DECISION NOTICE
And
FINDING OF NO SIGNIFICANT IMPACT

GROVE THINNING

USDA FOREST SERVICE
MT. HOOD NATIONAL FOREST
CLACKAMAS RIVER RANGER DISTRICT
CLACKAMAS COUNTY, OREGON

The Grove Thinning Environmental Assessment (EA) contains an in-depth discussion of the setting, ecological processes, resource conditions, the purpose and need for action, the proposed action designed to achieve the purpose and need, project design criteria, alternatives considered, the effects and benefits of those alternatives and appendices which include detailed maps and a discussion of comments received.

This project is located in T.5 S., R.6 E.; T.5 S., R.7 E.; T.5 S., R.8 E.; T.6 S., R.6 E.; T.6 S. R.7 E.; T.6 S., R.8 E.; Willamette Meridian. All section (s.) number references are to sections of the EA unless specified otherwise. The EA is incorporated by reference and can be found at: http://www.fs.usda.gov/projects/mthood/landmanagement/projects. Acres and miles are approximate since they are derived from GIS. The Mt. Hood National Forest is referred to as 'the Forest' in this document. The Mt. Hood National Forest Land and Resource Management Plan (1990) and Standards and Guidelines, as amended, are referred to as the Forest Plan in this document.

This Decision Notice documents my decision and rationale for the selection of Alternative B with modifications, for the Grove Thinning Environmental Assessment. The Forest proposes to thin approximately 1,756 acres of mid-aged stands ranging in age from 30 to 60 years old. The average tree size in the stands is 13 inches diameter. Variable density thinning is proposed to remove the smaller trees while creating skips and gaps. The following background section is a brief summary to help understand the context of the Grove project. Greater detail can be found in the EA.

Background (s. 1.2)

The proposed project area is located near Ripplebook Guard Station and overlaps two watersheds: the Oak Grove Watershed and the Middle Clackamas Watershed. The planning area encompasses approximately 44,000 acres, while thinning would occur on 1,756 acres of this larger landscape. The project is on the west slope of the Cascade Mountain Range. The terrain ranges from relatively gentle slopes to rugged and steep, with elevations ranging from approximately 1,200 to 4,800 feet. The planning area has a relatively wet, temperate climate.

Road construction and logging of old-growth stands intensified in the mid-1940s in the planning area. A sawmill was in operation in the area that is now occupied by the Timber Lake Job Corps Center. Most of the logging in the area was by regeneration harvest which was subsequently replanted to create the plantations that exist today. Approximately 15,628 acres of forest stands (36% of the planning area) have been converted to plantations. Much of the planning area is in the western hemlock plant association with Douglas-fir being the primary tree species. Most of the large conifer stands in the planning area are

between 200 and 350 years old. The stands of smaller trees are early and mid-seral stands ranging in age from 10 to 60 years that originated primarily from replanting following earlier harvests. In order to access the forest, the project planning area once contained approximately 260 miles of system roads. Approximately 32 miles of these roads have been decommissioned since the inception of the Northwest Forest Plan (1994); therefore, there are currently about 228 miles of roads within the planning area (s. 1.3.1.2).

The project avoids landslide prone areas and thinning would only occur in areas that are considered to be stable by a slope stability specialist. A portion of the watershed has a wide spectrum of stability issues ranging from landslides and debris flows to slow-moving dormant earthflows. Additional discussion of this topic can be found in the Geologic Stability section (s. 3.5). These landforms affect the vegetation that grows there, the condition of streams and fish habitat, as well as roads and the cost of maintaining them. Part of the project occurs on dormant earthflows which are large, very slowly moving landforms with relatively gently sloping terrain, and are very productive in terms of tree growth (s. 3.5.2).

Purpose and Need (s. 1.3)

The purpose of this project is to enhance the productive capacity of mid-aged stands by thinning and to treat a sufficient number of stands to meet Forest Plan goals related to forest product outputs. For more in-depth discussion, refer to sections 1.3.1.3 & 1.3.1.4 and to the detail described below in the next few pages.

- **Health and Growth** - There is a need to increase health and growth of stands because mid-aged stands within the project area are experiencing a slowing of growth due to overcrowding and some are experiencing suppression related mortality. See sections 1.3.1.3, 2.4 & 3.1.

- **Forest Products** - There is a need to keep forests productive to sustainably provide forest products now and in the future. Actions need to be designed to be economically viable and efficient. See sections 2.4, 3.1, & 3.17.

While achieving these primary purposes and needs, there are additional opportunities that can be accomplished at the same time, in or adjacent to some of the targeted stands, where existing conditions deviate from desired conditions:

- **Diversity** - There is an opportunity to gain greater variability of vertical and horizontal stand structure in some stands. There is an opportunity to make some of these changes in Riparian Reserves, Late-successional Reserves and Matrix to promote desired conditions in these land allocations. See sections 1.3.1.5, 2.4, 3.1, 3.2 & 3.8.

  Diversity of forests and stands is a complex topic. During the early stages of this planning effort, the scale of the opportunity to address diversity was considered, and I chose to focus on the stands needing thinning and not on a broader landscape scale.

- **Forage** - There is an opportunity to enhance forage for deer and elk because forage is declining across the landscape. Thinning techniques can be adjusted in the Matrix where site-specific needs are identified to achieve greater sunlight to the forest floor to release palatable browse plants. See sections 1.3.1.6, 2.4, 3.8.3.4.

  During the early stages of this planning effort, the scale of the opportunity to address forage enhancement was considered, and I chose to focus on the stands needing thinning and not on landscape-scale needs. While the project addresses some of the need for forage it does not attempt to provide all of the forage that deer and elk need.

- **Roads** - There is an opportunity to accomplish needed road work on the roads used to access thinning. These opportunities include road maintenance and repair to provide a more efficient and safe transportation system while reducing effects to natural resources. There is also an opportunity to decommission certain roads after use to reduce future road maintenance costs and reduce impacts to aquatic resources. See sections 1.3.1.7, 2.4, 3.3, 3.4 & 3.12.

  During the early stages of this planning effort, the scale of the opportunity to address road issues was considered, and I chose to focus on the roads needed to access thinning and not on landscape-scale issues. While the project addresses some of the need by repairing some roads and decommissioning others, it does not attempt to examine all of the roads in the broader landscape.

- **Fuel Break** - Some of the stands targeted for thinning are adjacent to the Ripplebrook and Timber Lake Administrative sites. There is an opportunity to tie thinning treatments and additional adjacent fuels treatments to provide greater fire safety in the wildland-urban interface both for fire suppression forces and local residents. If no action is taken, a large scale wildfire would put firefighters, residents and employees at greater risk. See sections 1.3.1.8, 1.4.6.6, 2.4, & 3.15.

DECISION

I have reviewed the EA and the information contained in the project file. I have also reviewed and considered the public comments submitted for this project (see Appendix B of the EA for response to comments) as well as the objection points raised during the project objection period and the discussions at the objection resolution meeting. I have determined that there is adequate information to make a reasoned choice among alternatives. **I have decided that I will select Alternative B, the Proposed Action** (s. 1.4) as described in the EA, but with two modifications discussed at the objection resolution meeting held on July 31, 2014.

