

RED HILL RESTORATION

Decision Notice and Finding of No Significant Impact

USDA Forest Service
Hood River Ranger District
Mt. Hood National Forest
Hood River County, Oregon
T1S R8-9E; T2S, R8E; Willamette Meridian

DECISION AND REASONS FOR DECISION

The Red Hill Restoration Environmental Assessment (EA) contains an in-depth discussion of the setting, ecological processes, resource conditions, purpose and need for action, proposed action, project design criteria/mitigation measures, alternatives considered, environmental consequences and benefits of the alternatives as well as appendices which include collaborative group recommendations and a discussion of comments received.

The Red Hill Restoration project is located on the Hood River Ranger District within the West Fork Hood River Watershed. The stand composition, structure, and densities in Red Hill project area have been altered by fire suppression efforts over the past 100 years; favorable climatic conditions for vegetation growth; and, increased presence and scale of native and non-native insects and diseases.

This project was undertaken to improve overall forest conditions within the Upper West Fork Hood River sub-watershed. The project area includes a variety of healthy and unhealthy, mature stands. High densities as well as insect and disease are the major contributors to poor forest health in this area. The absence of fire, partial harvest in the early 1900s, and stand regeneration practices in the past 60 to 80 years have all contributed to Douglas-fir dominated, dense and often single-story stand conditions. These conditions have made most of the stands in the watershed susceptible to root disease and root decay. In addition, at higher elevations stand conditions are susceptible to other insect and diseases, such as the balsam wooly adelgid.

Purpose and Need for Action (EA, Section 1.3)

In order to improve overall forest conditions within the watershed, the purpose of the Red Hill Restoration project is to:

- Increase health and vigor, and enhance growth by releasing trees through variable density thinning treatments to increase diameter and height growth of selected stands;

- Improve structural and species diversity within selected stands by reducing competition induced tree growth suppression and mortality, and by releasing leave trees through variable density thinning to increase diameter and height growth; and,
- Maintain or enhance aquatic habitat and riparian conditions by improving forest ecosystem health of selected stands within riparian corridors and by decommissioning, closing and improving roads.

As such, the underlying need for the Red Hill Restoration project is to:

- Reduce the risk of sediment delivery to streams by decommissioning, closing or improving roads within the project area; and,
- Provide wood fiber for local and regional economies.

Management Direction (EA, Section 1.3.1)

The Red Hill Restoration project is proposed to respond to goals and objectives of the Mt. Hood Land and Resource Management Plan, as amended (US Forest Service, 1990a) and the recommendations in the West Fork of Hood River Watershed Analysis (US Forest Service, 1996). The EA and this decision are tiered to the Mt. Hood National Forest Land and Resource Management Plan Final Environmental Impact Statement (US Forest Service, 1990b) and Record of Decision (US Forest Service, 1990c), and incorporates by reference the accompanying Forest Plan. The Forest Plan guides all natural resource management activities and establishes management standards and guidelines for the Forest. It describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management. Goals, objectives and desired future conditions of the management areas within the project area are discussed below in the description of land allocations. In addition, management direction for the area is provided in three major Forest Plan amendments:

- The Northwest Forest Plan (NWFP) - *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* (1994);
- Survey and Manage – *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (2001); and,
- Invasive Plants– *Pacific Northwest Invasive Plant Program Preventing and Managing Invasive Plants Record of Decision* (2005).

Additionally, the EA and this decision are tiered to the West Fork Hood River Watershed Analysis. The West Fork covers approximately 65,500 acres between Mt. Hood and the mainstem Hood River. About 65 percent of the watershed, or 42,728 acres, is National Forest System lands. The NWFP Record of Decision requires a watershed analysis for all Key Watersheds prior to resource management (page C-3).

Desired Future Condition/Land Allocations (EA, Section 1.3.2)

The desired future condition for the upland and riparian vegetation treatments is a multi-layer canopy with large diameter trees, well-developed understory, more than one age class, and snags and down woody debris. The desired future conditions for the road treatments are to improve watershed conditions to move towards hydrologic and sediment regimes that function within their ranges of natural variability. Achieving this desired future condition will enable meeting the overall goals of the land use allocations within the project area and recommendations within the watershed analysis. Figures 1-2 and 1-3 in the EA illustrate the existing conditions and desired future conditions for the vegetation treatments.

Several land allocations as designated by the Forest Plan and NWFP are found within the project area. The primary land use allocations in the planning area are C1-Timber Emphasis, A-9 Key Site Riparian, and B10-Deer and Elk Winter Range. In addition, the secondary Forest Plan land use allocations are B2-Scenic Viewshed and B5-Pileated Woodpecker and Pine Marten Habitat. See EA, Figure 1-4 for a map of the land use allocations within the planning area.

The goal of Timber Emphasis lands (C1) is to provide lumber, wood fiber, and other forest products on a fully regulated basis, based on the capability and suitability of the land. A secondary goal is to enhance other resource uses and values that are compatible with timber production (Forest Plan page 4-289 to 4-290). The goal of Key Site Riparian land (A9) is to maintain or enhance habitat and hydrologic conditions of selected riparian areas, notable for their exceptional diversity, high natural quality and key role in providing for the continued production of riparian dependent resource values (Forest Plan page 4-179 to 4-181). Lastly, the goal of Deer and Elk Winter Range (B10) is to provide high quality deer and elk habitat for use during most winters, and provide for stable populations of mule deer and Rocky Mountain elk on the eastside. Secondary goals are to maintain a healthy forest condition through a variety of timber management practices and to provide dispersed summer and developed recreation opportunities (Forest Plan page 4-272).

Other management direction for the Red Hill Restoration project comes from the NWFP for Matrix and Riparian Reserves. The Matrix consists of those federal lands outside the six categories of designated areas (Congressionally Reserved Areas, Late-Successional Reserves, Adaptive Management Areas, Managed Late-Successional Areas, Administratively Withdrawn Areas, and Riparian Reserves). Most timber harvest and other silvicultural activities will be conducted in that portion of the Matrix with suitable forest lands, according to standards and guidelines. Riparian Reserves are areas along all streams, wetlands, ponds, lakes, and unstable or potentially unstable areas where the conservation of aquatic and riparian-dependent terrestrial resources receives primary emphasis. The main purpose of the reserves is to protect the health of the aquatic system and its dependent species; the reserves also provide incidental benefits to upland species. See EA, Figure 1-5 for a map of NWFP land use allocations.

Decision

Based upon my review of the analysis and alternatives, I have decided to implement the Proposed Action as described in the EA, Section 2.2. Appendix 1 of this Decision Notice contains a map of the selected alternative as well as unit-specific information for all vegetation

treatments. All project design criteria/mitigation measures (PDC) that apply to this decision are included in Appendix 2 of this Decision Notice. The PDC are intended to avoid, minimize, rectify, reduce, eliminate and/or compensate for project impacts. The PDC are an integral and required component part of this project.

Vegetation Treatments (EA, Sections 2.2.1, 2.2.2, 2.2.5, and 2.2.6)

The Proposed Action includes treating approximately 1,536 acres within the Upper West Fork Hood River sub-watershed. The Proposed Action includes plantation thinning, thinning for forest health improvement, and sapling thinning. In addition to these treatment units, the Proposed Action includes approximately 12 acres of additional clearing for logging system access. Logging system access will be areas that include but are not be limited to skyline corridors, skid trails, landings, and temporary roads. The Proposed Action is summarized in Table 1 and is fully described in EA, Section 2.2.

Table 1: Proposed Action Treatment Acres

Treatment	Acres
Plantation Thin	1209
Thinning for Forest Health Improvement	239
Sapling Thinning (Precommercial Thinning)	76
Logging System Access	12
Total	1536

Forest health concerns are present in upland and riparian areas. The overall desire for these treatments is to move riparian areas as well as the upland portions of the stands towards a properly functioning late-successional area with a large tree component that is currently absent in the majority of the stands due to high tree densities. Riparian prescriptions are fully described in EA, Section 2.2.6.

