DECISION NOTICE
And
FINDING OF NO SIGNIFICANT IMPACT

# JAZZ THINNING

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

The Jazz 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 Jazz project is located in T.6 S., R.6 E.; T.7 S., R.5 E.; T.7 S., R.6 E.; T.7 S., R.7 E.; T.8 S., R.7 E.; Willamette Meridian. All section (s.) number references are to sections of the EA unless specified otherwise. Acres and miles are approximate. The Mt. Hood National Forest is referred to as 'the Forest' in this document. The Mt. Hood National Forest Land and Resource Management Plan and Standards and Guidelines, as amended, are referred to as the Forest Plan in this document.

The Forest proposes a thinning project of approximately 2,053 acres of plantations ranging in age from 30 to 60 years old. The average tree size in plantations is 12 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 inform understanding of the Jazz project.

**Background** (s. 1.2, page 4)

The proposed Jazz project area is located in the Collawash Watershed; a tributary of the Clackamas River. The watershed encompasses approximately 97,000 acres. It is on the west slope of the Cascade Mountain Range. The terrain is relatively rugged and steep with elevations ranging from approximately 1,900 to 4,000 feet. It is a wet landscape with high stream density and large rivers and streams that drain down from the mountains of the Bull of the Woods Wilderness and connect to the Clackamas River.

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, page 95). Landslides, some of which are quite large are very common. These unstable landforms affect the vegetation that grows there, the condition of streams and fish habitat, as well as roads and the cost of maintaining them. The project avoids landslide prone areas. Dormant earthflows are relatively gently sloping and are very productive in terms of tree growth. Part of the project occurs on dormant earthflows.

Most of the large conifer stands in the Collawash 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 harvesting.

**Disturbance Regime** (s. 1.2.1.1, page 5) - Fire has been the dominant landscape pattern-forming disturbance agent in the Collawash Watershed. The area in the vicinity of the project is characterized as warm moist western hemlock, Pacific silver fir forest that has a stand replacement fire regime where most or all trees would be killed with a fire frequency of 50 to 300 years or more. While fire frequency tends to be low because of moist habitats, when fires do occur they tend to be large and stand-replacing (killing all or most trees). These fires prepare mineral-soil seedbeds, produce a mosaic of stand structures and age classes across the landscape, and affect species diversity.

Recent wildfires in the Collawash Watershed occurred in a drier, higher forest that has a mixed severity regime with a fire frequency of 25 to 125 years characterized by underburning and some crown fire.

Fire suppression in the past 100 years has not dramatically altered the structure of stands or increased fire hazard in this watershed. Fire-created openings in the area tend to be large, irregularly shaped, and infrequently distributed (both spatially and temporally) across the landscape. Patch or stand sizes in flat to rolling terrain typically range from 100 to 300 acres, while sizes in steep and dissected terrain range from 10 to 50 acres. Fire-created openings generally contain abundant remnant live trees and snags.

While fire has played a role in influencing the macro-scale of forest structure, there are other disturbance factors that have influence at a smaller scale. Micro-scale disturbance agents in the project area affect individual trees, small groups of trees or large areas of susceptible species. Disease, insects and wind have been the secondary disturbance agents in the proposed treatment area. Small (1/4 acre) to large (1-3 acre) isolated pockets of root disease are present throughout the watershed. Root diseases, when present at low to moderate levels do not seriously compromise forest productivity. Trees weakened are usually blown over by the wind and often sustain a secondary attack by bark beetles.

**Past Management** (s. 1.2.1.2, page 7) - Road construction and logging of old-growth forests began in the mid 1950s in the Collawash watershed. Since then approximately 24,600 acres of forest stands (25% of the watershed) have been converted to plantations. The watershed once contained approximately 372 miles of system roads, but 73 miles were decommissioned several years ago. Additionally, 123 miles have recently been approved for decommissioning. A large power line transmission corridor crosses the watershed.

The Collawash watershed once contained large patches of mature Douglas-fir typical of the disturbance regime but now it is fragmented by plantations. The current vegetation pattern contains more edge habitat and less connectivity of mature forest than the pattern created by the natural disturbance regime. Plantations are uniform in size, regularly shaped, and evenly dispersed across the landscape. The plantations in the watershed have a wide range of ages and densities (from age 10 to 60). Some plantations have already been thinned, while many others have not.