Modifications to the Proposed Action

An objector, Bark, requested the removal of 150 acres of heavy thinning within the units that overlap designated northern spotted owl critical habitat. During the objection resolution meeting, I proposed to reduce heavy thinning in northern spotted owl critical habitat by 80%. Even though the objector requested removing all acres of heavy thinning in critical habiat, I have decided to treat only 30 acres with the heavy thinning prescription and use a regular thinning prescription on the remaining 120

acres. Further documentation of this heavy thinning can be found at sections 2.3.1.5 and 3.7.5.2. I find that this change is within the range of impacts disclosed in the EA.

Bark also questioned the concept of building new temporary roads, and requested the units associated with new temporary roads be deleted. During the objection resolution meeting, I proposed to eliminate the new temporary road associated with Unit 100, which reduces new temporary road construction by 20%, or 0.04 mile. Even though the objector suggested removing all new temporary roads and deleting the units they access, I have decided to delete this one road in Unit 100, and to thin the unit as planned. All of remaining temporary roads will remain as they currently are described in the Proposed Action. Further documentation of this and other roads can be found at sections 1.4.7.4, 1.6.1.1 and 2.3.1.3. I find that this change is within the range of impacts disclosed in the EA.

Alternative B, as modified, includes the following activities:

- Thin and harvest wood fiber on 1,756 acres of stands to achieve the purposes listed above (the actual acres of thinning would be approximately ¼ less after subtractions for skips and riparian protection buffers). Thinning intensity would be variable from unit to unit and within units and would include skips, riparian protection buffers, gaps, heavy thins, forage enhancements, and the creation of snags and down logs. These treatments are described in greater detail in sections 1.4.1 to 1.4.5 and sections 1.4.6.3 to 1.4.6.5.
- Project Design Criteria in section 1.4.9 are mandatory. No significant impacts were found that would require further mitigation.
- A fuel break would be created on approximately 49 acres around administrative sites to create a more defensible space and to give fire suppression forces a broader range of tactical options in the event of a wildfire in the vicinity (s. 1.4.6.6).
- Trees would be felled from stream protection buffers into streams and logs that cross above streams would be bucked to drop them into the streams to enhance aquatic conditions (s. 1.4.6.2).
- Repair and maintain 85 miles of system roads needed for log haul (s. 1.4.7.1).
- Construct 0.16 mile of new temporary roads to access thinning units and rehabilitate them upon completion (s. 1.4.7.3).

  The term rehabilitation is used to describe the type of closure that is standard practice now for temporary roads. After use, temporary roads are bermed at the entrance, water barred, decompacted and roughened as needed with the jaws of a loader or excavator, and debris such as rootwads, slash, logs or boulders are placed on the surface where available.
- Reconstruct 5.35 miles of temporary roads on existing road alignments to access thinning units and rehabilitate them upon completion (s. 1.4.7.3).
- After thinning, decommission 4.64 miles of system roads (s. 1.4.7.2).

  The term decommission is used to describe the removal of a road from the Forest's System of roads. Practices vary as described at section 1.4.7.2 including entrance management and stabilization. Entrance management includes installing one or more large earth berms or deep trenches, and deeply decompacting approximately 1/8 mile. Stabilization includes treatments such as removing culverts, reestablishing former drainage patterns or natural contours at stream

channels, installing water bars, removing gravel surfacing, decompacting road surfaces, pulling back unstable fill slopes or road shoulders, scattering slash on the roadbed, applying erosion control mulch or seed on disturbed areas, and blocking and disguising the former road entrance to prevent motorized vehicle traffic. A decommissioned road is removed from the Forest's transportation system data base, is not maintained and is closed to the public.

- After thinning, stormproof 11.61 miles of system roads and close 8.45 miles of system roads that are currently open (s. 1.4.7.2).

  Stormproofing usually involves waterbars or other structures to provide drainage. The road remains a system road. Where appropriate, the depth of fill material over culverts would be reduced.

- Projects would be included in Forest pool for random sample of national protocol for BMP implementation and effectiveness monitoring (s. 3.3.5.2).

RATIONALE

I believe that the proposed action meets the Purpose and Need discussed in the EA at section 1.3. The following section describes how the project meets each of the elements of the proposed action and includes a discussion of the public comment relevant to each topic.

Tree Health and Growth – The thinning treatments associated with Alternative B will increase the health and vigor, as well as enhance diameter and height growth (s. 1.3.1.3, s. 1.3, & s. 3.1).

The stands included in this project have been examined and have been found to be overstocked. When trees are too closely spaced, they experience a slowing of growth due to competition for sunlight, moisture and nutrients. In stands proposed for thinning, this competition has resulted in suppressed, slow-growing trees that have begun to die and have become susceptible to diseases and wind damage.

Based upon computer model simulation, the average diameter four decades after thinning would be about 23 inches, compared to about 18 inches with no action. Presently, these stands have an average diameter of about 13 inches. Having larger, healthy trees on the matrix lands suitable for timber production is an important management goal associated with the Northwest Forest Plan's implementation (1,320 acres of proposed thinning are in the matrix) (s. 1.3.2.1). Having larger trees is also key for land allocations where the objective is to accelerate the development of late-successional stand attributes (436 acres are in these land allocations). As forested stands reach an average diameter of 20 inches or larger, they begin to develop some of the characteristics (e.g., larger tree boles) necessary for late-successional dependent wildlife species.

With Alternative B, simulation modeling shows that in approximately 40 years, average net growth rates would be 1.6 cubic feet per tree per year compared to 1 cubic foot per tree per year with no action. These net growth rates include both growth and mortality. With the No-action Alternative, mortality rates increase dramatically in the next few decades. The thinning treatments would cut the smaller,

suppressed trees in these dense stands; the ones that would most likely die from competition-induced mortality.

The silvicultural activities associated with my decision will reduce the competition for nutrients, moisture, and sunlight, by selecting the smaller, overtopped, and/or less vigorously growing Douglas-fir trees for removal. As a result, the anticipated growth and developmental rate of the larger trees will increase in comparison to no action.

A number of respondents to the Preliminary Assessment stated that there is too much emphasis on stand health and they want greater attention paid to the value of dead and down trees (s. 1.6.1.2, s. 2.3.3 & Appendix B). I agree that these features are important. However, within the stands proposed for treatment, almost all of the legacy trees, snags, and decayed trees that existed prior to the regeneration harvest were felled; and, in some instances, the large downed logs were either removed or burned along with the activity fuels (s. 3.8.2). Currently, there are some small dead trees from the planted stock that succumbed to insect, disease, and/or competition-induced mortality. The quantities and sizes vary based on site conditions, but approximately 100 trees per acre averaging 4 inches diameter have died; some of these have fallen. This is an expected phase of stand development. Snags this small do not persist for very long, nor are they suitable in size for cavity-nesting for birds, such as pileated woodpeckers.

