2/3 of the units are in Bachelor, which is a low emphasis area for big game. The other 1/3 of the units are in Tommy, which is a moderate emphasis area.

In the Bachelor BGEA forage quality is marginal in summer range and possibly non-viable in winter range but according to the Forest Plan standard and guideline FW-135 "Habitat effectiveness may show decreasing trends within Low Emphasis Areas" (*Forest Plan, page IV-67*). Tommy BGEA, which is moderate emphasis forage quality, is viable in summer range and marginal in winter range. Since private lands are not taken into account in these calculations, there may be better forage quality in this checkerboard ownership area than these figures show. In addition, thinning and small gaps in some units allow more sunlight to reach the forest floor promoting some shrub and herbaceous vegetative growth than in unthinned stands (*EA page 133*). In addition, there are several meadows adjacent to proposed harvest units which can provide some forage for these animals.

Although forage values are not optimal in either BGEA, there were other resource concerns which also had an influence on harvest prescriptions for these young stands such as:

- Meeting Northwest Forest Plan Temperature TMDL Implementation Strategies (Sept. 2005) requirements to maintain at least 50% post-harvest canopy closure in secondary shades zones of Riparian Reserves along 303 (d) listed streams and their tributaries (*EA page 16*);
- Meeting project objectives to accelerate development of habitat conditions in critical habitat for northern spotted owls which include moderate to high canopy closures 60-80% (*EA page 28*)
- Requirements for federal agencies to ensure that any actions they authorize, fund or carry out are not likely to jeopardize the continued existence of a listed species, or destroy or adversely modify its designated habitat (*EA page 16*).
- Encouraging the development of dispersal habitat in the Santiam Area of Concern and along the Middle Santiam River Corridor (*EA pages 18 and 21*).

Comment #3 – *Restrictions on season of operation have a cost to the purchaser and result in lower bids for stumpage. The district is encouraged to offer sales that allow winter harvesting on improved roads or allow for roads to be improved so winter harvesting can be accomplished.*

Response to Comment #3: Restrictions on season of operation are implemented judiciously to protect various resource values. For this sale harvest restrictions were proposed:

- during the critical nesting period of the threatened northern spotted owl as specified in the terms and conditions of the Biological Opinion and letter of concurrence received from the US Fish and

Wildlife Service following consultation in accordance with the Endangered Species Act (*EA page 70 and Appendix D*);

- during summer months for activities such as culvert replacements or other in-stream work in fish-bearing or other perennial streams to comply with Oregon Department of Fish and Wildlife requirements to protect fish and their habitat (*EA page 71*);
- on weekends during the busiest part of the recreation season and during the busy hunting season to protect human safety (*EA page 74);*
- to operate ground-based equipment, for the most part during the dry season to minimize effects on the soil resource, especially compaction of the soil (*EA page 72*);
- to haul on native surface roads during the time of year when soil moisture conditions do not result in road surface damage that can lead to sediment washing from roads into stream channels; and
- During periods of high fire danger, when Industrial Fire Precaution Levels reach level 3 (*Timber Sale Contract*).

Not all of these restrictions apply to every harvest unit so some units are available for harvest when others are not. In addition, this area is not usually conducive to winter harvesting operations because of the snow conditions along haul routes.

Comment #4 – *In this area famous for slope instability, new roads and landings are a problem. Units 10 and 19 require road-stream crossings. Units 15, 28, 48 and 49 require the most road construction relative to the area of thinning gained. Where road building is necessary, ensure that the realized restoration benefits far outweigh the adverse impacts of the road. Five new landings in riparian reserves also raise questions.*

Response to Comment #4: With the exception of one unstable area that was intentionally being treated in this project to encourage more long-term stability, these areas have been identified and avoided during project design. Stream crossings are required in units 10 and 19. One of the crossings follows an old skid road and the other improves the crossing over the previous skid road which paralleled the stream channel. These crossing occur on intermittent streams and would be designated, built and protected as per Best Management Practices. These crossing would be perpendicular to the stream channels (*EA page 57*).