**Tree growth and health** (s. 1.2.1.3, page 7) - The stands included in this project have been examined and have been found to be overstocked. When the plantations were created, trees were planted at relatively close spacing with the understanding that density management practices would occur over

time to space the trees out sufficiently as they grow to give them the room they need. When trees are too closely spaced they experience a slowing of growth due to competition for sunlight, moisture and nutrients. Suppressed, slow growing trees have begun to die and have become susceptible to insects, diseases and wind damage.

Trees that have been uniformly spaced during planting interact differently when developing through inter-tree competition of the stem-exclusion phase compared to stands seeded in after a fire or other stand-replacement disturbance. Trees have less of a chance to express dominance when they have been planted from genetically similar seed sources and maintained at relatively even spacing. Therefore, when these stands reach density levels in which individual trees are competing with each other for growing space it may take longer for individuals to express dominance. If trees are not thinned, competition would increase, stems would continue to grow in height, but diameter growth would drastically slow. These trees would become more dependent on neighboring trees for support. When trees develop in this manner they are more likely to blow down in large groups or be more susceptible to insects and disease.

**Diversity** (s. 1.2.1.4, page 9) **-** Diversity is the distribution and abundance of different native plant and animal communities and species. There are many ways to look at diversity and several scales to consider. 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 tree species, size and spacing. When the original clearcut harvesting occurred, all of the large trees and snags were removed. The plantations 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.

In the past, thinning focused primarily on tree growth and productivity and resulted in continued uniformity. There are opportunities however while designing a thinning project to both enhance growth and provide for greater diversity. Diversity can be enhanced by using techniques such as retaining minor species, retaining down wood and non hazardous snags, and creating snags, skips and gaps. Thinning that incorporates these features can change a uniform plantation into one with greater vertical, horizontal and species diversity. These changes would be beneficial to a wide range of plants and animals. As the stands continue to grow they would acquire the characteristics of old-growth forests sooner than if left untreated. The fragmented nature of the landscape would become less evident as plantations blend in with surrounding mature forest stands. This is particularly important in LSRs and riparian reserves to restore them to the desired conditions for the key species that rely on unfragmented mature forest conditions.

**Forest Products** (s. 1.2.1.5, page 11)

The first two goals of the project are to increase health and growth of stands and to provide for greater variability of vertical and horizontal stand structure. The Forest acting alone cannot achieve the thinning designed to meet these goals. The proposal is to auction the rights to remove and utilize the timber to qualified contractors in exchange for accomplishing the variable density thinning and other important work.

One of the goals of the Forest Plan as amended by the Northwest Forest Plan is to provide a sustainable level of forest products for local and regional economies and to provide jobs. Wood is used to make many important products needed by society. The value of wood drives rural economies as logs are removed from the forest and processed into a myriad of eventual products. Much of the wood from this project would be used to make houses. With an estimated 15 million board feet, this project would produce enough wood to build several thousand houses. Other products that would come from the removed trees include chips for paper manufacturing and firewood.

**Management Direction** (s. 1.2.2, page 12) - The proposed action has been designed to meet 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, special emphasis watersheds, earthflows and timber emphasis. For each of the land allocations, thinning is an appropriate tool to use to move the area towards the desired conditions.

**Purpose and Need**

The purpose of this project (s. 1.3, page 17) is to enhance the productive capacity of mid-aged stands in the Collawash watershed in order to provide for the sustainability of resources and forest uses as prescribed by the Forest Plan as amended.

- 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 caused mortality.

- There is a need for greater variability of vertical and horizontal stand structure because mid-aged stands within the project area do not have a mix of tree species that were present in the original stand and they are relatively uniform in terms of tree size and spacing. Also, there is a need for more sunlight on the forest floor to create greater diversity of ground vegetation.

- There is a need is to keep forests healthy and productive to sustainably provide forest products now and in the future. (Northwest Forest Plan ROD p. 26, Forest Plan p. Four-26).