Both thinning treatments (plantation thin and thinning for forest health improvements) will utilize variable density thinning (VDT), which allows for flexibility to achieve overall treatment objectives (see EA, Table 2-2). This allows emphasis to be placed on leaving vigorous trees of all sizes without concern for spacing. Leave tree spacing associated with variable density thinning will vary within and between units. Tree density will be measured by basal area, canopy closure, trees per acre or relative density depending on the circumstances for each unit. Skips and gaps within the stands are included in variable density thinning to mimic more natural conditions.

Gaps are intended to create openings to support regeneration of shade intolerant species and more rot resistant species while also providing structural diversity. Gaps will be placed in units with plantation thinning and thinning for forest health improvement prescriptions, and gap locations will be focused where openings already exist in frost, wind throw, and root rot pockets. The majority of units have gaps that are 2-acres or less. Five units have gaps larger than 2-acres; these gaps are approximately 3.5 acres in size. The larger gaps are needed to promote the regeneration of shade intolerant species (e.g., western white pine or larch) that are native to these stands. EA, Table 2-3 provides unit-by-unit information on the skips, gaps and heavy thins that

are included as part of the Proposed Action for this project.

Based on the comments received, I requested that the IDT provide some detailed analysis on the impacts that landings will have on snags. EA, Section 2.2.5 provides details on the landings needed to facilitate all logging systems (helicopter, cable yarding and ground-based logging). Approximately 8 helicopter landings and 75 skyline and ground-based landings are needed for this project. Every effort will be made to minimize the acres of disturbance associated with landings during lay-out and logging implementation. All landings will be located within existing plantations for this project. Additional snags will be removed in the area immediately adjacent to the landings in order to meet Occupational Safety & Health Administration (OSHA) requirements. The number of snags to be removed can be estimated using the average number of snags within the plantations and the required clearing limits set by OSHA. Based on the estimated acres of disturbance (15 to 30 acres of disturbance) and number of snags within the plantations, it is estimated that approximately 2 snags per acre will be removed to meet the current OSHA standards for clearing limits around landings. As a result, the maximum number of snags to be removed to meet OSHA standards is 60 snags. The removal of these snags is fully analyzed in Chapter 3 of the EA (see EA, Section 3.8.5, Wildlife, Snags and Down Log Associated Species). Based on the analysis, I find the number of snags associated with landings that will be removed to be acceptable and will not result in adverse environmental effects.

Finally, the no treatment protection buffers have been increased in four units (Units 12, 21, 26 and 29). PDC A-2 (see Appendix 2) states: “No tree felling will occur within protection buffers as shown in Table 4 . . . Buffers are measured from the edge of the bankfull channel on both sides of the stream. Minimum buffers should be expanded to include slope breaks where appropriate.” Based slope breaks and on-the-ground conditions, the buffers for these units have been expanded to compile with this PDC. Table 2 below lists the buffers for perennial streams within these units. These increased buffer sizes no not apply to intermittent streams any other water source. If any new water sources are identified in any units, an assessment will be completed by Forest Service personnel to determine whether the minimum buffers or a large buffer based on topography is required.

Table 2. Increased Protection Buffer Widths

Unit	Buffer Width (feet)
Unit 12	100
Unit 21	120
Unit 26	120
Unit 29	120

Road Treatments (EA, Section 2.2.7)

All of the roads within the project area were analyzed to determine if decommissioning or road closures were appropriate following the completion of the proposed vegetation treatments. The criteria used to determine if the road will be decommissioned, closed, upgraded or remain open included: public and administrative access; likelihood and timing of future timber/fuels treatment; level of aquatic risk due to erosion or road failure; current road conditions; and, future road maintenance needs. As defined by the 2003 Roads Analysis Report, an aquatic risk rating

was assigned to each road segment based on combining the values of individual aquatic risk factors. The individual risk factors are: riparian areas/floodplains; fish passage; landslide hazard; surface erosion hazard; hydrologic hazard; high risk stream crossings; stream crossing density; and wetlands.

This project will decommission approximately 12 miles of unneeded roads over several years, as implementation funding becomes available. The roads will not be decommissioned until the proposed thinning has occurred. This decommissioning includes Forest Service Road 1670 (2.4 miles); this road has already been decommissioned on-the-ground. This decision will remove the road from the official Forest Transportation layer. In addition, 8.4 miles of road will have a year-round closure. Lastly, 5.6 miles of road will be storm proofed, where the roads are upgraded to minimize the aquatic risk associated with the road. The roads activities are summarized in the EA, Table 2-6 and more fully described in Section 2.2.7.

I would like to emphasize that implementing the road decommissioning, road closures and storm proofing are important to the Forest, and identifying the funding necessary to complete these projects will be a priority for the Forest. We have already started discussions on how these actions can be implemented as soon as the roads are no longer needed.

Other Actions (EA, Sections 2.2.4 and 2.2.8)

Construction of temporary roads, maintenance of system roads needed for haul, pile burning, and biomass collection are included in this decision. Fuels treatments could include, but are not be limited to, lop and scattering, piling and burning, or biomass collection. Biomass collection could include machine piling and removal of materials to be used to generate electricity.

The project includes proposed temporary roads that were identified to facilitate conventional logging systems (ground-based and skyline yarding). The exact locations of temporary roads may change during the layout phase of this project, but the total mileage of the temporary roads will not exceed 4.0 miles. Of the proposed temporary roads, 1.1 miles are new temporary roads, 2.1 miles are previous temporary roads that will be reconstructed for this project, and 0.6 miles are on previously decommissioned roads as depicted in the EA, Figure 2-3. It is my intent is to have the temporary roads located as depicted in the map; however, they may need to be adjusted slightly during the layout phase. Any changes will have to meet the design criteria stated in EA, Section 2.2.4 and all Project Design Criteria (Appendix 2). Any change to the Proposed Action following a signed Decision Notice will have to follow the changed condition requirements in NEPA and be approved by myself as the Responsible Official for this project.

Road reconstruction and maintenance will occur on approximately 36 miles of road along the identified haul route. No new permanent road construction will be necessary to implement the Proposed Action. EA, Table 2-7 discusses four basic maintenance and repair work categories that will be utilized on roads during and after use to maintain minimum standards. These work categories include brushing, drainage, blading, maintenance, and surface repair. Maintenance work consists of providing minimum access required for contractors operations and associated Forest Service contract administration and preventing unacceptable resource or road damage. All work will be within the existing road prism. The road maintenance work includes one culvert replacement on Forest Service Road 1340 at milepost 0.35. The road maintenance work also

includes danger tree falling on approximately 34 miles of road.

Forest Plan Exceptions (EA, Sections 2.6.1 and 2.6.2)

There are two Forest Plan standards that will not be met in order to meet the Purpose and Need for Action. Exceptions to the Forest Plan standards are allowed under the Forest Plan, if they are identified during the interdisciplinary process. The exceptions were identified during the interdisciplinary planning analysis and the IDT process concluded that these exceptions were within the Purpose and Need for Action. Forest Plan page 4-45 states that for “should” standards “action is required; however, case-by-case exceptions are acceptable if identified during interdisciplinary project planning, environmental analyses. Exceptions are to be documented in environmental analysis (National Environmental Policy Act 1969) public documents.” Also, the exceptions were shared with the public during the scoping and notice and comment periods. All other standards and guidelines will be met with this proposal.

I approve the following exceptions to the Forest Plan and find that they have been fully analyzed in Chapter 3 of the EA. The following documents the rationale for each exception.

- Snags and Down Log Associated Species (FW-215): Where new timber harvest units occur (e.g., regeneration harvest and commercial thinning), wildlife trees (i.e., snags and green reserve trees) should be maintained in sufficient quantity and quality to support over time at least 60 percent of the maximum biological potential of primary cavity nesting species, e.g., woodpeckers.

Overall, this standard cannot be met because of the on-the-ground conditions present within the stands. Implementation of the selected alternative will reduce the amount of small snag recruitment that will have occurred through the process of stress and mortality in the next 20 to 30 years. Some of the snags and downed logs that might have formed from the death of the intermediate and suppressed trees will be removed by thinning activities. As a result, the attainment of moderate-sized snags and down wood will be delayed because of the reduction in density of the stands which will reduce the levels of suppression mortality.