In all harvest units the priority for temporary road locations was to use existing skid and haul roads as much as possible. For some units construction of new temporary roads was necessary to access suitable landings in order to log the units with equipment that protects various resource values while also being economically efficient. It was felt that the benefits of thinning these stands outweighed the construction of the temporary roads to access them.

Three of the new landings within Riparian Reserves are on old roads that have been closed and will be reopened during project implementation. The remaining two new landings are on new temporary roads. It was felt that the gains in growth and vigor of these stands outweighed the risks to the Riparian Reserves

from the short-term use of these landings. After harvest activities are completed these landings would be restored through ripping or subsoiling and planting with native seed. (*EA page 75*).

Comment #5 – *Conduct more "pre"-commercial thinning in younger stands, close more roads, control weeds and create more snags and down wood over time. Take proactive steps to avoid the spread of weeds. Use canopy cover to suppress weeds.*

Response to Comment #5: *Pre-commercial thinning* - A query was done of the district's vegetation database to determine which stands within the project area were suitable for pre-commercial thinning. The query resulted about 463 acres of suitable stands. This project proposed to pre-commercially thin these stands if sufficient funding is available from this project (*EA pages 58 and 66 and Appendix B pages 15-17*).

Closing more roads - Within the project area, most roads are shared between adjacent landowners which leaves little latitude to close roads (*Middle Santiam Watershed Analysis page 75*). Some local roads which access only National Forest System lands and where there were no active management projects were analyzed for closure. About 6.45 and 5.75 miles of road were proposed to be closed in Alternatives 2 and 3, respectively (*EA pages 57 and 65).*

Control Weeds - Weed control measures are proposed for this project (*EA pages 70-71*) and include the following:

- Survey to located invasive weed populations and remove/control them where possible in harvest units and along adjacent roads prior to harvest activities.
- Obtain gravel for road surfacing from weed-free rock sources
- Minimize areas of soil disturbance. Disturbed areas would be seeded with native species to reduce weed establishment.
- Close new and re-opened roads to reduce disturbance and introduction of seed from vehicular traffic
- Place no harvest buffers on identified species to minimize disturbance and provide shady conditions which are not conducive to their survival
- Cover landings where scotch broom was identified with filter cloth and gravel to minimize spread.

Create more snags and down wood over time - Snag and down wood creation is planned for this project (*EA pages 49, 58 and 66*). Future snag and down wood creation would be analyzed in a NEPA document at the time of the proposed action.

Comment #6 – When conducting commercial thinning projects take the opportunity to implement other critical aspects of watershed restoration especially reducing the impacts of the road system.

Response to Comment #6: See response to #5 regarding the road system.

Comment #7: *Focus on treating the youngest stands that are most "plastic" and amendable to restoration.*

Response to Comment #7: Stands proposed for treatment are between 30 to 60 years of age. Studies have shown that "trees grown in dense plantations are most responsive to thinning when they are less than 80 years old" as these stands are (*EA page 9*).

Comment #8 – *Generally thin from below, retaining the largest trees. Retain some trees in clumps.*

Response to Comment #8: The proposed method of thinning for these stands accomplishes thinning from below and retains the largest trees. About 40% of the original stands are not proposed to be thinned; these "skips" will retain clumps of trees (*EA pages 48 and 77*).

Comment #9: *Retain and protect under-represented conifer and non-conifer trees and shrubs.*

Response to Comment #9: Western redcedar, western white pine, Pacific yew, and hardwoods (with the exception of alder) would be retained in harvest units to the greatest extent possible. In addition western redcedar large than 10 inches DBH will take precedence over other species when determining tree spacing. Also western redcedar would be planted in created gaps and adjacent to a wetland (*EA page 48 and Appendix B, page 8*).

Comment #10 – *Establish diversity and complexity both within and between stands. Use skips and gaps. The scale of patches in variable density thinning regimes is important. Ideally variability should be implemented at numerous scales ranging from small to large.*

Response to Comment #10: A variation in thinning densities from 50-70% canopy closure is prescribed between stands and skips and gaps are proposed within stands. These treatments will provide some diversity and complexity both within and between stands. In addition, minor species are retained to promote species diversity (*EA page 48, 59-61, 67-68*).