**DECISION and RATIONALE**

**I have decided to select Alternative B, the Proposed Action** (s. 1.4, page 18) as described in the EA. Alternative B includes the following activities:

- Thin and harvest wood fiber on 2,053 acres of plantations to achieve the purposes listed above (the actual acres of thinning would be 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 through 1.4.5 on pages 18 to 20.

- Best Management Practices (BMPs) and Design Criteria in section 1.4.9, page 27 of the EA are included. No significant impacts were found that would require further mitigation.
- Repair 67 miles of system roads needed for log haul.
- Construct 0.4 mile of new temporary roads to access thinning units and decommission upon completion.
- Construct 12 miles of temporary roads on existing road alignments to access thinning units and decommission upon completion.

A change was made between the time of the Preliminary Assessment and the Final Environmental Assessment to fix an error involving a road that was listed as a system road that should have been listed as a temporary road (s. 1.4.6.3, page 23). In the Preliminary Assessment the road was listed as a system road - 6311.130 with a length of 0.73 mile. This road was closed with a guard rail barrier in the 1990s. The interdisciplinary team presumed that the road decommissioning for this road authorized in 2007 had not yet occurred because no action had taken place in the field to effectively block the entrance or scarify the road surface. However the decision for the 2007 Clackamas Restoration Projects EA indicated that the road could be removed from the Forest's data base with no treatment in the field.

At the time this error was discovered, I directed a site-specific field review by the relevant interdisciplinary team specialists. After considering their input, I have decided to reuse this route as a temporary road to access thinning units. After completion of thinning, the road will be more effectively decommissioned via more aggressive entrance management techniques. This includes decompacting the roadbed to a depth of 18 inches with mechanical construction equipment for the first 1/8 mile of road. Waterbars will be installed along the road and an earthen berm will be constructed at the entrance to prevent vehicle use. I find that the environmental effects of this change are similar to what was already assessed. I believe reusing this existing alignment and restoring it afterward is consistent with District Ranger Rykoff's 2007 decision because it minimizes the soil and water impacts as compared to building a new road prism in another location. The reuse of existing alignments is consistent with Forest Service policy as described in Forest Service Manual 7703.22.

**I believe that the proposed action meets the Purpose and Need** discussed in the EA (s. 1.3, page 17):

**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, resulting in larger wind firm trees (s. 1.2.1.3, page 7, s. 1.3, page 17 & s. 3.1, page 54).

Based upon computer model simulation, the average diameter in four (4) decades would be about 23 inches, compared to about 17 inches with no action. Presently, these plantations have an average diameter of about 12 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; and, it is also key for land allocations where the objective is to accelerate the development of late-successional stand attributes. 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 estimates that in approximately 40 years, average net growth rates would be 2.1 cubic feet per tree per year compared to 0.9 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 discriminate against 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, and discriminate against the smaller, overtopped, and/or less vigorously growing Douglas-fir trees. As a result, the anticipated growth and developmental rate of the larger trees will increase in comparison to no action.

**Diversity** - Thinning will improve vertical and horizontal diversity by variable spacing and creating small skips and gaps (s. 1.2.1.4, page 9, s. 1.4, page 18, s. 3.2, page 59 & s. 3.8.2, page 127).

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 am cognizant 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 plantations.

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 intimately 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 how snags and downed wood are vitally important components of diverse landscapes. I agree that these features are important. However, within the plantations 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. (The analysis of snags and down wood is at section 3.8.2 on pages 127 to 135.) 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 plantation 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, but in general, 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 immediately after thinning as described in section 1.4.9.2&3 on page 28 and 29. In the LSR units, five trees per acre would be girdled, two per acre would be felled and three per acre would be topped. Elsewhere three trees per acre would be girdled, felled or topped. These trees would be the size of the retained trees after thinning and would average over 12 inches diameter. Trees that are felled provide a relatively quick input of down wood: at first they would provide foraging habitat for a number of wildlife species such as woodpeckers and as the logs decay they would provide habitats for a broad range of species that live in and under them. Trees that are girdled would become snags that would provide foraging habitat for woodpeckers but since girdled trees of this size do not stand very long, they would become down wood after a decade or two. Trees that are topped would continue to live and grow but decay would be introduced: these trees have the potential to provide habitat for species that require larger trees such as pileated woodpeckers for a much longer time period.