Structural diversity would be improved by initiating a new age class and by creating openings. Thinning would also have an indirect impact by releasing the green retention trees. These retention trees would later become the large diameter snag and downed wood. Thinning may have short-term impacts on downed wood quality, but tree response to thinning is expected to result in increased growth which would speed the ability of the stands to provide the size of snags and down wood needed to meet the Forest Plan standards FW-215, FW-216, FW-219 through FW-223. For more information, see EA, Section 3.8, Wildlife Resources.

- Deer and Elk Winter Range (B10-014): Forest canopy closure should reach at least 70 percent canopy closure within 10 years of the last commercial thinning activity.

This standard cannot be met given the current conditions on-the-ground. An alternative

was considered and eliminated from detailed study (see EA, Section 2.5) to meet this standard, but it was not possible. The stands do not currently meet the standards and they do not have large enough trees to meet these standards over time without treatment. For Deer/Elk winter range a 70 percent canopy cover could not be achieved in 10 years with a higher retention level while still meeting the purpose and need for action. There would be a short-term gain in canopy cover, but a long-term reduction in stand health and viability resulting in less canopy cover long-term. Even though this standard is not being met, the selected alternative improves the deer and elk habitat being provided in the areas of the proposed road closures. Due to reduced accessibility of the areas, the selected alternative will reduce the disturbance to deer and elk in summer and winter as well as reducing the likelihood of poaching. For more information, see EA, Section 3.8, Wildlife Resources.

Best Management Practices (EA, Section 2.6.3)

Best Management Practices (BMPs) are defined as “methods, measures or practices selected by an agency to meet its nonpoint source control needs.” Appendix H of the Forest Plan provides management direction on the BMP implementation process. Further, according to the Northwest Forest Plan, BMPs will be incorporated into the implementation of the project. BMPs are drawn from General Water Quality Best Management Practices, Pacific Northwest Region (November 1988); Draft Environmental Protection Agency Region 10 Source Water Protection Best Management Practices for USFS, BLM (April 2005); Mt. Hood National Forest Standards and Guidelines, Northwest Forest Plan Standards and Guidelines and The National Best Management Practices for Water Quality Management on National Forest System Lands - Volume 1: National Core BMP Technical Guide (April 2012) and professional judgment.

BMPs have been adjusted and refined to fit local conditions and then incorporated in the project design criteria/mitigation measures as described in EA, Section 2.2.3 as well as the standard contract language for implementing these projects. Appendix 2 of the EA details the site-specific Best Management Practices for Water Quality for this project. The appendix includes all the required components of the site-specific BMPs as specified in Appendix H of the Forest Plan, including BMP title, objective, explanation, ability to implement, effectiveness, and monitoring. In addition, the site-specific BMP table provides a cross-walk with the PDC and planning process. These BMPs effectiveness is discussed in Chapter 3 of the EA (see Section 3.5, Water Quality and Section 3.6, Fisheries & Aquatic Fauna).

I find that the refined BMPs selected for this project can be implemented and effective based on past experience, pertinent research described in Chapter 3 of the EA, and monitoring on the Mt. Hood National Forest. Also, I find that the information contained in Appendix 2 of the EA fully complies with the management direction contained in Appendix H of the Forest Plan.

Rationale for Decision

I believe the actions described in the selected alternative will meet the overall purpose of the project to improve the forest conditions within the West Fork Hood River Watershed. The vegetation treatments meet the objectives of the project by implementing treatments that will fully meet the purpose and need for action by moving the forested stands towards a more historic, functioning system. Tree growth will be improved by increasing the health and vigor

and enhancing diameter and height growth, resulting in larger, wind firm trees. Thinning will improve vertical and horizontal diversity by variable spacing and creating small skips and gaps. The Vegetation Resources section of the EA (Section 3.1) fully demonstrates the improvements to tree growth and diversity. Further, by improving forest ecosystem health of selected stands within riparian corridors, aquatic habitat and riparian conditions will be maintained or enhanced as demonstrated in the Water Quality (EA, Section 3.5) and Fisheries and Aquatic Fauna (EA, Section 3.6) sections.

The selected alternative decommissions, closes and storm proofs approximately 26 miles of high aquatic risk roads as defined by the 2003 Roads Analysis; this will reduce the risk of sediment delivery to streams and improve the overall aquatic habitat and riparian conditions. Also, the selected alternative provides commercial timber for sale; this meets the objective of providing wood fiber for local and regional economies within the lands designated as C1-Timber Emphasis in the Forest Plan and as Matrix in the Northwest Forest Plan for the continued production and utilization of forest resources, principally timber, water, dispersed recreation, and wildlife. I believe that the selected alternative strikes an appropriate balance between essential restoration opportunities and cost effective operations, reflecting our understanding of the challenges faced in the current economic markets.

I feel the selected alternative considered all comments received during the collaborative process, scoping period, and notice and comment period. The selected alternative balances the comments received from all stakeholders, and this decision provides some modifications based on the comments received. Some of the comments that provoked the most discussion were related to decommissioning and closing roads, temporary roads, thinning for forest health improvement, and gap size.

- Decommissioning and closing roads: Some commenters were concerned about the complete decommissioning of roads while other commenters recommended decommissioning additional roads. All of the roads within the project area were analyzed to determine if decommissioning or road closures were appropriate following the completion of the proposed vegetation treatments. The criteria used included: public and administrative access; likelihood and timing of future timber/fuels treatment; level of aquatic risk; current road conditions; and, future road maintenance needs as described in EA, Section 2.2.7. I feel that this approach uses criteria presented by both sides to consider what roads should be decommissioned or closed, and what roads should remain open. As such, I feel the selected alternative represents public opinions while addressing the purpose and need for action to enhance aquatic habitat and riparian conditions.
- Temporary roads: Comments raised a concern about the reopening of old road alignments and the construction of new temporary roads. The commenters felt the ground disturbance associated with this work, particularly where it is in close proximity to streams, could affect aquatic resources. The commenters also were concerned about the cost-benefit analysis associated with the use of temporary roads. The temporary roads were placed on previously road locations where possible, unless they were in close proximity to a stream. The temporary roads are located on decommissioned roads that had an aquatic risk rating of low to moderate. By design none of the temporary roads are hydrologically connected to any stream channel. As required by the PDC, all temporary

roads, skid trails, and landings will be rehabilitated after project activities are completed in each unit. These PDC were refined based on the comments received. As such, I feel the temporary roads are the most ecologically appropriate method to implement the removal of timber.

- Thinning for Forest Health Improvement: The selected alternative includes 239 acres (3 units) of thinning for forest health improvement. These thinning treatments are within densely stocked stands that were selectively harvested or had fuels reduction treatments within the past 80 years. These units generated the most intensive discussion during the collaborative group process and the most comments during the notice and comment period. EA, Section 3.1.2, Vegetation Resources Existing Conditions discusses the current conditions by plant association, age class and stand structure for each stand. Individual stand exams were conducted for these units to inventory and analyze stand conditions.

The Forest Service has past activity records (for both human and natural disturbances) for this area going back to the 1900s. Unit 43 was a younger stand that was likely impacted by regeneration harvest in the 1950s. While not actually harvested, there was evidence in the unit of past fire activities (fire scars and soot). Similar to its neighboring stands, it lacks growth, stand structure, and species diversity due to dense growing conditions. Units 44 and 50 have trees that were found to be of larger diameter than neighboring plantations; however, other key components for a healthy stand were lacking as shown in the EA, Figure 2-2. Relative Densities in the two stands are between 65 to 78 trees per acre, resulting in slower growth. Also, both units lack needed stand structure and species diversity for the plant community. These stands are dominated by single story structure that is dominated by Douglas-fir. Both stands also lack conifer regeneration in the understory, which is dominated by vine maple.

After reviewing the existing conditions and analysis of these units, I feel there is a strong ecological need to treat the stands as proposed. As such, I chose to retain and treat these stands as described in the selected alternative.