Alternative B would alter the number of existing small snags per acre, as well as their distribution. Some small snags get knocked down during logging and some may have to be felled for safety reasons. All other snags would be retained. Snags in skips and riparian protection buffers would be retained. With Alternative B, some snags and down logs will be created as described in section 1.4.6.1.

Alternative B would thin and remove some of the smaller trees that would eventually die with no action. The snag analysis (s. 3.8.2.3), summarized below, shows the projection for large snags over the next decades.

	No Action	Alternative B	
		LSR & Riparian Prescription	Matrix Prescriptions
Snags/ac. > 20 inches diameter in 100 years	14	11	8-10
Snags/ac. > 30 inches diameter in 100 years	2	2	2

The thinning treatments would result in the development of larger trees; and, depending upon the disturbance agent, decadence would likely occur at a later stage of stand development when the trees on the treated areas are larger. If necessary in future decades, trees could be killed or felled to achieve the desired levels of snags and down logs.

Because respondents to the Preliminary Assessment and objectors indicated a concern about the levels of snags and downed wood, I have carefully considered this analysis. I have determined that Alternative B would provide snags, trees with decadence and down logs (considering both quantity and

size) at levels sufficient to meet the Forest Plan standards and guidelines (s. 3.8.2.5) and to provide for the species that depend on these structures both at the stand scale and the landscape scale (s. 3.8.2.4).

Wood Products – My decision will provide forest products consistent with the Northwest Forest Plan's goal of maintaining the stability of local and regional economies now and in the future (s. 1.3.1.4, s. 3.1 & s. 3.17).

As a result of implementing the silvicultural prescriptions, Alternative B will provide approximately 19 million board feet of timber and will support jobs important to local communities. It will also result in vigorously growing stands that would be capable of providing future forest products. The No-action Alternative would not provide wood products and would result in stands with reduced growth and productivity.

A number of respondents to the Preliminary Assessment stated that the project should provide more timber outputs while other suggested less (Appendix B). Similar issues were raised during the project's objection period. After focusing on this landscape, all mid-aged stands were examined and compared to desired conditions from the Forest Plan. While the project area contains many thousands of acres of young and mid-aged stands of various ages, approximately 1,756 acres are currently in a condition where thinning treatments are appropriate to move stands toward desired conditions (s. 1.3.1.3 to s. 1.3.1.6). The area will likely be revisited in 5 to 10 years to evaluate the stands that are too young at this time to assess opportunities for thinning and other treatments.

Some respondents questioned the scope of the proposed action in light of the fact that the purpose and need statements above do not contain specific output goals that would indicate when the purpose and need is achieved. They suggest that the purpose and need could be met just as well with a smaller project as it would by a larger project. The scope of the proposed action was considered during early planning efforts as data for all plantations in the watershed were examined and compared to desired conditions from the Forest Plan. If some of this thinning work is deferred, there would be a backlog of stands that would begin to develop as described for the No-action Alternative (s. 3.1.3 & s. 3.2.3). An important element of this decision is to avoid this backlog by treating as many stands as possible within the parameters of the Forest Plan to move them toward desired conditions in an operationally efficient manner.

An objector, AFRC, suggested thinning more plantations. Instead of thinning only 11% of the plantations in the project area, they suggested the agency thin approximately 50%. The Forest examined all plantations to determine suitability for thinning. Of the 15,628 acres of plantations, about 1,343 have already been thinned; about 1,756 are proposed to be thinned with this project, and the remaining acres were found to have relative densities that were not "ready" to be thinned at this time, but may be ready within the next 10 to 50 years.

I find that 1,756 acres is an appropriate size project for this area at this time.

Diversity - Thinning will improve vertical and horizontal diversity by variable spacing and creating small skips and gaps (s. 1.3.1.5, s. 1.4, s. 3.2 & s. 3.8.2).

Diversity is the distribution and abundance of different native plant and animal communities and species. At the landscape scale, a mix of forest types and ages can provide habitat for a wide range of plants and animals. At the stand scale other elements become more relevant such as species composition, snag abundance or the number of canopy layers. Plantations sometimes lack certain elements of diversity and complexity. They often do not contain the mix of tree species that were present in the original stand and they are relatively uniform in terms of size and spacing. When the original clearcut harvesting occurred, snags were removed. The stands now have minimal variability of vertical and horizontal stand structure and little sunlight reaches the forest floor resulting in low levels of diversity of ground vegetation.

The silvicultural prescriptions associated with my decision will selectively retain some of the minor species within the treated stands, such as western hemlock, noble fir, Pacific silver fir, western redcedar, and alder, rather than exclusively favoring the planted Douglas-fir stock. As a result, the overall species composition within the stand will become (over time) more characteristic of the compositional diversity representative of this stage of stand development under the natural disturbance regime. With no action, the stands would continue to be dominated by Douglas-fir.

Under Alternative B, I recognize that there would be no change to the species composition within the stream protection buffers or within the skips. These are important to protect riparian-dependent species, as well as contribute to the overall structural variability within these stands.

The prescriptions will also create gaps allowing more sunlight to reach the forest floor. The resulting open canopy conditions will release the herbaceous understory (e.g., shrubs, forbs) to grow more vigorously. The gaps as well as the areas with heavy thinning are also anticipated to gradually regenerate to young trees, resulting in the establishment of a second age class within the stand. The stream protection buffers and skips would still be comprised of a single-storied canopy. Alternative B would set in motion the establishment of stands with multiple distinct age classes, either mixed or in small groups, greatly improving overall horizontal and vertical (structural) diversity as compared to the current, relatively single-storied Douglas-fir. The determination of whether or not other intermediate treatments may be needed in future years or decades in order to maintain and/or enhance the development of desired conditions within the treated stands would be evaluated at a future date based upon field monitoring.

A number of respondents to the Preliminary Assessment stated that snags and downed wood are vitally important components of diverse landscapes (s. 1.6.1.2, s. 2.3.3 & Appendix B). Some also suggested that thinning would harm biodiversity and that stands should be left to develop on their own with no interference (s. 1.6.1.5). Similar issues were raised during the project's objection period. My response to snag and down wood concerns is addressed above in the Tree Health and Growth section. I have also taken into account that opposition to thinning has been fully considered through documentation of the No-action Alternative. Because respondents indicated a concern about the levels of snags and downed wood, I have carefully considered this analysis. I have determined that Alternative B will provide appropriate changes to horizontal and vertical diversity while providing sufficient quantities of snags and down logs to meet Forest Plan standards and guidelines (s. 3.8.2.5 and s. 3.8.2.4).

Forage – Deer and elk were selected as management indicator species because they are economically important game animals. With the reduction in timber harvest on the Forest in the past two decades and continued tree growth, openings for forage are becoming scarce. The project will improve forage quantity and quality by creating areas of 3 to 5 acres in size totaling 32 acres that are more open than standard thinning. Gaps and heavy thins would also result in additional sunlight hitting the ground to benefit forage plants (s. 1.3.1.6, s. 1.4.6.4 & s. 3.8.3.4). There is a trend of declining forage across the landscape as management practices have shifted from regeneration harvest to thinning, as a large percentage of the landscape is managed for late-successional species. While the project addresses some of the need for forage, it does not attempt to provide all of the forage that deer and elk need.