Comment #11 – *Retain abundant snags and coarse wood both distributed and in clumps so that thinning mimics natural disturbance.*

Response to Comment #11: Existing snags and coarse woody material would be protected to the greatest extent possible from disturbance during harvest operations (*EA page 49*). In addition about 965 acres of skips, or unthinned areas, occur within the stands treated in this project (*EA page 61*). Finally, five green trees per acre would be retained on harvest units to be topped for snags and felled for down wood in order to meet Forest Plan standards and guidelines. The combination would help to provide variation in the distribution of snags and down wood to the extent possible during this entry.

The DecAid model showed that "future stand conditions should strive to obtain at least a 50% tolerance level described in the DecAID model in the future. Attainment of DecAid recommendations for snags and down wood would not be possible in a single harvest entry due to the overstocking of small diameter trees in proposed harvest units (*EA pages 86 and 87*).

Comment #12 – *Thin heavy enough to stimulate development of understory vegetation, but don't thin too heavy.*

Response to Comment #12: The intent of stand treatments is to increase habitat complexity, including the development of understory vegetation in most stands. Other requirements such as maintenance of at least 50% canopy closure in secondary shade zones in Riparian Reserves limits how heavily harvest units can be thinned to accomplish understory development.

Comment #13 – *If using whole tree yarding or yarding tops attached to control fuels, top a portion of the trees and leave the greens in the forest to retain nutrients on site.*

Response to Comment #13: Just because tops will be yarded in some units does not mean that every needle and branch will be removed in tact. When trees are felled in the logging operation, branches break off when the trees hit the ground. This will help ensure that some needles and small branches are left on the forest floor to help replenish these nutrients.

Comment #14 – *Avoid impacts to raptor nests and enhance habitat for diverse prey species.*

Response to Comment #14: No raptor nests are known within the project area.

Comment #15 – *Buffer streams from the effects of heavy equipment and loss of bank trees and trees that shade streams.*

Response to Comment #15: No-harvest stream buffers of at least 50 feet were prescribed for perennial streams and buffers that included trees contributing to stream bank stability were prescribed on intermittent streams for this project (*EA page 71 and Appendix A*). These buffers address the above concerns.

Comment #16 – *Make the NEPA analysis transparent and explicit on all these issues.*

Response to Comment #16: Every attempt was made to make the NEPA analysis transparent and explicit.

All correspondence and full text of the comment letters received during both the initial scoping and the 30-day review are available in the analysis file for Middle Santiam Thin Timber Sale at the Sweet Home Ranger District office.

I have reviewed the results and findings of the environmental analysis and the supporting appendices, public comments and responses to those comments and considered them in making this decision.

Finding of No Significant Impact

After considering the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared. I base by finding on the following:

1. My finding of no significant environmental effects is not biased by the beneficial effects of the action.
2. There will be no significant effects on public health and safety, because various design criteria and mitigation measures will be utilized to minimize potential health and safety risks. Examples include:
    - Minimizing risk of traffic accidents by prohibiting log-haul traffic/harvest activities during weekends from Memorial Day through Labor Day when recreational traffic is at its peak. In addition, log-haul traffic/harvest activities would be prohibited during the busy West Cascades Elk hunting season in October (*EA page 74*).
    - Logging/hauling operations would be implemented using standard timber sale contract clauses that meet Occupational Safety and Health Act (OSHA) standards. These contract requirements include such safety items as removing danger trees that could fall on roads where truck haul occurs or having floggers stop traffic when helicopter yarding could potentially drop logs on roads, or removing hazard trees that pose a threat to human safety during harvest operations (*EA pages 49 and 74*).
    - Fuel treatments, which include burning, will be in compliance with the Willamette Forest Plan, the Oregon Smoke Management Plan and the Northwest Oregon Fire Management Plan to ensure compliance with the Clean Air Act (*EA page 213 and 238*).
    - Design criteria, mitigation measures and Best Management Practices utilized in Riparian Reserve prescriptions are consistent with current management direction for protecting water quality including Willamette Forest Plan standards and guidelines, Aquatic Conservation Strategy Objectives at the project level, and the Federal Clean Water Act. Implementation of required Best Management Practices will ensure protection of water quality and beneficial uses (*EA page 238, Appendix H).*
3. There will be no significant effects on unique characteristics of the area, because
    - The areas proposed for ground-disturbing activities have been surveyed and evaluated for the presence of heritage resources. Areas with historic or cultural resources were avoided, buffered, or otherwise protected from the disturbing effects of harvest operations and yet-to-be discovered sites uncovered during project implementation will result in suspension of operations until appropriately addressed by the district archaeologist (*EA page 74, 232, 233, 240*);