- Gap Size: The collaborative group recommended that plantations be thinned using “Variable density thin from below with skips and gaps up to two acres. Base the prescription on function and structure of the stand and leave the best.” The Forest Plan limits gap openings to 2-acres (FW-323) for uneven-age management. The limitation for even age management is much greater than 5-acres in size (FW-349 and FW-350). All of the proposed units are considered even age management, since they are existing plantations. The majority of units have gaps that are 2-acres or less, but five units have gaps larger than 2-acres. The larger gaps are needed to promote the regeneration of shade intolerant species (e.g., western white pine or larch) that are native to these stands. I believe the increased gap size is based on function and structure as recommended by the collaborative group even through the recommended size is exceeded. Also, I believe the increased gap size will better achieve the ecological needs on-the-ground.

In conclusion, I believe that the selected alternative reflects the integration of effective land management objectives at a very high standard and fully meets the purpose and need for this

project.

Alternatives Considered and Reasons for Non Selection

No Action Alternative (EA, Section 2.1)

Under the No Action alternative, current management plans would continue to guide management of the area. No timber harvest or other associated actions would be implemented to accomplish project goals. Stands would continue to remain uniformly dense and the overstocked condition would result in stands with reduced vigor, small trees, increased mortality, and increased susceptibility to stressors such as insects, diseases and weather. In the long-term, the stand structure and composition would be dominated by Douglas-fir and in the overstory, and the understory would remain under-developed with low occurrences of ecologically important tree and shrub species. The stand structure would remain in a single story dominated stem exclusion type stand. Young stands would continue to grow in densely stocked conditions with little regeneration. Densely stocked stands would continue to have increasing crown closure and little species and structural diversity. Additionally, no wood products would be provided. See EA, Section 3.1, Vegetation Resources for more details.

Also, the riparian conditions would not be improved. Over the next 50 years there would be more trees dying and then falling in Riparian Reserves as the stands decay and deteriorate. As such, there would be an increase in the amount of down wood, but this wood would generally be smaller in diameter and thus would decay faster both in and out of stream channels. Fewer trees would grow to a larger size that would last longer once on-the-ground and in larger streams provide more stable habitat creating characteristics. See EA, Section 3.5, Water Quality and EA, Section 3.6, Fisheries and Aquatic Fauna for more impacts on the riparian areas.

The No Action Alternative would not repair, decommission, close or storm proof any roads. The current use pattern of roads within the planning area would not change. The volume of public use on this system would not change over the near term, but could decrease slightly over time due to decreased navigability of the roads. Administrative use on this system would not change. No action would mean that current minimal road maintenance would occur, and no road reconstruction would occur. Lack of road maintenance exhibits a strong adverse effect with respect to both safety and the environment. Road surface, road subgrade, and road base failures present physical hazards to drivers, reduce a driver's ability to maintain positive control of a vehicle, and increase the potential for the development of erosion hazards on road slopes including soil slumps and slides due to pooling of water and increased soil saturation in the road bed. See EA, Section 3.2, Transportation System for more details.

I did not select this alternative because the overall forest conditions within the West Fork Hood River watershed would not be improved and because this alternative would not meet the purpose and need for action. Variable density thinning would not be implemented, so diameter and height growth as well as the structural and species diversity of selected stands would remain unchanged. Also, the aquatic habitat and riparian conditions would remain unchanged because forest ecosystem health of selected stands within riparian corridors would not be improved and high aquatic risk roads would not be decommissioned, closed or upgraded. Finally, I did not select this alternative because it would not provide any wood fiber to local or regional economies.

Higher Retention Density within Riparian Reserves (EA, Section 2.5)

An alternative was considered, but eliminated from detailed study that would retain higher tree densities within riparian reserves and Deer/Elk Winter Range (B-10 Land Use Allocation). The intent of this alternative would be to maintain down wood and snags within Riparian Reserves to meet Forest Plan standards (DW-215, FW-219, B10-014) and also achieve canopy cover of 70 percent within 10 years of treatment within B10-Deer/Elk Winter Range, while still meeting the purpose and need for action.

More down wood would be maintained in Riparian Reserves under this alternative, but the snag and down wood standards would not be met regardless because the stands do not currently meet the standards under the existing conditions on-the-ground. Also, the existing stands do not have large enough trees to meet these standards over time without treatment. For Deer/Elk Winter Range, a 70 percent canopy cover could not be achieved in 10 years with a higher retention level while still meeting the purpose and need for action. There would be a short-term gain in canopy cover, but a long-term reduction in stand health and viability resulting in less canopy cover long-term. Overall, a higher retention prescription would not result in substantial differences in stand characteristics compared to the Proposed Action (as described in EA, Table 2-10).

I did not select this alternative because it would not fully meet the purpose and need for action and would not be substantially different than the Proposed Action. Specifically, this alternative would not meet the purpose to “increase health and vigor, and enhance growth by releasing trees through a variable density thinning treatment to increase diameter and height growth of selected stands” (EA, Section 1-3). Also, I did not select this alternative because the Proposed Action includes components and PDC (see Appendix 2) that protect decadence features including dead trees, downed logs and large woody debris. For example, the primary goals of the riparian treatments are to improve species composition, enhance structural diversity, and improve future quality of downed wood and in-stream large wood as discussed in the EA, Section 2.2.6.

Public Involvement (EA, Section 1.6)

Red Hill Restoration was listed in the Mt. Hood National Forest quarterly planning newsletter (Schedule of Proposed Action [SOPA]) beginning in July 2011. The project also listed on the Mt. Hood National Forest website beginning in July 2011 at: <http://www.fs.fed.us/nepa/fs-usda-pop.php/fs-usda-pop.php?project=35969>. No comments were received through this effort.

In April 2012, a scoping letter providing information and seeking public comment was mailed to approximately 135 individuals and groups. During the comment period, the Forest Service received four formal comments from Oregon Wild, Bark, American Forest Resource Council (AFRC) and an individual. All of the comment letters are available in the project record, located at the Hood River Ranger District in Mount Hood/Parkdale, Oregon.

A legal notice announcing the availability of the Red Hill Restoration Preliminary Analysis for review and comment was published in *The Oregonian* (newspaper of record) on November 16, 2012. The 30-day comment period ended on December 17, 2013. Twelve individuals and organizations submitted written comments within the comment period. The comments were received from individuals, Bark and AFRC. An additional letter from Oregon Wild was received

after the comment period had ended. Copies of these letters are in the Red Hill Restoration project file. Substantive comments received are summarized along with Forest Service responses in Appendix 3 of the EA.

In addition to these efforts, the Forest Service participated in government-to-government consultation with the City of Hood River Public Works, U.S. Fish and Wildlife Service, and National Marine Fisheries Service on this project as detailed in Chapter 4 of the EA.

Collaboration (EA, Section 1.6.1)

Members of the Hood River Collaborative Stewardship Crew met from April to November 2011 to identify restoration opportunities within the West Fork of Hood River. Twenty-eight members of the community participated in the process, including tribal government (Confederated Tribes of Warm Springs), federal government (US Forest Service), local and state government agencies (Oregon Department of Fish & Wildlife, Oregon Department of Forestry, Hood River County), a watershed group (Hood River Watershed Group), non-profit groups (Bark, Oregon Wild, Crag Law Center, Rocky Mountain Elk Foundation, Backcountry Horseman), timber industry (WKO/High Cascade), and individual residents/landowners. The group discussed forest health, riparian thinning, huckleberry enhancement, fuels treatments, and plantation thinning. The group participated in two field trips to visit potential treatment units, and to see the outcomes associated with the Lake Branch Thinning project. In November 2011, the Hood River Collaborative Stewardship Crew submitted recommendations for the Red Hill planning area to District Ranger, Daina Bambe (see EA, Appendix 1).

Issues Generated Though Scoping (EA, Section 1.7)

Issues serve to highlight effects or unintended consequences that may occur from the Proposed Action and alternatives, giving opportunities during the analysis to reduce adverse effects and compare trade-offs for the Responsible Official and public to understand. Issues are statements of cause and effect, linking environmental effects to actions, including the Proposed Action (Forest Service Handbook 1909.15, 12.4). During the collaborative process and the scoping period, one issue was brought forward that generated an additional alternative. This alternative was designed to address the decadence issue; the alternative was considered, but was eliminated from detailed study (see EA, Section 2.5).