A number of respondents to the Preliminary Assessment asked that I consider creating more forage. Similar issues were raised during the project's objection period. The proposed acreage of forage enhancement was determined by stand visits where appropriate plant communities and use was identified. I recognize that 32 acres of forage enhancement is not likely to reverse the trend of declining forage across the landscape. I have considered balancing the needs for forage with the other project elements related to stand health and growth, and have not found any additional area to add to this project.

Roads - The project will accomplish needed road work on the roads used to access thinning. This includes road maintenance and repair to provide a more efficient and safe transportation system while reducing effects to natural resources. The project will also decommission, stormproof, and close certain system roads after use to reduce future road maintenance costs and reduce impacts to aquatic resources (s. 1.4.7). The project will also construct 0.16 mile of new temporary roads and reconstruct 5.35 miles of existing road alignments as temporary roads which will be rehabilitated after use. New temporary road construction has been reduced from the level disclosed in the EA, as documented above at page 4.

A number of respondents to the Preliminary Assessment asked that I consider decommissioning more roads while others objected to road decommissioning, particularly if the roads were needed again in the future. A number of respondents also expressed concerns about reopening old road alignments and the construction of new temporary roads. Some commenters stated that if trees or other vegetation begin to grow in a road it should not be used again, but that recovery should be allowed to continue (s. 1.6.1.1, s, 1.6.1.6, s. 2.3.1.1, s. 2.3.1.2, s. 2.3.1.3,). Similar issues were raised during the project's objection period.

During the early stages of this planning effort, the scale of the opportunity to address road issues was considered and I chose to focus on the roads needed to access thinning and not on landscape-scale issues. While the project addresses some of the road related issues by repairing some roads and decommissioning others, it does not attempt to examine all of the roads in the broader landscape. Other system road needs will be addressed in a separate Forest-scale Travel Analysis Plan.

Road work included in the proposed action includes only those road segments that do not pose an adverse impact on aquatic resources and are needed to efficiently achieve the vegetation, health and diversity objectives discussed in section 1.3. The reuse of an existing alignment as a temporary road is consistent with Forest Service policy, and is consistent with the Forest Plan and Northwest Forest Plan.

The proposed action to construct 0.16 mile of new temporary roads, is estimated to impact less than one half acre of ground, while the 5.35 miles of reconstruction would re-disturb about 10 acres of ground along existing road alignments; all temporary roads would be rehabilitated and covered with slash or other effective ground cover after use.

Some roads do have vegetation growing on them (s. 1.4.7.3). Where roads have been identified as needed for periodic land management, 'recovery' or transition back to forest is not the objective. Until these roads are needed again, it is appropriate for them to be temporarily growing small trees or other vegetation. To the casual observer, it may appear that roads are recovering if they have vegetation and young trees growing in the road surface. While this vegetation may provide some benefit, it does not indicate full recovery or indicate that sufficient soil recovery has occurred (s. 3.6.6.1). Even with vegetation growing on them, I find that existing road alignments are the best place to temporarily reestablish a road because it results in less total ground disturbance compared to building another road somewhere else to access the thinning stands.

I find that the environmental impact of reusing existing road alignments has been adequately analyzed and disclosed in Chapter 3; and that the effects are not significant. Sections 1.4.7.3&4 discuss the details for these roads and section 3.3.3 discusses the impacts to aquatic resources. The impacts are sufficiently mitigated by project design criteria (s. 1.4.9).

Fuel Break – The project area includes a wildland-urban interface. The project will create a fuel break adjacent to the Ripplebrook and Timber Lake Administrative sites and residential areas. While west-side stands and ecosystems are often described as "wet," the summer and fall conditions can have very high fire danger levels, particularly in drier years. This area is prone to summertime lighting storms, which spark multiple fires each year on the District. Fuel treatments include removing small trees, cleaning up ground fuels and limbing trees to reduce ladder fuels. I find that the fuel break is an appropriate project for this area at this time to create a more defensible space and to give fire suppression forces a broader range of tactical options in the event of a wildfire in the vicinity.

Invasive Species (s. 1.6.1.7) - One commenter suggested that the risk of spreading invasive plant species was too great.

The Forest is required to follow the standards and guidelines for invasive species. The Pacific Northwest Region Invasive Plant Program Preventing and Managing Invasive Plants FEIS, was completed in 2005, and the "Site-Specific Invasive Plant Treatments for the Mt. Hood National Forest and Columbia River Gorge National Scenic Area in Oregon, was completed in 2008. The management direction includes invasive plant prevention and treatment/restoration standards intended to help achieve stated desired future conditions, goals, and objectives, and is expected to result in decreased rates of spread of invasive plants. PDCs were developed tiering to the considerable knowledge base and experience that went into these Regional and Forest level plans. The impacts from this project on invasive species was fully analyzed and disclosed in section 3.14.

PDCs are designed to minimize the spread of invasive species from the road sides where they are more common into the forest stands where they are not common. Practices include washing off-road equipment and using certified seed and mulches.

I find that the PDCs for invasive species at section 1.4.9H are sufficient to minimize the spread of invasive plants and are consistent with Forest Plan standards and guidelines.

Consideration of Science - Recently there has been an ongoing discussion within the scientific community about evolving scientific discourse, particularly on the topics of wood input to streams, streamside shade and how wide stream buffers should be for thinning projects. After considering the literature, the aquatics Level 2 team, including the National Marine Fisheries Service (NFMS), U.S. Fish and Wildlife Service, Forest Service and Bureau of Land Management (BLM) came to the conclusion that there is no scientific consensus for "one size fits all" buffers for all streams, given the enormous heterogeneity of physical and biological conditions across the Pacific Northwest (s. 1.3.1.5, s. 16.1.4 & s. 3.4.4.1).

Stream management should be based on site-specific factors such as slope, aspect, stream width, topographic screening, the current presence or absence of wood or shade, downstream cold water inputs and the cumulative condition of the entire stream reach. Streamside protection buffers that are too narrow could result in compromised shade and increased stream temperatures or a long-term reduction in potential wood recruitment, while buffers that are too wide would reduce the achievement of upland riparian reserve enhancements and restorations. Finding the appropriate balance is the key to successful riparian management.

During project development, I decided to pursue a strategy that would result in varied buffer widths in recognition of the complex interactions of the various components of riparian and aquatic systems, which is consistent with the Level 2 team's recommendations.

The project would have stream protection buffers that vary in width based on site-specific conditions. They would vary in width from 180 feet, along listed fish habitat streams to 30 feet, along certain intermittent streams (s. 1.4.9A).