- There are no park lands or prime farmlands within, adjacent to, or affected by the project (*EA page 242*);
- Wetlands will be appropriately buffered from disturbance activities (*EA, page 74 and Appendix A*); and
- The Middle Santiam River from T 12 S, R 5 E, and Section 36 west to the Forest boundary is a potential candidate for Wild and Scenic River status. This project will not compromise the creek's "free flowing" nature or degrade identified Outstandingly Remarkable Values that helped determine its eligibility (*EA page 19*).

4. The effects on the quality of the human environment are not likely to be highly controversial. This project is based on the best available scientific information and site-specific data. The methodologies used to estimate the effects disclosed in the Environmental Consequences section of the environmental assessment are widely used in similar environmental analyses and have been reviewed by the research and academic communities. I am not aware of any credible, peer-reviewed scientific questioning of the methods used in this analysis, nor its results. The Sweet Home Ranger District has experience with the types of activities to be implemented.

5. Sweet Home Ranger District has considerable experience with the types of activities to be implemented by this project. Similar types of timber harvest activities, fuel treatments, road work and other connected or similar actions have occurred on this district, this forest, and other National Forests. Samplings of these projects on this district and this forest have been monitored and have been shown to meet the amended Willamette Forest Plan standards and guidelines. In addition, the analysis in this document shows the effects of this project are not uncertain and do not involve unique or unknown risk. (*EA pages 80-245)*

6. The action is not likely to establish a precedent for future actions with significant effects, because the proposed thinning is a common land management practice and the effects of this project are within the standards and guidelines outlined in the amended Willamette Forest Plan (*EA pages 80-245*).

7. The cumulative impacts are not significant (EA pages 147-148, 154, 158-159, 167-168, 175-176, 178, 179-180, 181, 196-197, 211-212, 214-215, 218, 230-231 and 233). The environmental effects analysis section of this EA evaluates the effects of past, present and reasonably foreseeable actions for the various resources affected by this action. The Middle Santiam Watershed Analysis incorporated by reference in the EA (*EA page 21*) provides a contextual basis for cumulative effects in this area. The analysis showed that there were no significant direct, indirect, or cumulative impacts to the various physical, biological and social resources discussed in the environmental consequences section of the EA.

8. The action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, because an appropriate inventory was conducted for properties which may be eligible for inclusion in the National Register of Historic Places and appropriate avoidance measures taken so no effects to

these resources are expected (*EA pages 74 and 232-233 and Appendix M*). The action will also not cause loss or destruction of significant scientific, cultural, or historical resources (*EA pages 74 and 232-233 and Appendix M*).