Scoping comments raised a concern about decadence and recent scientific findings. Commenters state that there is an excessive emphasis on the health of trees and would like greater attention paid to the value of dead and down trees. In their opinions, healthy ecosystems should have an abundance of large decaying live trees, large snags and coarse woody debris all of which are lacking in plantations. A recurring concern is that thinning captures future mortality, and that those potential dead trees are important for wildlife and as sources of down wood in streams. One scoping comment stated: "Recognize that dead wood values are sacrificed in thinned areas due to the effect of 'captured mortality,' while other late successional values, such as rapid development of large trees and understory diversity may be delayed in unthinned areas, so an important step in the restoration process is to identify the most optimal mix of treated (thinned) and untreated (unthinned) areas. We think this should be a conscious and well-documented part of the NEPA analysis, not just an accidental byproduct of what's economically thinnable."

Another scoping comment stated: “If these stands are thinned, there will be a reduction in number, and a delay in the recruitment of snags, first by removing trees that would otherwise suffer suppression mortality, and second by increasing stand vigor and postponing overall mortality.”

The selected alternative includes PDC that will retain and develop snags. All snags larger than 6-inches will be retained where safety permits. If snags must be cut for safety reasons, they will be left on site. Also, the primary goals of the riparian treatments are to improve species composition, enhance structural diversity, and improve future quality of downed wood and in-stream large wood. Lastly, skips associated with variable density thinning and riparian protection buffers will provide down wood. The impacts to snags are discussed further in the EA, Section 3.8, Wildlife and the impacts to down wood are discussed in the EA, Section 3.5, Water Quality; EA, Section 3.6, Fisheries and Aquatic Fauna; and, EA, Section 3.8, Wildlife.

In addition, there were several concerns (diameter limits, decommissioning and closing roads and temporary roads) that were raised. Concerns identified during scoping were used to refine the Proposed Action as well as the effects analysis presented in Chapter 3. These concerns are discussed in detail in the EA, Section 1.7.

FINDING OF NO SIGNIFICANT IMPACT

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 will 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 selected alternative, context of the project, and the intensity factors (40 CFR 1508.27).

Context

Based on the documentation in the EA and project file, I find that the effects of the project are not significant as disclosed in Chapter 3 of the EA and will have a negligible effect at the District and Forest scale. The EA implements direction set forth in the Forest Plan, as amended. The Forest is comprised of about 1.1 million acres; the Hood River Ranger District encompasses about 209,284 acres of the Forest. The selected alternative authorizes about 1,500 acres of vegetation treatments. This represents approximately 0.1% of the Forest and 0.7% of the Ranger District. Also, the Forest contains 3,517 miles of open roads and the Hood River Ranger District contains 655 miles of open road. The selected alternative authorizes 20 miles of road decommissioning and road closures. This represents approximately 0.6% across the Forest and 3.1% across the District.

Intensity

1. Analysis of the beneficial and adverse impacts

Adverse and beneficial impacts have been assessed and were not found to be significant. My finding of no significant environmental effects is not biased by the beneficial effects of the action. The analysis considered not only the direct and indirect effects of the projects, but

also their contribution to cumulative effects. Past, present and foreseeable future actions have been included in the analysis. Adverse effects from the selected alternative have been minimized or eliminated through PDC (Appendix 2). The selected alternative will not likely adversely affect listed fish (EA, Section 3.6.4) or northern spotted owl (EA, Section 3.8.7). As such, I find that the selected alternative is not a significant federal action.

2. The degree to which the Proposed Action affects public health and safety:

I find there will be no significant effects to public health and safety. No public health and safety issues were raised during scoping or notice and comment periods (EA, Appendix 3, Response to Comments). Also, the project contains PDC (Appendix 2) to protect public health and safety during project implementation, including the removal of danger trees.

3. The unique characteristics of the geographic area:

No prime farmlands, parklands, wild and scenic rivers, wilderness, potential wilderness, inventoried roadless areas, unroaded areas or ecologically critical areas overlap within the treatment areas proposed (EA, Section 3.16). Historic and cultural resources have been protected by project design, and riparian areas including wetlands and streams have been buffered (see Appendix 2 for PDC). Essential fish habitat will not be adversely affected (EA, Section 3.6.4). The primary Forest Plan land use allocations in the planning area are C1-Timber Emphasis, A-9 Key Site Riparian, and B10-Deer and Elk Winter Range. In addition, the secondary Forest Plan land use allocations are B2-Scenic Viewshed and B5-Pileated Woodpecker and Pine Marten Habitat. The NWFP land use allocations are Matrix and Riparian Reserves (EA, Section 1.3.2). None of the major characteristics of these land use allocations will be negatively impacted by this project.

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial:

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 to 100 year old managed plantations, 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 (EA, Section 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 degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks:

There were no highly uncertain, unique or unknown risks identified in the Red Hill Restoration EA. Activities approved in this decision are routine projects similar to those that have been implemented under the Mt. Hood National Forest Land and Resource Management Plan over the past 15 years. The effects analyses discussed in Chapter 3 of the EA are based on sound scientific research as well as previous experience implementing thinning projects across the Forest and decommissioning, closing and storm proofing roads. None are unique or involve unknown risks.

6. The degree to which the action may establish a precedent for future actions with significant effects:

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 across Forest.

7. Whether the action is related to others actions with individually insignificant, but cumulatively significant impacts:

The analysis considered not only the direct and indirect effects of the Proposed Actions (EA, Section 2.2) with PDC (EA, Section 2.3), but also its contribution to cumulative effects. Past, present and foreseeable future projects and recent wildfires have been included in the analysis (EA, Table 3-1). Each resource effects analysis contained in the EA discusses cumulative effects; none were found to be significant (EA, Section 3.1.3, Vegetation Resources; Section 3.2.3, Transportation Resources; Section 3.3.3, Geology; Section 3.4.3, Soil Productivity; Section 3.5.3, Water Quality; Section 3.6.3, Fisheries and Aquatic Fauna; Section 3.8, Wildlife; Section 3.9.3, Botany; Section 3.10.3, Invasive Plant Species; Section 3.11.3, Recreation and Visual Quality; Section 3.12.3, Fuels Management and Air Quality; and, Section 3.13.3, Cultural Resources).

8. The degree to which the action may affect scientific, cultural, or historical resources:

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 (NRHP) and will not cause loss or destruction of significant scientific, cultural, or historical resources due to the project PDC that will be implemented as part of this project (see Appendix 2). The continued use of Forest Service Roads 1800 and 1810 will have no effect on the Oregon Lumber Company Railway. The Blue Ridge Benchmarks has been excluded from project activities involving heavy equipment; the project will have no effect on the site. The remaining sites have been evaluated as ineligible for inclusion on the NRHP. No protective measures are required or recommended for ineligible sites (EA, Section 3.13).

9. The degree to which the action may adversely affect endangered or threatened species or habitat:

The action complies with the Endangered Species Act (ESA) of 1973 for aquatic and wildlife species. The project area contains four threatened aquatic species and one threatened wildlife species. No threatened, endangered or proposed botanical species are present in the project area. All required consultation has been completed as described below.

Potential effects on aquatic resources center on potential disturbance, increased sedimentation, and potential reductions in large wood recruitment potential and existing/future in-stream levels. The only potential direct effects will be associated with culvert removal/replacement. Indirect and cumulative effects center on slight increases in fine sediment and reducing future levels of large wood. Because of these anticipated impacts could have some localized impact to stream reaches containing ESA-listed fish, particularly due to small increases in fine sediment from road maintenance and hauling, the Red Hill

Restoration project **may affect, but is not likely to adversely affect** Lower Columbia River steelhead trout, coho salmon, and Chinook salmon. This effect determination also applies to steelhead and Chinook salmon designated critical habitat. There will be **no effect** to Columbia River bull trout individuals, but the selected alternative **may affect, but is not likely to adversely affect** designated bull trout critical habitat (EA, Section 3.6.4). Informal consultation with the National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service (FWS) concerning ESA-listed fish has been completed for this project. Both Letters of Concurrence found that the project may affect, but is not likely to adversely affect listed fish or their critical habitat (EA, Chapter 4).