As part of the objection process, the objector, Bark, brought forward arguments based on a new paper by Pollack & Beechie[1], that was published after the EA was finalized and after the Draft Decision Notice was made available for a 45-day objection period. I have reviewed this paper. The authors do state that passive management (no treatment) might be the best option in some riparian areas; however, the authors also state that "light or medium restoration thins may be an option that provides some increase in diameter growth of live trees, while minimizing production losses of large diameter deadwood". The paper looks at five different structural habitat requirements of species that utilize riparian forests for all or part of their life stages, including large down wood in streams, large down wood on the forest floor, large standing snags, large live trees and canopy gaps. The paper describes that while a particular structural habitat requirement may be beneficial to some species (such as abundant deadwood), other species require or prefer another habitat (such as large trees). In the discussion section of the paper, the authors state that "consideration of the structural attributes that different species utilize and the effect that different restoration treatments have on the abundance of these structural elements suggests that passive management may often be the treatment that will best enhance biological diversity in degraded riparian

[1] Pollock, Michael M. and Timothy J. Beechie, 2014. Does Riparian Forest Restoration Thinning Enhance Biodiversity? The Ecological Importance of Large Wood. Journal of the American Water Resources Association (JAWRA) 50(3): 543-559. DOI: 10.1111/jawr.12206, June 2014.

forests, but that in some cases thinning may be beneficial." The authors conclude that thinning should be limited to situations where the need for large live trees outweighs the need for species that utilize large deadwood.

The Grove project will leave intact protection buffers adjacent to streams, as well as have light to medium thinning intensity with variable density to enhance diversity in the upland portion of riparian reserves. I find that the project is consistent with the findings of this report and that the concepts and conclusions presented do not contradict previously published works that were considered and cited in the EA, such as Johnston (s. 3.4.4.1), and Bauhus (s. 3.4.4.2).

After the objection resolution process was completed, but before this decision was issued, Bark also submitted a paper by the Coast Range Association[2]. I have reviewed this paper. It claims to be a synthesis of the latest science on riparian management and the Aquatic Conservation Strategy. It contains the following conclusion: "We conclude that attempts to reduce protections to watershed, riparian, and freshwater ecosystems by weakening major components of the ACS and other related conservation elements of the Northwest Forest Plan are not justified by new and emerging science." After reviewing this paper, I find that it contains opinions and recommendations that do not negate the science that was considered in project development and analysis of effects presented in the Grove Thin EA. I also find that the Grove project does not reduce protections or weaken the components of the Aquatic Conservation Strategy: It is fully consistent with the ACS objectives and provides sufficient protections for riparian and aquatic resources (s. 3.4.8.1).

Management Direction (s. 1.3.2) - The proposed action has been designed to move toward the goals and objectives of the Forest Plan as amended by the Northwest Forest Plan. The proposed action would occur on various land allocations including riparian reserves, late-successional reserves, wild and scenic rivers, viewsheds, earthflows and timber emphasis. While each land allocation has different goals and objectives, I find that variable density thinning is an appropriate tool to use to move the area toward the desired conditions. Further discussion of consistency with standards and guidelines can be found below.

Best Management Practices (BMPs) (s. 1.6.1.4) - Comments suggested that practices for minimizing effects to water quality are not monitored. They suggest that BMPs are not being followed and that they can't be relied on to assert that effects to water quality would be low.

The National Best Management Practices for Water Quality Management on National Forest System Lands, Volume 1: National Core BMP Technical Guide directs a nationally consistent strategy for considering suggested practices and refining them into project level Project Design Criteria (PDCs) based on local conditions and local experience. These BMPs are considered to be the best available science regarding protection of water quality.

[2] Baker, R.J, K. Burnett, R. Beschta, D.A. DellaSella, C.A. Frissell, R. M. Hughes, D.A. McCullough, J. Rhodes, M. Scurlock, and R. C. Wissmar. 2014. CONSERVATION OF AQUATIC AND FISHERY RESOURCES IN THE PACIFIC NORTHWEST: Implications of New Science for the Aquatic Conservation Strategy of the Northwest Forest Plan. Coast Range Association.

While PDCs are developed because they are thought to be appropriate practices to minimize effects, they do not eliminate all effects nor are they thresholds of significance.

The Forest has professional resource specialists (including soil scientists, hydrologists, fisheries biologists and geologists), with a wide range of experience implementing and monitoring water quality on similar projects. These specialists participate in the planning of a project, its development into contract language, and eventual implementation. Section 1.4.10 describes this process and the monitoring that occurs to assure that projects are implemented as planned.

Past monitoring of the implementation and effectiveness of best management practices completed on the Clackamas River Ranger District indicated that PDCs were implemented as planned on 85% of the samples and were effective at avoiding impacts to water quality on 94% of the samples (s. 3.3.1.5). Recent monitoring has indicated a trend of improving riparian and aquatic conditions across the Forest.

This project and all others on the Forest would be included in a pool of projects to randomly sample. Projects and BMPs would be randomly selected for implementation and effectiveness monitoring that involves standardized forms, techniques, and reporting so that with adaptive management, the Forest can continue the trend of improving riparian and aquatic conditions.

I find that the PDCs incorporated into the proposed action (s. 1.4.9) are sufficient to meet water quality standards and protect the resources that depend on aquatic systems. I find that the reviews used on the Forest, described at section 1.4.10, are sufficient to implement the project as planned. I find that the National protocol for BMP monitoring is sufficient to provide the information I need for adaptive management.

Public Involvement (s. 1.6)

For this project, a collaborative process with the Clackamas Stewardship Partners began in 2011; a process that built on years of collaboration on similar thinning projects dating back to 2004. Through this collaborative process, the Forest Service participated in several meetings and field trips with the collaborative group on this project.

A scoping process to request public input for this project was conducted. A letter describing the proposed project and requesting comments was sent out on March 12, 2012. The Forest publishes a schedule of proposed actions (SOPA) quarterly. The project first appeared in the SOPA in January 2012 and in subsequent issues. Public field trips were conducted on August 9, 2011 and July 10, 2012 to visit the project area and discuss objectives and issues. The legal notice for the 30-day comment period for this project was published in The Oregonian on February 28, 2014.

A wide range of comments was received; some were discussed above. Responses to substantive comments are included in Appendix B of the EA. I considered the comments received and the issues raised during the project's objection period, and I believe that the proposed action is both appropriate and consistent with relevant management plans (s. 1.3.2) and laws (s. 3.19) and that the environmental assessment clearly explains the effects and benefits to resources. I find that the science used to develop the project and to assess the effects is current and valid. I believe that I have made a decision that balances the need for thinning and other actions against any impacts to resources, and I have

incorporated adequate design features (s. 1.4), and project design criteria (s. 1.4.9) to minimize impacts to resources and that those impacts have been thoroughly disclosed in the EA.

While I respect the opinions and wishes of commenters and objectors, and appreciate the dialog that has occurred, I do not consider any of the comments received to warrant the generation of any additional fully developed alternatives in the environmental assessment. The following section describes alternatives that were considered and the rationale for their elimination from detailed study.