9. The action will not adversely affect any endangered or threatened species or their habitat that has been determined to be critical under the Endangered Species act of 1973, for the following reasons:

    - No critical habitat for Endangered Species Act (ESA)-listed threatened or endangered plant species exists within the project area or would be affected by the project (*Appendix F - Biological Resources Report (February 2007 and Botanical Evaluation – December 2006*).
    - No critical habitat for ESA-listed threatened or endangered fish species exists in the project area or would be affected by the project (*EA pages 183 and 198 and Appendix G*).
    - There is critical northern spotted owl habitat within the project area and some of this habitat would be thinned. The stands being thinned are not suitable owl habitat. The small timber proposed for treatment is classified as minimal dispersal habitat or is not yet considered to be habitat. Formal consultation with the U.S. Fish and Wildlife Service, on this project, was completed and a Biological Opinion received September 2006. A "not likely to adversely affect" determination was made. (USDI, 2006). The Biological Opinion states that "degrading dispersal critical habitat is not likely to have a measurable effect on the ability of the stand to contribute to the conservation of spotted owls, since primary constituent elements supporting dispersal habitat will be maintained. Although quality of the critical habitat may be diminished, the stand will still be able to support foraging, or sheltering. The stand will maintain a 40% or greater canopy cover in addition to some structural components (snags, clumps of large trees, down wood) to meet existing NEFP requirements" (*Biological Opinion page 75*). The terms and conditions of the Biological Opinion are adhered to in this project (*EA pages 21, 46-62, 70, and 89-107 and Appendix D*)

10. The action will not violate Federal, State, and local laws or requirements for the protection of the environment. Applicable laws and regulations were considered in the EA (*EA pages 13-24 and 237-243*). The action is consistent with the amended Willamette National Forest Land and Resource Management Plan (*EA pages 13-14*).

Findings Required by Other Laws and Regulations

This decision to implement Alternative 2 is consistent with the intent of the Willamette Forest Plan's long term goals and objectives listed on pages IV-2 to IV-44. The project was designed in conformance with Land and Resource Management Plan standards and incorporates appropriate land and resource management plan guidelines for Management Area 14A (General Forest/Matrix) and Management Area 15 (Riparian Reserves) where activities will occur when this decision is implemented (*EA pages 13-14*). A complete explanation of the Management Area goals and objectives, descriptions of the desired

conditions for each area and applicable standards and guidelines can be found in the Willamette Forest Plan, Chapter IV, and the Northwest Forest Plan in Attachment A to the Record of Decision.

It is also consistent with the management requirements in designated critical habitat (CHU) and the Santiam Area of Concern for northern spotted owls.

This decision follows all applicable State and Federal laws, regulations and policies including the National Forest Management Act of 1976; the National Environmental Policy Act (NEPA) of 1969; Endangered Species Act (ESA) of 1973; Clean Air Act of 1955 as amended; Federal Water Pollution Control Act (Clean Water Act) of 1972 as amended; Magnuson-Stevens Fishery Conservation and Management Act of 1976,;Wild and Scenic Rivers Act of 1968 as amended; Wilderness Act of 1964 as amended; Executive Order 13186 on Neotropical Migratory Birds; National Historic Preservation Act of 1966 as amended; Executive Orders 11988 and 11990 on Floodplains and Wetlands; Executive Order 12898 on Environmental Justice in Minority Populations and Low Income Populations; Executive Order 13112 on Invasive Species; Oregon State Best Management Practices (BMP's); Oregon Smoke Management Plan; Sufficiency Analysis for Stream Temperatures – Evaluation of the Adequacy of the Northwest Forest Plan Riparian Reserves to achieve and maintain stream temperature water quality standards (*EA pages 237-243 and Appendix O*).

The environmental assessment also follows guidance in the Middle Santiam Watershed Analysis which was prepared in 1996 in accordance with the Northwest Forest Plan. As directed in the Northwest Forest Plan this watershed analysis was completed prior to the proposed treatments in the Riparian Reserves. The proposed treatments are consistent with findings in the watershed analysis and adhere to Riparian Reserve standards and guidelines at both the project level and at the 5th field watershed level. This project will not retard or prevent attainment of Aquatic Conservation Strategy Objectives outlined in the Northwest Forest Plan (*EA pages 169-182, WA, page 79, and Appendix H*).

Furthermore, the NW Forest Plan Temperature TMDL Implementation Strategies (September 2005) were followed and a sufficiency analysis was completed to ensure protection of "primary shade zones" in order to moderate water temperatures on the 303 (d)-listed Middle Santiam River and its tributaries.