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, pages 129 to 135), summarized below, shows the projection for large snags over the next decades.

| | No Action | LSR & Riparian Prescription | Matrix Prescriptions |
|---|---|---|---|
| Snags/ac. > 20 inches diameter in 100 years | 22 | 22 | 17-20 |
| Snags/ac. > 30 inches diameter in 100 years | 7 | 8 | 7-8 |
| Years to achieve 10 snags/acre > 30 inches diameter | 160 | 130 | 130-140 |

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 a number of respondents to the Preliminary Assessment 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, page 134) 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, page 132).

**Wood Products** – My decision will provide forest products consistent with the Northwest Forest Plan goal of maintaining the stability of local and regional economies now and in the future (s. 1.2.1.5, page 11, s. 3.1, page 54 & s. 3.16, page 167).

As a result of implementing the silvicultural prescriptions, Alternative B will provide approximately 15 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.

**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, I have come to the conclusion that there is little-to-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.

Stream management should be based on site-specific factors such as slope, aspect, direction of stream flow, stream width, topographic screening, the current presence or absence of wood or shade, 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.

I have 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. As part of the Endangered Species Act consultation for this project, the National Marine Fisheries Services (NMFS) concurred with this strategy. The following is in the EA on page 29. Distances from Listed Fish Habitat (LFH) are slope distance.

| | Within 1,000 feet of Listed Fish Habitat | 1,000 feet to 1 mile from Listed Fish Habitat | Greater than 1 mile upstream from Listed Fish Habitat |
|---|---|---|---|
| Perennial Streams | 100 feet | Buffer would vary from 60 to 100 feet wide based on site-specific conditions.* | 50 feet |
| Intermittent Streams | 50 feet | 50 feet | 30 feet |

* Buffer widths in most cases would be 100 feet except in units 20, 40, 72 and 74 where they would be 60 feet on the north side of the stream.

These buffers may be expanded where recommended by the unit fisheries biologist to include steep slopes up to a slope break, flood prone areas, high water table areas and wetlands.

In addition I have decided that validation monitoring is needed and will be conducted along a sample of stream reaches.

**Public Involvement**

For this project, the Forest Service began a process of collaboration with the Clackamas Stewardship Partners in 2009; a process that built on years of collaboration on similar thinning projects dating back to 2004 (s. 1.6, page 39). 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 September 27, 2010. The Forest publishes a schedule of proposed actions (SOPA) quarterly. The project first appeared in April 2010 and in subsequent issues. Several public field trips were conducted to visit the project area and discuss the purpose and need and issues. The legal notice for the 30-day comment period for this project was published in the Oregonian on November 18, 2011. Responses to substantive comments are included in Appendix B of the EA. A discussion of some of those comments are also included in section 1.6.1, page 39.

A wide range of comments was received. Many commenters felt that the effects of certain aspects of the project were too great or that the entire project should be deleted. There were a number of comments that related to roads and temporary road construction and reconstruction. Some were concerned about the quantities of snags and down logs while others question the science. I considered the comments received and I believe that the proposed action is both appropriate and consistent with relevant management plans (s. 1.2.2, page 12) and laws (s. 1.2.2.3, page 14) 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.

After receiving comments, the environmental assessment was finalized and additional clarifications were added. While I respect the opinions and wishes of commenters and appreciate the dialog that has occurred, I do not consider any of the comments received to be sufficiently unresolved to warrant the generation of other fully developed and evaluated alternatives in the environmental assessment.