Description of Other Alternatives and Reasons for Non Selection (s. 2.1 & s. 2.3)

Alternative A is the no-action alternative (s. 2.1). It was not selected because it would not provide any of the benefits described in the purpose and need. If no action is taken, stands would continue to become overcrowded resulting in trees with reduced vigor and increased mortality (s. 1.3 & s. 3.1). Trees would stagnate and stay relatively small resulting in a period of low vertical and horizontal diversity (s. 1.3 & s. 3.2). If no action is taken in late-successional reserves or riparian reserves, stands would be very slow in their acquisition of late-successional characteristics (s. 1.3.1.5, s. 3.4.4.2 & s. 3.7.5.1). If no action is taken, the Forest would forgo the opportunity to provide any forest products consistent with the Northwest Forest Plan goal of maintaining the stability of local and regional economies (s. 1.3 & s. 3.17). If no action is taken, roads would deteriorate, become unsafe and impact fish and water quality (s. 3.12 & s. 3.3.3.6). If no action is taken, there would be an abundance of snags; far more than needed to meet standards and guidelines (s. 3.8.2). Selection of Alternative A would not meet the desired condition as stated in the Forest Plan.

Other Alternatives Considered

The EA discusses comments that were received from the public suggesting the consideration of other alternatives. Details of the suggestions and responses are in the EA at s. 2.3 as well as Appendix B. The following has some further elaboration.

Bark submitted six suggestions during the 30-day comment period and requested that the agency review these suggestions as separate alternatives (these are the first six numbered alternatives below). At the time of their objection, Bark reiterated some of their suggestions but eliminated the first and last suggested alternatives. They also requested they be evaluated separately, but that they could be implemented singly or in tandem. At the time of the objection resolution meeting, Bark again modified their list of suggested alternatives, eliminating the first, fourth and sixth alternatives below while adding a request to delete units 180 and 228, and requesting that the remaining alternatives and these two units all be implemented together. Bark also suggested other alternatives during the scoping phase of project planning.

Below is a brief summary of the more detailed separate analysis and consideration documented for each alternative in section 2.3.

1. One suggested alternative is to re-assess the agency's ability to adequately remove "existing" roads from the map in a way that improves actual conditions on the ground. Reconsider the meaning of the word "decommission," to go back to the meaning intended in the Northwest Forest Plan. The commenter states that, "*We do not believe this was a word that was meant to be used to refer to roads that are temporarily put in storage for future use*."

   This suggestion is outside the scope of this project level analysis. This term has been used appropriately; there is no implied commitment to never reuse old road alignments again (s. 2.3.1.1). This suggested alternative was not reiterated during the objection process.

2. One suggested alternative is to add additional miles of road decommissioning to the Grove project and provide a clear implementation timeline. Change closed and stormproofed roads to decommissioning with entrance management, adding 13.33 miles of decommissioning to this project.

   This suggestion was considered, but not fully developed because the roads will be needed in the near future for thinning and other forest management activities (s. 2.3.1.2).

3. One suggested alternative is to remove units that require new road construction, rebuilding of actively decommissioned roads, or log haul over rebuilt/reused stream crossings. Oregon Wild also suggested a similar alternative to not build new roads and to delete the units that they access.

   The suggested alternative was considered, but not fully developed because it would not provide the benefits described in the purpose and need for 224 acres. Wood products would be reduced. It would provide a similar level of water quality protection when compared to the proposed action, and therefore, is not substantially different from the proposed action in that respect (s. 2.3.1.3). I have decided to delete the new temporary road construction associated with Unit 100, as discussed on page 4 of this document.

4. One suggested alternative is to modify the project so no new skid trails, new landings or new temporary roads are constructed in high-risk Earthflow areas.

   The suggested alternative was considered, but not fully developed because the effects of new skid trails, new landings and new temporary roads were found to be minimal. The objectives of maintaining long-term site productivity and earthflow stability would still be met even with some additional skid trails, landings and temporary roads. Given the minimal change in effects, this alternative is not substantially different than the proposed action other than that it would reduce the number of acres receiving the benefits described in the purpose and need and diminish the economic viability of the project (s. 2.3.1.4). This suggested alternative was reiterated in Bark's objection, but was not part of their request at the objection resolution meeting.

5. One suggested alternative is to remove the 150 acres of heavy thinning in northern spotted-owl critical habitat which would eliminate dispersal habitat existing in the project area.

   The suggested alternative was considered, but not fully developed because there is abundant dispersal habitat in the project area (s. 3.7.5.2). The US Fish and Wildlife Service found that the benefits from enhanced diversity outweighed the short-term effect to owl dispersal habitat from heavy thinning (s. 2.3.1.5). I have decided to reduce heavy thinning in critical habitat by 120 acres as discussed on page 3 of this document.

6. One suggested alternative is to remove units that require helicopter access, in order to save agency time and resources spent on preparing units with minimal likelihood of profitable bids; resources that could be spent on assuring high quality road work.

    The suggested alternative was considered, but not fully developed because the Forest has found that the project is likely to be viable and has sufficient value to cover the cost of road work and helicopter operations. Recent similar projects with helicopter units and road work received bids and have been awarded (Bass, Drum, Sax & Tuba) (s. 2.3.1.6). This suggested alternative was not reiterated during the objection process.

An additional suggestion from Bark, submitted during scoping, was to delete thinning in LSRs, riparian reserves and earthflows to avoid impacts to the associated resources (s. 1.6.1.3).

The suggested alternative was considered, but not fully developed because it would not provide the benefits of improved health and growth or enhanced diversity described in the purpose and need on 996 acres. The Regional Ecosystem Office reviewed the proposed action and found that it met standards and guidelines for LSRs. The biological assessment found that the proposed action would not likely adversely affect listed fish or their critical habitat. The proposed action is fully consistent with the Aquatic Conservation Strategy. Thinning units have been examined in the field by the Forest stability specialist and the project is consistent with goals of maintaining earthflow stability (s. 2.3.2). These scoping alternatives were not reiterated during the 30-day comment period or the objection process.

Another suggestion from Bark, submitted during scoping, is that trees in the LSR could be felled and left on site to accomplish thinning objectives instead of logging. *"This alternative would reduce the need to build any roads, landings or skid trails to and in the LSRs, and the money saved could balance out the lost income."*

The suggested alternative was considered, but not fully developed because it does not provide the benefits of improved health and growth described in the purpose and need (s. 1.3, s. 3.1.4). Approximately 32 acres of stands would experience levels insect mortality that is not desired in LSRs. The Regional Ecosystem Office reviewed the proposed action and found that it met standards and guidelines for LSRs (s. 2.3.3). This scoping alternative was not reiterated during the 30-day comment period or the objection process.

An additional suggestion from Bark, submitted during the objection resolution meeting, was to remove units 180 and 228.

These suggested changes were considered. The EA disclosed the benefits and impacts of variable density thinning in these two units and I find the impacts will be minimal while the benefits described in the purpose and need, will be substantial. I have decided to thin these units.