In addition, the August 1, 2005, and the January 9, 2006, U.S. District Court orders in the Northwest Ecosystem Alliance et al. v. Rey et al (NEA), Civ. No, 04-844, WD Wash. set aside the 2004 Record of Decision (ROD) to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines. The Court re-instated the January 2001 ROD for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, as amended by the 2001and 2003 Annual Species Reviews. The Order allowed projects to continue or be implemented if they complied with the 2001 ROD as amended. As described below, the Middle Santiam Thin project is in compliance with the 2001 ROD (*EA page 118*).

Subsequently, on November 6, 2006, the Ninth Circuit Court of Appeals in Klamath-Siskiyou Wildlands Center et al. v. Boody et al. (Klamath) No. 06-35214 (CV 03-3124 District of Oregon) held the 2001and 2003 Annual Species Reviews regarding the red tree vole were invalid under Federal Land Policy and Management Act and National Environmental Policy Act as to the two Bureau of Land Management sales at issue in that case. Although the Klamath opinion is specific to the two named BLM

timber sales, I believe it is prudent to assure you that for this project this court case that invalidated the 2001 and 2003 Annual Species Reviews survey requirements for red tree vole are not applicable in this project because the small size of the timber proposed for harvest is not considered suitable red tree vole habitat under the 2001 ROD requirements and did not require red tree vole surveys (*EA, page 119 and 121).*

As a result, I conclude that the Middle Santiam Thin Project complies with the January 9 NEA Order and the Klamath opinion by complying with all survey and manage requirements in the 2001 ROD for Amendments to Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, which in this case did not require surveys for red tree voles.

Implementation Date

This project would be implemented in fiscal years 2007-2009. Volumes, acreages and mileages discussed in project documents are approximations based upon preliminary project design. Minor adjustments may be made to unit boundaries and unit acreages during unit layout. The Interdisciplinary Team will review any major differences between the proposal in the EA and the final layout to determine if the environmental effects of resulting environmental conditions will be different than those disclosed in the EA. If so, the procedures described in FSH 1909.15, section 18.4, Reconsideration of Decisions based upon an EA, will be followed.

If no appeals are filed within the 45-day time period, implementation of the decision for Middle Santiam Thin may occur on, but not before, 5 business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Administrative Review or Appeal Opportunities

This decision is subject to appeal pursuant to Forest Service Regulations at 36 CFR 215. Individuals or organizations who provided comment during the 30-day document review period may appeal this decision. The notice of appeal must be in writing and fully consistent with the requirements as described in 36 CFR 215.14.

An appeal may be mailed to Forest Supervisor, 211 E. 7th Avenue, Eugene Oregon 97440. Appeals may also be filed electronically at: appeals-pacificnorthwest-willamette@fs.fed.us. Electronic appeals must be submitted as part of the actual e-mail message or as an attachment in Microsoft Word (.doc), rich text (.rtf), or portable document format (.pdf) only. E-mails submitted other than to the above address will be rejected. It is the responsibility of the appellant to confirm receipt of appeals submitted by electronic mail. Appeals may be delivered to the Forest Service office at the street address listed above Monday – Friday (other than legal holidays); between 8:00 am and 4:30 pm. Appeals may be faxed to 541-225-6222, Attn. Forest Supervisor.

The appeal must be postmarked or received by the Appeal Deciding Officer (Forest Supervisor) within 45 days of the date the legal notice of this Decision is published in the Register Guard, Eugene

Oregon. For further information regarding these appeal procedures contact Environmental Coordinator, Neal Forrester at 541-225-6436.

If this project is appealed, the Responsible Official (District Ranger) offers to meet with appellants to attempt to informally resolve the appeal.

Contact

For additional information concerning this decision or the Forest Service appeal process, contact Anita Leach, Planner, Sweet Home Ranger District, 4431Highway 20, Sweet Home, OR 97386, phone (541) 367-3538.