**Description of Other Alternatives and Reasons for Non Selection:**

**Alternative A** is the no-action alternative (s. 2.1, page 45). It was not selected because it would not provide any of the benefits described in the purpose and need. If no action is taken, plantations would become overcrowded resulting in trees with reduced vigor, increased mortality (s. 1.3, page 17 & 3.1, page 54). Trees would stagnate and stay relatively small resulting in a period of low structural diversity (s. 1.3, page 17 & s. 3.2, page 59). If no action is taken in late-successional reserves or riparian reserves, plantations would be very slow in their acquisition of late-successional characteristics (s. 1.2.2.1, page 12, s. 3.3.4.4, page 75 & 3.7.5, page 119). If no action is taken, we 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, page 17 & s. 3.16, page 167). If no action is taken, roads would

deteriorate, become unsafe and impact fish and water quality (s. 3.12, page 148 & s. 3.3.4.2, page 70). 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. These alternatives derived from public comment were considered (s. 1.6.1, page 39). Details of the suggestions and responses are in the EA at s. 2.3, page 46 as well as Appendix B. The following has some further elaboration:

- One suggestion was to not build new roads or reopen old road alignments to avoid impacts to streams and aquatic resources (s. 1.6.1.1, page 39). Approximately 840 acres of the proposed action would be affected.

  With the proposed action, new temporary roads would be strategically located on gentle slopes and would not cross any streams. The existing road alignments proposed for reconstruction have some stream crossings; however, they have been designed to minimize impacts to aquatic resources (s. 1.4.6.3, page 22). 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 (page 17).

  During the early planning phase, road alignments to each unit were examined (s. 3.12.7, page 156). Some are not proposed for reconstruction because the resource impacts and costs were considered too great. Each road proposed for reconstruction and use was strategically assessed for resource impact and economic viability. Fisheries specialists on the interdisciplinary team and with the National Marine Fisheries Service found that the proposed action and project design criteria are sufficient to protect aquatic resources (s. 3.3.4.2, page 70). The proposed road construction and reconstruction would be consistent with Forest Plan standards and guidelines and the Aquatic Conservation Strategy.

  I considered this option, but decided not to pursue it as a fully developed alternative because it would not meet the purpose and need on more than half of the acres that need treatment and because the effects of road construction and reconstruction were not found to be significant.

- One suggestion was to delete thinning in LSRs, riparian reserves and earthflows to avoid impacts to the associated resources (s. 1.6.1.3, page 41). This would eliminate approximately 3/4 of the project.

  This option would not provide the benefits of improved health and growth or enhanced diversity described in the purpose and need (s. 1.3, page 17; s. 3.1.4, page 57 & s. 3.2.4, page 61) for the affected acres. The effects of thinning in these land allocations to listed fish and aquatic resources, northern spotted owls and earthflow stability were not found to be substantial (s. 3.3, page 63; s. 3.7, page 115 & s. 3.5, page 95). The proposed action meets Forest Plan standards and guidelines for these land allocations (s. 3.3.4.9, page 84; s. 3.7.6, page 123 & s. 3.5.6.5, page 102), and was determined to not likely adversely affect listed fish or spotted owls (s. 3.3.4.6, page 78 & s. 3.7.5.2, page 119).

I considered this option, but decided not to pursue it as a fully developed alternative because it would not provide the benefits described in the purpose and need for the affected acres and because the effects of thinning were not found to be significant.

- One suggestion was to use the LSRs prescription in certain matrix units to enhance long-term connectivity between the Collawash watershed and adjacent watersheds (s. 1.6.1.4, page 42). The watershed analysis identified areas of concern for late-successional connectivity.

  The recommendations of the Collawash/Hot Springs Watershed Analysis for late-successional connectivity are not applicable to this project. It makes recommendations for late-successional habitats and the proposed units are second growth. The project is consistent with the Collawash /Hot Springs Watershed Analysis recommendations. I considered this option, but decided not to pursue it as a fully developed alternative because using the LSR prescription in the matrix would preclude other important goals to enhance diversity and create forage (s. 1.6.1.4, page 41).

**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 2,000 acres of thinning. This equates to approximately 0.2% of the Forest and 0.5% of the Ranger District. 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 section 3 of the EA. The project would not likely adversely affect listed fish (s. 3.3.4.6, page 78) or the spotted owl (s. 3.7.1 page 115).

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, page 18).

3. There will be no significant effects on unique characteristics of the area. The project is not located in prime farmland or wetlands (s. 3.20, page 170), historic and cultural resources will be protected (s. 3.17, page 168). The outstandingly remarkable values associated with scenic and recreational rivers would be protected (s. 3.11, page 147).