The impacts to dispersal habitat will not affect the ability of owls to move through these stands. Dispersal habitat will be maintained and the use of this habitat by spotted owls in or near the proposed treatment areas will not change. Because there will be no suitable habitat impacted by project activities and because dispersal habitat will be maintained at current levels, it is unlikely that the proposed harvest activities will impact the health or survival of any spotted owls within or adjacent to the project area. The sound from project activities will not adversely affect the breeding behavior of spotted owls during their critical breeding period because no heavy equipment, chainsaw use, or helicopter use will occur within the 35 to 120 yard disruption distances. Some activities will take place during the critical nesting season between March 1 and July 15, but these activities will be beyond the disruption distance of an actively nesting spotted owl pair or beyond the disruption distance from the nest patch of a predicted site. Because dispersal habitat for northern spotted owl will be maintained and timing restrictions will reduce impacts from sound limiting the impacts, the selected alternative **may affect, but is not likely to adversely affect** for northern spotted owls (EA, Section 3.8.2). 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 (FWS Reference Number 01EOFW00-2012-I-0105).

10. Whether the action threatens a violation of environmental laws or requirements:

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 (Section 3.16). The action is consistent with the Forest Plan as described in the consistency section for each resource in the EA, Chapter 3 as well as described below. 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 (EA, Section 3.15). No disproportionately high adverse human or environmental effects on minorities and/or low-income populations were identified during the analysis or public scoping process.

Findings Required by Other Laws and Regulations

The project was prepared consistent with the requirements of the **National Environmental Policy Act (NEPA)**, and other relevant Federal and State laws and regulations.

I find that the selected alternative is consistent with the **National Forest Management Act**, including the management direction found in the **Mt. Hood National Forest Land and Resource Management 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. Each resource section in Chapter 3 discusses consistency with the Forest Plan and Northwest Forest Plan. Additionally, I find that the selected alternative is consistent with the major amendments to the Forest Plan as described below.

- I find that the selected alternative is consistent with the **Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines** (EA Section 3-6, Fisheries and Aquatic Fauna; Section 3-8, Wildlife and Section 3.9, Botany), including all survey protocols. The majority of this project falls under exemption “a” (thinning projects in stands younger than 80 years old) listed in the October 11, 2006, modified injunction Northwest Ecosystem Alliance v. Rey, Case No. 04-844-MJP. Based on this exemption, surveys were required for only in Unit 44. All the proposed road treatments fall under Proposed road decommissioning, including culvert removal, falls within exemption “c” (“Riparian and stream improvement projects where the riparian work is ...road or trail decommissioning...”) listed in the October 11, 2006, modified injunction Northwest Ecosystem Alliance v. Rey, Case No. 04-844-MJP.

One aquatic survey and manage species (Columbia dusksnail) is present within the project area (EA, Section 3.6). No springs, wetlands, or streams were found within Unit 44, thus suitable habitat for this species is not present. Habitat for other aquatic survey and manage species, including Basalt Juga, is not present within the project area. Similarly, there is no habitat present for wildlife survey and manage species (EA, Section 3.8). This includes great gray owl, Larch Mountain salamander, Dalles sideband, Crater Lake tightcoil, evening fieldslug, Puget Oregonian, and Columbia Oregonian. Since no habitat is present for these species, surveys are not required.

Surveys for botanical and fungal survey and manage species were conducted according to applicable survey and manage protocols for survey and manage Category A and C species, including “equivalent effort” surveys for survey and manage Category B species (EA, Section 3.9). There are no known sites of botanical survey and manage species in the proposed project area. The selected alternative may have direct short-term impacts on fungal species and their marginal mid- late-successional forest habitat in Unit 44, but will not lead to a loss of viability or trend toward Federal listing. Overall, the selected alternative is expected to have a beneficial impact on survey and manage Category B fungi and their habitat as forests mature under the prescribed silvicultural treatment which is intended to encourage development of late-successional forest habitat.

As such, I find that the selected alternative is consistent with the 2001 Survey and Manage ROD, including all required survey protocols.

- I find that the selected alternative is consistent with the **Aquatic Conservation Strategy (ACS)**. This project will maintain or restore all nine ACS objectives (EA, Section 3.7) through the implementation of the riparian prescriptions (EA, Section 2.2.6) and PDC (EA, Section 2.3). I have also considered the existing condition of riparian reserves, including the important physical and biological components of the fifth-field watersheds and the effects to riparian resources. I find that the selected alternative is consistent with riparian reserve standards and guidelines, and will contribute to maintaining or restoring the fifth-field watersheds over the long-term (EA, Section 3.5). Finally, I considered the relevant information from the West Fork Hood River Watershed Analysis (1996). This project has adopted the concepts for riparian reserve delineation described in the watershed analysis. The site-potential tree height in this project area is 130-feet.
- By considering the prevention of invasive plant introduction, establishment and spread of invasive plants (EA, Section 3.10), the planning process is consistent with the **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 and Columbia Gorge Scenic Area in Oregon Record of Decision issued in 2008**. Project Design Criteria/Mitigation Measures are included to prevent the spread and establishment of invasive plants (see Appendix 2).

Further, I find that the selected alternative is consistent with the Forest Plan and Regional direction on management indicator species and sensitive species.

- I have considered the impacts to **management indicator species (MIS)** as disclosed in the EA (EA Section 3-6, Fisheries and Aquatic Fauna and Section 3-8, Wildlife). Aquatic MIS within the project area include resident rainbow trout, summer steelhead trout, coho salmon, and Chinook salmon. Wildlife MIS within the project area include the northern spotted owl, mule deer and elk, pileated woodpecker, and American marten. 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 selected alternative does not contribute towards a negative trend in viability on the Forest.
- I have considered the impacts **Regional Forester's Sensitive Species** list for aquatic, wildlife and botanical species as disclosed in the EA (EA Section 3-6, Fisheries and Aquatic Fauna; Section 3-8, Wildlife; and Section 3-9, Botany). All resource areas used the Region 6 Regional Forester's 2011 Sensitive Species list for this analysis. The selected alternative will have no significant adverse effects to sensitive species. 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.

Barren Juga, Scott's Apatanian caddisfly, and another caddisfly with no common name are the aquatic sensitive species present in the project area. These species were not located during surveys, but they are assumed to be present in the project area because of habitat availability. Due to the small amount of habitat present within the project area, the

selected alternative **may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species.**

The western bumblebee (*Bombus occidentalis*) is the only wildlife sensitive species present in the project area. The temporary reduction in flowering shrubs and nesting sites **may impact individuals, but is not likely to impact populations, nor contribute to a potential loss of viability of this species.** The approximate total number of acres impacted (including road maintenance) will not exceed 300 since most of the treatment units are heavily timbered and do not provide foraging habitat or nest sites. This impact represents less than one percent of the Forest Service owned lands within the watershed.

There are no known sites for botanical sensitive species within the project area and no sites/habitat that require management. As such, the selected alternative will have **no impact** to any botanical sensitive species.

I have considered the analysis in EA, Section 3.5, Water Quality and find that the selected alternative is consistent with the **Clean Water Act**. Vegetation removal near water bodies has the potential of increasing solar radiation to surface water which in turn may increase water temperature. To maintain sufficient stream shading to meet the Clean Water Act while providing the opportunity to treat Riparian Reserve vegetation to improve riparian conditions, the primary shade zone will remain untreated for perennial streams. The size of this zone is dependent on the current height of the trees and the hill slope as defined in Table 3-24 and Table 3-25 (EA, Section 3.5). Both perennial and intermittent streams as well as wetlands and ponds have no treatment protection buffers as defined in PDC A-2 that will help ensure Clean Water Act requirements as met.

The **Magnuson-Stevens Fishery Conservation and Management Act (MSA)**, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a Federal fisheries management plan – in this case, Chinook and coho salmon. The selected alternative will not adversely affect any essential fish habitat (EA, Section 3.6.4). As such, I find this project to be consistent with MSA.