/s/ Mike Rassbach May 29, 2007

MIKE RASSBACH Date

District Ranger

Sweet Home Ranger District

Middle Santiam Thin

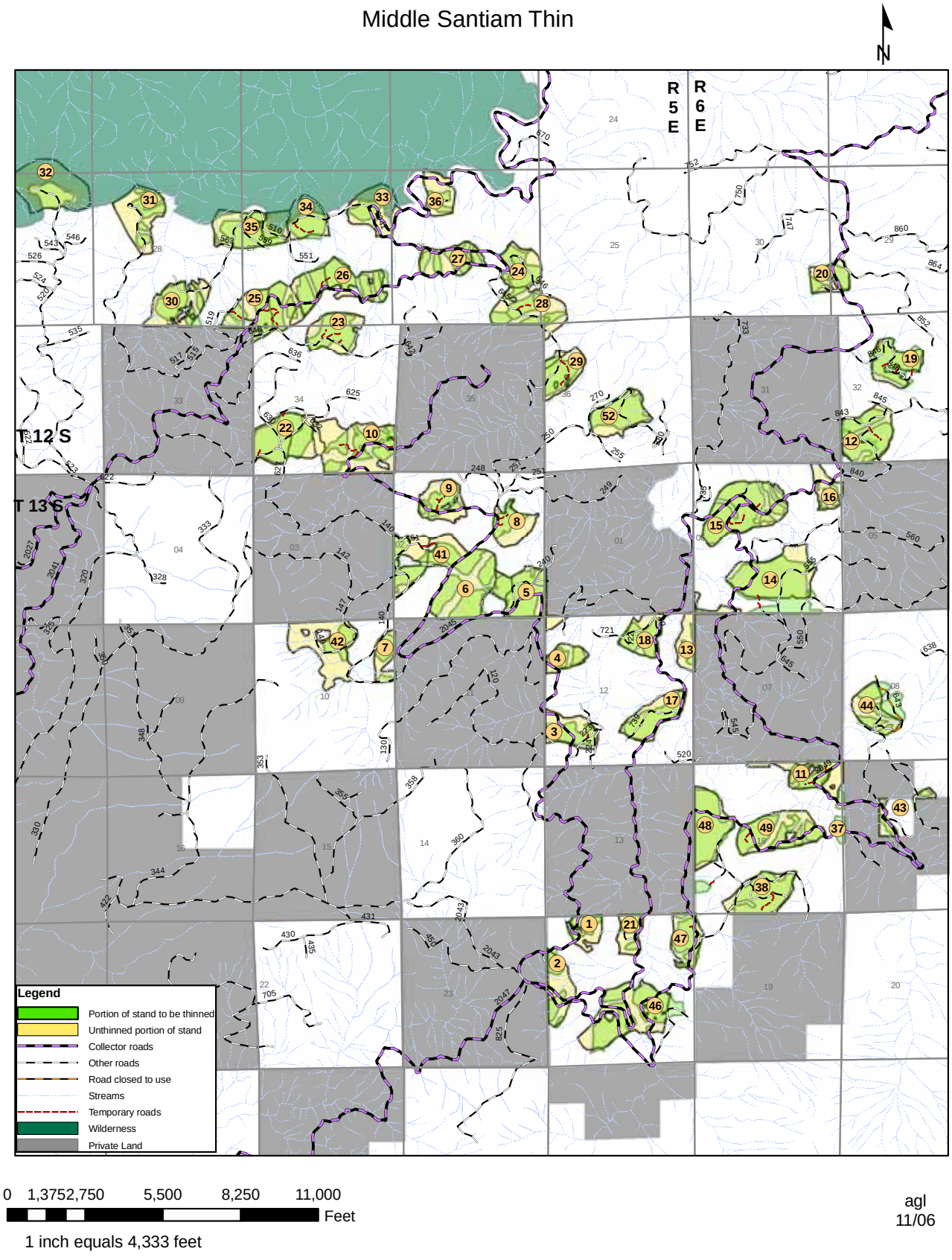

Figure 1. Selected Alternative Map