4. The effects on the quality of the human environment are not likely to be highly controversial. I have concluded that the science behind plantation thinning is not highly controversial based on a review of the record that shows a thorough review of relevant scientific information (s. 1.3, page 17, s. 3.1, page 54).

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 Section 3 of the EA are based on sound scientific research and previous experience.

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. 1.2, page 4).

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, page 54), fisheries (s. 3.3.4.5, page 76), hydrology (s. 3.4.1.3, page 89), geologic stability (s. 3.5.5, page 99), soils (s. 3.6.7, page 110), owls (s. 3.7.5.3, page 121), snags and down logs (s. 3.8.2.4, page 132), deer and elk (s. 3.8.3.4, page 137) and air quality (s. 3.15.6, page 166). 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 and recent wildfires have been included in the analysis (s. 3.0.1, page 52 & 3.0.2, page 54). The analysis considered the proposed actions with Best Management Practices and 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. 3.17, page 168).

9. My decision is consistent with the Endangered Species Act. Formal consultation with U.S. Fish & Wildlife Service concerning the **northern spotted owl** has been completed for this project. The Letter of Concurrence from the U.S. Fish & Wildlife Service found that the project **may affect but is not likely to adversely affect** the owl or its critical habitat (s. 3.7.5.2, page 119).

Formal consultation with the National Marine Fisheries Service concerning **Listed Fish** has been completed for this project. The Letter of Concurrence from the National Marine Fisheries Service found that the project **may affect but is not likely to adversely affect** listed fish or their critical habitat (s. 3.3.4.6, page 78). Also, there would be **no adverse affect** to Essential Fish Habitat; therefore, this project is consistent with the Magnuson-Stevens Fishery Conservation Management Act.

There will be no significant adverse effects to sensitive species or survey and manage species (s. 3.3.4.6, page 78, s. 3.8.1.1, page 125 & s. 3.13.1, page 159). 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. 1.2.2.3, page 14). 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, page 170). 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 1.2.2.3, page 14, 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. 3.15, page 164).

*Clean Water Act:* No streams in the project area are listed as impaired under the Clean Water Act (303(d)) (s. 3.3.4.1, page 67). Implementation of my decision will incorporate Best Management Practices and Design Criteria, as described in the (s. 1.4.9, page 27), 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. 3.3.4.2, page 70). At this time it is uncertain whether this project will require a National Pollution Discharge Elimination System (NPDES) permit, due to ongoing judicial proceedings. Should it be determined that an NPDES permit is required for this project, the Forest Service will comply with any applicable NPDES permitting requirements (s. 3.4.3, page 94).

*Endangered Species Act (ESA):* Consultation has been completed where required. Listed species are addressed in sections 3.3, page 63 and 3.7, page 115.

*Magnuson-Stevens Fishery Conservation and Management Act*

The project would have no adverse affect to essential fish habitat for chinook or coho salmon (s. 3.3.4.6, page 78).

*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, page 54).

*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. 3.17, page 168).

CONSISTENCY WITH MT. HOOD FOREST PLAN – I find that the selected alternative is consistent with direction found in the Forest Plan. 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. 1.2.2, page 12 & s. 3, page 52).

- **Aquatic Conservation Strategy** – The project will contribute to maintaining or restoring aquatic conditions and is consistent with the Aquatic Conservation Strategy objectives (s. 3.3.4.7, page 79).

  - I have considered the relevant information from the Collawash/Hot Springs Watershed Analysis (1995). This project has adopted the concepts for riparian reserve delineation described in the watershed analysis (s. 1.2.2.3, page 14). The site-potential tree height for this project is 180 feet.

  - I find that the Best Management Practices and project design criteria (s. 1.4.9, page 27), 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. 3.3.4.7, page 79).

- **Management Indicator Species** - I have considered the impacts to Forest Management Indicator Species (s. 3.8.3, page 136). Management Indicator Species (MIS) for this portion of the Forest include northern spotted owl (s. 3.7, page 115), pileated woodpecker (s. 3.8.3.6, page 141), American marten (s. 3.8.3.5, page 140), deer, elk (s. 3.8.3.4, page 137), salmonid smolts and legal trout (s. 3.3.4.8, page 82). 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, page 161). Design criteria are included to prevent the spread and establishment of invasive plants (s. 1.4.9, page 27).