The Forest operates under a Programmatic Agreement (PA) with the Oregon State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP). In accordance with the 2004 agreement, the proposed activities of the project, including road decommissioning, temporary road construction, commercial thinning, pile burning, mastication, and non-commercial thinning, involve heavy machinery and ground disturbance and required Heritage Resource inventory surveys. The recommended protective measures will adequately protect the known heritage resources. The Oregon SHPO has concurred that the previous use of these methods will result in no effect to heritage resources. Based on the proposed protective measures, the project meets the criteria in the Programmatic Agreement for “Historic Properties Avoided” determination (Stipulation III (B) 2). As such, I find that the selected alternative is consistent with the **National Historic Presentation Action** and all consultation requirements have been met (EA, Section 3.13 and EA, Section 4.1.3).

All management activities shall comply with all applicable air quality laws and regulations, including the **Clean Air Act** and the Oregon State Implementation Plan. Also, the Forest Service is operating under the Oregon Administrative Rule 629-0048-0001. The Forest Service will comply with the requirements of the Oregon Smoke Management Plan, which is administered by the Oregon Department of Forestry (EA, Section 3.12).

APPEAL OPPORTUNITIES

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 Michelle Lombardo at 503-668-1796..

IMPLEMENTATION DATE

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).

CONTACT

For additional information concerning this decision, contact Jennie O'Connor Card, Hood River Ranger District, 6780 Highway 35, Mount Hood/Parkdale, OR 97041; phone (541) 352-1255; Email: jennieoconnorcard@fs.fed.us.



LISA A NORTHROP
 Acting Forest Supervisor
 Mt. Hood National Forest



 Date

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

APPENDIX 1: Selected Alternative

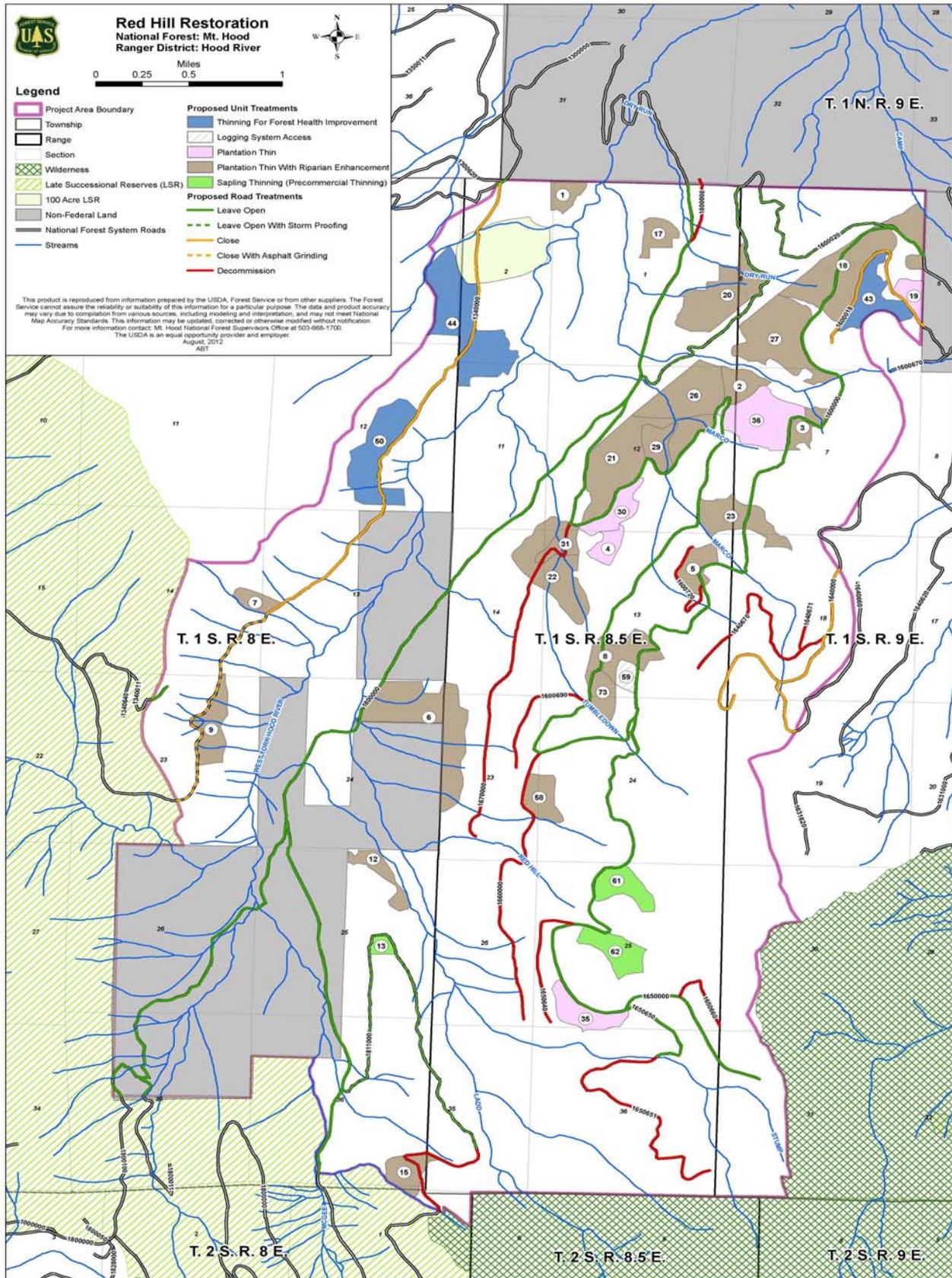


Table 3: Unit Information. Abbreviations used in the table are: DF = Douglas-fir; NF = noble fir; WH = western hemlock; MH = mountain hemlock; SF = spruce fir. All fuels treatments within the units are creating piles and pile burning.

Unit	Treatment	Acres	Age (year)	Tree Species	Log System	Temp Road	Skips & Gaps	Slope	Current Canopy Cover	Target Canopy Cover	Fuels Treatment
1	Plantation Thin	17	40	DF	Ground	Yes	Yes	10-60%	90%	50%	Yes
2	Plantation Thin	23	40	DF	Ground, Skyline	Yes	Yes	30-40%	70%	50%	Yes
3	Plantation Thin	20	41	DF,NF, WH	Skyline, Helicopter	No	Yes	10-50%	70%	50%	Yes
4	Plantation Thin	16	50	DF,WH	Ground	Yes	Yes	20-30%	80%	50%	Yes
5	Plantation Thin	27	43	DF,NF	Skyline	No	Yes	30%+	80%	50%	Yes
6	Plantation Thin	115	47	DF,WH	Helicopter w/ Pre-Bunch	No	Yes	0-30%	90%	50%	Yes
7	Plantation Thin	15	50	DF	Helicopter	No	Yes	40%+	70%	50%	Yes
8	Plantation Thin	44	40	DF,WH	Skyline, Helicopter w/ Pre-Bunch	No	Yes	20-50%	80%	50%	Yes
9	Plantation Thin	38	40	DF	Skyline	No	Yes	40%+	70%	50%	Yes
12	Plantation Thin	22	66	DF	Ground	Yes	Yes	10-30%	90%	50%	Yes
13	Sapling Thinning	9	40	DF	Mechanical	No	No	10-40%	60%	N/A	Yes
15	Plantation Thin	29	32	DF	Skyline, Helicopter	No	Yes	30-50%	60%	50%	Yes
17	Plantation Thin	20	50	DF,WH	Ground, Skyline	Yes	Yes	10-30%	80%	50%	Yes
18	Plantation Thin	120	48	DF,WH	Skyline, Helicopter	No	Yes	20-60%	80%	50%	Yes
19	Plantation Thin	15	57	DF,WH, NF	Skyline	No	Yes	20-50%	75%	50%	Yes