Bark suggested an economic analysis be performed for each of their separately suggested alternatives but during the objection process requested many suggestions be implemented together. The professional judgment of my staff, is that Bark's proposals, when considered in their entirety, would eliminate most of the project, would not achieve the purpose and need, and there would be insufficient funding in the remaining thinning to pay for needed road repairs, road decommissioning and closure, and the other

important elements of the proposed action (s. 1.3, s. 1.3.1.4, s. 2.3.1, s. s. 3.17). Based on these discussions with my staff, I believe that I have sufficient information regarding the economics of this project and I have sufficient other rationale described is section 2.3, to eliminate these suggested alternatives from detailed study.

One suggestion from Oregon Wild was to defer harvest of stands older than 50 years of age.

> The suggested alternative was considered, but not fully developed, because it would not provide the benefits described in the purpose and need for approximately 800 acres. The oldest stands are close to age 50 and I find that these are not 'old' or 'too old' to benefit from thinning (s. 2.3.4).

One suggestion from AFRC raised during the project's objection period, was to thin more plantations. Instead of thinning only 11% of the plantations in the project area, they suggested the agency thin approximately 50%.

> This suggestion was considered, but not fully developed. The Forest examined all plantations in the project area for thinning opportunities, and found that about 1,756 acres were suitable for thinning at this time. Of the 15,628 acres of plantations, about 1,343 acres have already been thinned, and the remaining plantations will likely be thinned within the next 10 to 50 years. I find that my staff properly identified the timing of stand development when variable density thinning is both prudent and economically viable.

FINDING OF NO SIGNIFICANT IMPACT (40 CFR 1508.27)

Context

Based on the documentation in the EA and project file, I have determined the following with regard to the context of this project:

The EA implements direction set forth in the Forest Plan, as amended. The Forest is comprised of about 1.1 million acres; the Clackamas River Ranger District encompasses about 414,700 acres of the Forest. The proposed action authorizes about 1,756 acres of thinning. This equates to approximately 0.2% of the Forest and 0.4% of the Ranger District. Other aspects of the proposed action such as road decommissioning, the fuel break, and forage creation are on a similar small scale. Given the area affected by the project at both the District and Forest scale, I find that the effects of the project are not significant as disclosed throughout Chapter 3 of the EA and will have a negligible effect at the District and Forest scale.

Intensity

Based on the site-specific environmental analysis documented in the EA and the comments received from the public, I have determined that this is not a major Federal action that would significantly affect the quality of the human environment; therefore, an Environmental Impact Statement is not needed. This determination is based on the design of the proposed action and the following intensity factors:

1. My finding of no significant environmental effect is not biased by the beneficial effects of the action. Impacts can be both beneficial and adverse. For this project, there are no known long-term adverse effects or cumulative effects to resources such as water quality, riparian areas, wildlife or heritage resources. These are documented in Chapter 3 of the EA.

2. The project contains design features to protect public health and safety during project implementation including the removal of hazard snags (s. 1.4.1).

3. There will be no significant effects on unique characteristics of the area. The project is not located in prime farmland or wetlands, and historic and cultural resources will be protected (s. 3.19). The outstandingly remarkable values associated with scenic and recreational rivers would be protected (s. 3.11).

4. The effects on the quality of the human environment are not likely to be highly controversial. While there may be some opposition to thinning in 30-60 year old stands, I have concluded that the science behind this thinning is not highly controversial based on a review of the record that shows a thorough review of relevant scientific information (s. 1.3 & s. 3.1). I have also taken into account that opposition to thinning has been fully considered through documentation of the No-action Alternative.

5. The possible effects on the human environment are not highly uncertain, nor do they involve unique or unknown risks. The effects analyses discussed in Chapter 3 of the EA are based on sound scientific research and previous experience implementing thinning projects across the Forest.

6. The action is not likely to establish a precedent for future actions with significant effects because this action is not unusual in and of itself, nor does it lead to any further actions that are unique. Similar projects have been conducted nearby on the Forest (s. 1.3.1.2).

7. The analysis found no significant cumulative effects. Cumulative effects were assessed in each section of the EA including growth and productivity (s. 3.1.5), diversity (s. 3.2.6), water quantity and quality (s. 3.3.4), fisheries (s. 3.4.5), geologic stability (s. 3.5.5), soils (s. 3.6.6.4), owls (s. 3.7.5.3), snags and down logs (s. 3.8.2.4), deer and elk (s. 3.8.3.4) and air quality (s. 3.16.4). The analysis considered not only the direct and indirect effects of the project, but also its contribution to cumulative effects. Past, present and foreseeable future projects have been included in the analysis (s. 3.0.1 & s. 3.0.2). The analysis considered the proposed actions with project design criteria.

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 and will not cause loss or destruction of significant scientific, cultural, or historical resources (s. 3.19.1).

9. My decision is consistent with the Endangered Species Act. Formal consultation with U.S. Fish and Wildlife Service concerning the **northern spotted owl** has been completed for this project. The Letter of Concurrence from the U.S. Fish and Wildlife Service found that the project may affect but is not likely to adversely affect the spotted owl. The Biological Opinion for critical habitat from the U.S. Fish and Wildlife Service found that the project may affect and is likely to adversely affect dispersal habitat (s. 3.7.5.2). While the project reduces dispersal habitat below 40% canopy cover in some heavily thinned areas, the USFWS concurred that heavy thinning of dispersal habitat in critical habitat, would result in short-term localized impacts, and long-term benefits to stand diversity, while maintaining sufficient dispersal habitat across the landscape to allow spotted owls to disperse.

Endangered Species Act **listed fish** are found within the action area. Consultation with National Marine Fisheries Service (NMFS) has been completed. A letter of concurrence, dated September 29, 2014 is on file. The NMFS concurred that the project **may affect but is not likely to adversely affect** listed fish or

their critical habitat (s. 3.4.6). It also found that the project would **not adversely affect** Essential Fish Habitat as defined by the Magnuson-Stevens Fishery Conservation Management Act.

There will be no significant adverse effects to sensitive species or survey and manage species (s. 3.4.3, s. 3.8.1.1 & s. 3.13.1). The project will not jeopardize the continued existence of any listed species nor will it cause a trend to federal listing or loss of viability for these species.

10. My decision 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 (s. 3.19). The action is consistent with the Forest Plan (each part of section 3). The selected alternative is consistent with the National Forest Management Act regulations for vegetative management. There will be no regulated timber harvest on lands classified as unsuitable for timber production (36 CFR 219.14) and vegetation manipulation is in compliance with 36 CFR 219.27(b). The project complies with Executive Order 12898 regarding environmental justice (s. 3.19.2). No disproportionately high adverse human or environmental effects on minorities and/or low-income populations were identified during the analysis or public scoping process.

Other Findings Required by Law or Regulation

Section 3.19 identifies relevant laws and references to documentation in the EA.

Clean Air Act: My decision is consistent with the Clean Air Act. Burning would be scheduled in conjunction with the State of Oregon to comply with the Oregon Smoke Implementation Plan to minimize the adverse effects on air quality (s. 3.16.1 & s. 3.19.5).

Clean Water Act: No streams in the project area are listed as impaired under the Clean Water Act (303(d)) (s. 3.3.1.5). Implementation of my decision will incorporate Project Design Criteria, as described in the EA (s. 1.4.9), which will protect and maintain water quality conditions. It is anticipated that only minor amounts of sediment would actually enter any stream as a result of implementation (s. 3.3.3.6).