- 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. 3.3.4.6, page 78, s. 3.8.1, page 124 & s. 3.13, page 159).

  *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 exceptions:

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. 3.6.9, page 113). I am approving an exception for Forest Plan standards and guidelines FW-22, FW-28 and FW-30. I considered using helicopters to log these units but found the benefits to be insignificant and the additional cost to be unwarranted. Units that are above 15% will have obliteration of temporary roads and landings that are used by the contractor. Rehabilitation has been considered 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% with no opportunity for restoration. The objective of maintaining long-term site productivity will still be met. Even though there was no standard for long-term soil productivity when the original clearcuts were logged, the stands continue to grow well and are projected to continue to grow well after the proposed thinning.

The project is consistent with Forest Plan objectives for **earthflow** stability. However, additional soil impact will occur on areas where there is existing soil disturbance. The analysis shows that many units on earthflows already exceed 8% detrimental soil condition and they will remain above 8% after project implementation (s. 3.6.9, page 113). I am approving exceptions for Forest Plan standards and guidelines B8-36, B8-40, FW-18 and FW-20. Ground-based yarding will be used on most earthflow stands where ground-based systems were used in the original logging. I considered using helicopters to log these units but found the benefits to be insignificant and the additional cost to be unwarranted. The no-action alternative would have areas that remain above 8% with no opportunity for restoration. 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, page 95). Temporary roads and landings in earthflow units that are used by the contractor will be decommissioned. Rehabilitation has been considered for skid trails but the soil scientist and silviculturist do not recommend restoration of skid trails at this time because of the risk of damaging tree roots.

**Comments**

The legal notice for the 30-day comment period for this project was published in the Oregonian on November 18, 2011. The comments that were received focused on impacts to fish and water quality in a geologically unstable watershed, the potential for impacts to spotted owls, the retention of snags and down wood, the impacts from temporary roads, the adequacy of the range of alternatives, the adequacy of the analysis, and the consideration of best science. I have considered these comments and responded to them in Appendix B of the EA. By considering these comments, I believe that I have made a decision that balances the need for thinning against any impacts to resources, and I have

incorporated adequate design features (s. 1.4, page 18), best management practices, and design criteria (s. 1.4.9, page 27) to minimize impacts to resources and that those impacts have been thoroughly disclosed in the EA.

**Appeal Rights**

This decision is subject to appeal pursuant to Forest Service regulations at 36 CFR 215. Any individual or organization that submitted comments or expressed interest during the comment period may appeal. Any appeal of this decision must be in writing and fully consistent with the content requirements described in 36 CFR 215.14. The Appeal Deciding Officer is the Regional Forester. An appeal should be addressed to the Regional Forester at any of the following addresses. For postal delivery, mail to: Regional Forester, Appeal Deciding Officer, USDA Forest Service, PO Box 3623, Portland, OR 97208. The street location for those submitting hand-delivered appeals is 333 SW First Ave., Portland, OR, 97204. The office hours are 8-4:30 M-F, excluding holidays. For fax, send to 503-808-2339. Email: appeals-pacificnorthwest-regional-office@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 format (.rtf), or portable document format (.pdf) only. E-mails submitted to email addresses other than the one listed above, or in formats other than those listed, or containing viruses, will be rejected. It is the responsibility of the appellant to confirm receipt of appeals submitted by electronic mail.

The Appeal, including attachments, must be postmarked or received by the Appeal Deciding Officer within 45 days of the date legal notice of this decision is published in the Oregonian. For further information regarding these appeal procedures, contact Jim Roden at 503-630-8767, Email: jroden@fs.fed.us.

**Project Implementation**

Implementation of this decision may occur on, but not before, 5 business days from the close of the 45-day appeal filing period described above. If an appeal is filed, implementation may not occur for 15 business days following the date of appeal disposition (36 CFR 215.10).

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

/S/ *Chris Worth*

CHRIS WORTH
Forest Supervisor

8/30/2012
Date Signed

9/6/2012
Date Published