Endangered Species Act (ESA): Consultation has been completed for northern spotted owls. A final decision for this project will not be made until all required consultation with NMFS has been completed for listed fish. Listed species are addressed in sections 3.4 and 3.7.

Magnuson-Stevens Fishery Conservation and Management Act: The project would not adversely affect essential fish habitat for chinook or coho salmon (s. 3.4.6).

National Forest Management Act: The proposed action was developed to be in full compliance with NFMA via compliance with the Forest Plan, as amended. The project area has been found to be suitable for timber management (s. 3.1.7 & s. 3.19.6). Other requirements are discussed in the Mt. Hood Forest Plan section below.

National Historic Preservation Act: The Forest operates under a programmatic agreement between the Oregon State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation for consultation on project determination. Consultation with SHPO was completed for this project (s. 3.19.1).

CONSISTENCY WITH MT. HOOD FOREST PLAN

I find that the selected alternative is consistent with direction found in the Forest Plan as amended. It is consistent with standards and guidelines specific to the relevant land allocations and it is consistent with the applicable Forest-wide standards and guidelines (s. 1.3.2 & s. 3).

- **Aquatic Conservation Strategy** – The project will contribute to maintaining or restoring aquatic conditions and is consistent with the Aquatic Conservation Strategy objectives (s. 3.4.8.1).

  - I have considered the relevant information from the Lower Clackamas and Oak Grove Watershed Analyses (1996). This project has adopted the concepts for riparian reserve delineation described in the watershed analyses (s. 1.3.2.4). The site-potential tree height for this project is 180 feet.

  - I find that the Project Design Criteria (s. 1.4.9), such as stream protection buffers and operating restrictions on ground-based machinery, will minimize impacts and maintain the function of key watershed indicators that make up elements of the Aquatic Conservation Strategy. These key indicators for water quality, habitat, flow, channel condition, and watershed condition, will be maintained or enhanced (s. 3.4.8.1).

- **Management Indicator Species -** I have considered the impacts to Forest Management Indicator Species (MIS) (s. 3.8.3). MIS for this portion of the Forest include northern spotted owl (s. 3.7), pileated woodpecker (s. 3.8.3.6), American marten (s. 3.8.3.5), deer, elk (s. 3.8.3.4), salmonid smolts and legal trout (s. 3.4.7). I find that the selected alternative is consistent with the standards and guidelines pertaining to MIS, and that based on the limited effects to any MIS, the proposed action does not contribute towards a negative trend in viability on the Forest.

- **Invasive Plants -** I find that the selected alternative is consistent with Pacific Northwest Invasive Plant Program Preventing and Managing Invasive Plants Record of Decision issued in 2005 and the Site-Specific Invasive Plant Treatments for Mt. Hood National Forest Record of Decision issued in 2008 (s. 3.14). Design criteria are included to minimize the spread and establishment of invasive plants (s. 1.4.9H).

- Compliance with the **2001 Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines** (s. 3.4.6, s. 3.8.1 & s. 3.13).

  I have reviewed the relevant sections in the Environmental Assessment and I find this decision to be consistent with the 2001 Record of Decision. Specifically, I find that no surveys are needed because the Pechman exemption applies to these stands since they are under 80 years of age.

Exceptions - The Forest Plan describes the process for documenting exceptions to "should" standards and guidelines (p. Four-45). The Forest Plan does not require a Forest Plan amendment for project level exceptions to these standards and guidelines. The following documents the rationale for exceptions.

I approve the following soil exceptions documented at s. 3.6.8:

The project is consistent with Forest Plan objectives for long-term **soil productivity**. However, additional soil impact will occur on areas where there is existing soil disturbance. Most units that were logged with ground-based equipment in the original clear cut harvest would remain above 15% detrimental soil condition (s. 3.6.6). Similarly, most units in earthflows remain above 8% detrimental soil condition. Ground-based yarding will be used on stands where ground-based systems were used in the original logging including on earthflows. I am approving an exception for Forest Plan standards and guidelines FW-22, FW-28, FW-30, B8-036 and B8-040. I considered using helicopters to log these units, but found the benefits to be insignificant and the additional cost to be unwarranted. The temporary roads and landings that are used by the contractor will be decompacted. I considered rehabilitation for old skid trails, but the soil scientist and silviculturist do not recommend restoration of old skid trails at this time because of the risk of damaging tree roots and because productivity has not been impaired. The No-action Alternative would have areas that remain above 15% (8% on earthflows) with no opportunity for restoration. The objective of maintaining long-term site productivity will still be met. The stands are projected to grow well after the proposed thinning. The objective of earthflow stability will still be met because thinning will result in healthy and vigorous stands with strong well-developed roots (s. 3.5).

Predecisional Administrative Review Summary

This project was subject to predecisional administrative review pursuant to 36 CFR 218, Subpart B. Also called the "objection process," the predecisional administrative review process replaced the appeal process. The primary difference with the objection process is that a person may object to a project prior to the final decision, whereas under the appeal procedures, appeals were made after the decision. The full text of the rule can be found here:
http://federal.eregulations.us/cfr/title/6/27/2013/title36/chapterII/part218

A draft decision notice was made available during a 45-day period for objections to be filed prior to making this final decision. Two objections were filed: Bark [14-06-06-0010-218(B)] and American Forest Resources Council [14-06-06-0011-218(B)]. An objection resolution meeting was conducted on July 31, 2014 with the Forest Supervisor, the Objection Reviewing Official. After participating in the objection resolution meeting, I agreed to make the changes described on pages 3 and 4 above. These changes do not substantially change the effects described in the EA. No resolution was made on other issues raised by objectors.

In letters dated August 7, 2014, the Objection Reviewing Official, Lisa A. Northrop, Forest Supervisor, documented the following:

- The draft decision clearly described the actions to be taken in sufficient detail that the reader can easily understand what will occur as a result of the draft decision.

- The draft decision considered a range of alternatives that was adequate to respond to the Purpose and Need. The purpose and need and alternatives considered in the EA reflect a reasonable range of alternatives, consistent with law, regulation and policy.

- The draft decision is consistent with Forest Plan standards and guidelines, as amended.

- The draft decision is consistent with all policy, law, direction, and supporting evidence. The record contains documentation regarding resource conditions and the Responsible Official's draft decision document is based on the record and reflects a reasonable conclusion.

The draft decision notice is replaced by this final decision notice.

For further information regarding this project, contact Jim Roden at 503-630-8767 or by email at jroden@fs.fed.us. For further information regarding objection procedures, contact Michelle Lombardo at 503-668-1796 or by email at mlombardo@fs.fed.us.

Project Implementation

Implementation may occur immediately following the date that this final decision is signed.

The EA and decision notice can be downloaded from the Forest web site at http://www.fs.usda.gov/projects/mthood/landmanagement/projects.

/S/ *Jackie Groce* October 20, 2014

Jackie Groce Date
District Ranger,
Clackamas River Ranger District