Unit	Treatment	Acres	Age (year)	Tree Species	Log System	Temp Road	Skips & Gaps	Slope	Current Canopy Cover	Target Canopy Cover	Fuels Treatment
20	Plantation Thin	75	59	DF	Helicopter W / Pre-Bunch, Helicopter	No	Yes	10-30%	80%	50%	Yes
21	Plantation Thin	108	61	DF,WH	Skyline, Helicopter	No	Yes	20-40%	80%	50%	Yes
22	Plantation Thin	73	55	DF,WH	Helicopter W / Pre-Bunch	No	Yes	10-30%	70%	50%	Yes
23	Plantation Thin	49	40	DF,NF, WH	Ground, Skyline	Yes	Yes	20-50%	80%	50%	Yes
26	Plantation Thin	66	75	DF	Skyline, Helicopter W / Pre-Bunch, Helicopter	Yes	Yes	30-60%	80%	50%	Yes
27	Plantation Thin	91	55	DF,MH	Skyline	No	Yes	20-60%	70%	50%	Yes
29	Plantation Thin	24	35	SF, WH	Skyline	No	Yes	20-40%	80%	50%	Yes
30	Plantation Thin	27	50	DF	Ground	Yes	Yes	20-40%	75%	50%	Yes
31	Plantation Thin	19	53	DF,WH	Ground, Skyline, Helicopter W / Pre-Bunch	Yes	Yes	20-40%	80%	50%	Yes
35	Plantation Thin	35	43	DF,NF	Skyline	No	Yes	10-50%	90%	50%	Yes
36	Plantation Thin	71	40	DF,WH	Skyline, Helicopter	No	Yes	30-60%	70%	50%	Yes
43	Thinning for Forest Health Improvement	44	42	DF,SF,NF	Ground	No	Yes	10-20%	75%	50%	Yes
44	Thinning for Forest Health Improvement	116	99	DF,WH, NF	Helicopter	No	Yes	10-70%	70%	40%	Yes

Unit	Treatment	Acres	Age (year)	Tree Species	Log System	Temp Road	Skips & Gaps	Slope	Current Canopy Cover	Target Canopy Cover	Fuels Treatment
50	Thinning for Forest Health Improvement	79	75	DF	Skyline, Helicopter	No	Yes	70%	80%	40%	Yes
58	Plantation Thin	28	36	DF,NF	Skyline, Helicopter	Yes	Yes	10-40%	60%	50%	No
59	Logging System Access	12	40	DF,WH	Skyline	No	No	20-40%	90%	N/A	No
61	Sapling Thinning	32	40	DF	Mechanical	No	Yes	20-40%	60%	N/A	Yes
62	Sapling Thinning	35	40	DF	Mechanical	No	Yes	10-40%	70%	N/A	No
73	Plantation Thin	22	40	DF,WH	Ground	No	Yes	15-30%	80%	50%	Yes

APPENDIX 2: Design Criteria/Mitigation Measures

The National Environmental Policy Act defines “mitigation” as avoiding, minimizing, rectifying, reducing, eliminating or compensating project impacts. The following design criteria and mitigation measures are an integral part of this project and are required to be implemented as part of the Proposed Action.

Design Criteria/Mitigation Measures for Vegetation Treatments

Vegetation Management

- V-1. Patch opening size (gaps) needs to be sufficient to provide for conditions suitable for early seral species establishment and growth (normally at least 1-acre in size). Openings should be irregular shaped with scattered retention trees in openings larger than 3-acres. Openings in this project vary from 1 to 5-acres in size.
- V-2. Skips and gaps sizes and distribution should be determined based on individual stand conditions.
- V-3. No gap will be located within 130 feet of any perennial stream¹ unless the stream is spring or glacially influenced and/or the gap is located on the north side of the stream. Given the above, gaps associated with Units 6, 9, and 18 will be located at least 130 feet from surface water.
- V-4. No gaps will be located in Riparian Reserves in Units 29 and 31 (due to presence of skyline yarding corridors across streams in those units).
- V-5. Western white pine planting should occur in large enough openings (at least 1.5 acres) to enhance species diversity.
- V-6. A priority on heavy thins and opening locations should be where there are existing big leaf huckleberry plants.

Fuels

- F-1. Pile fuels on landings and in units using machinery where the down woody tons per acre standards and guidelines are exceeded.
- F-2. Purchaser shall pile all sale generated and previously created slash that has been disturbed by harvesting activities.

¹ The Forest Service uses the Northwest Forest Plan definition of a stream: the channel must have evidence of annual streambed deposition and scour and flow water at least on a seasonal basis. As such, perennial and intermittent channels are both, by definition, streams.

- F-3. Piles should be as compact as possible and free of non-combustible material. Height should not be less than 6-feet nor greater than 20-feet. Diameter should not be less than 5-feet nor greater than 15-feet. Logs should not be placed in piles. After pile is formed, protruding ends greater than 2-feet in length should be bucked off and placed in the pile.
- F-4. Piles shall be located at least 20-feet inside the unit boundary. Outside edge of piles should be a minimum of 25-feet from the base of any tree within the unit or in a location that should not cause undue scorching of trees. Piles should not be placed on or in the following areas: pavement, road surface, ditch lines, or within 100-feet of a stream course. Piles should be a minimum of 25-feet apart.

Roads

- R-1. The Mt. Hood National Forest Transportation System Management Road Rules document dated January 1992 will apply to this project.
- R-2. All signing requirements on roads that are open for public use within the Mt. Hood National Forest will meet applicable standards as set forth by the Manual of Uniform Traffic Control Devices (MUTCD). Some roads accessing State and County highways may require additional signing to warn traffic of trucks entering onto or across the highway.
- R-3. National Forest System Roads that are open to the public and which have asphalt or bituminous surfacing will have the traveled way cleared of materials that pose a hazard to safe travel. The purchaser shall be responsible for clearing away all such materials. These materials include, but are not limited to, mineral soil, rock, limbs, bark, wood chips, or any material resulting from the purchaser's operations.
- R-4. Temporary roads and National Forest System roads which are designated for 'project use only' will be closed to public use. The purchaser shall sign the entrance to such roads with "Logging Use Only" signs and make every reasonable effort to warn the public of the hazard and to prevent any unauthorized use of the road.
- R-5. The use of steel-tracked equipment on asphalt or bituminous surfaced roads will be prohibited. If a suitable site for the loading and unloading of equipment and materials is not available, then use of a paved surface may be permitted provided that the purchaser uses approved matting materials (such as wood chip or crushed rock) to protect the road surface. Purchaser must restore roads to existing condition.
- R-6. Temporary roads and landings located on or intersecting National Forest System roads that are asphalt or bituminous surfaced will have 3-inch minus or finer dense graded aggregate placed at the approach to prevent surface damage. The purchaser shall purchase the material from a commercial source and place the material so that the approach flares are wide enough to accommodate the off-tracking of vehicles entering onto or leaving the site.

- R-7. Temporary roads and landings will not obstruct ditch lines. Temporary roads and landings that obstruct ditch lines or drainage ways shall be improved by the purchaser, prior to commencing operations, with french drains, drivable dips or materials that provide effective drainage and prevent erosion.
- R-8. On aggregate surfaced roads, mineral soil contamination degrades and reduces the load bearing capacity of the existing road surface. All appropriate measures will be taken to prevent or reduce such contamination. If contamination occurs, the purchaser shall repair contaminated areas with specified aggregate surfacing.
- R-9. Temporary roads will be obliterated upon the completion of use. Temporary roads and landings on temporary roads should be sub-soiled or scarified as necessary. Culverts should be removed as appropriate and cross-drain ditches or water bars should be installed as needed. Disturbed ground should be seeded and mulched and available logging slash, logs, or root wads should be placed across the road or landing surface. Post-harvest motorized access will be prevented by construction of a berm and/or placement of available large boulders.
- R-10. Pit run rock may be used when necessary to reduce erosion, puddling, rutting, and compaction on temporary roads and landings. To provide an efficient substrate for vegetative growth and water infiltration, rock will be removed or incorporated into the soil by ripping or scarifying the roadbed following harvest activities.
- R-11. Temporary roads will not cross any stream and will not be hydrologically connected² to any stream.
- R-12. Unsuitable excavation³ resulting from ditch cleaning and other operations will be disposed of only at Forest Service approved sites. Material disposed of should be spread evenly over an appropriate area in non-conical shaped piles with a maximum layer thickness of 3 feet. All disposals should be seeded and mulched at the completion of operations.
- R-13. Stockpiles of aggregate intended for use on the project will be staged only at Forest Service approved sites. Materials should be placed in non-conical shaped piles with a maximum layer thickness of 3-feet. Stockpiles should be covered with weighted plastic

² A hydrologically connected road is any road segment that, during a runoff event has a continuous surface flow path between any part of the road prism and a natural stream channel. In other words, a hydrologically-connected road becomes part of the stream network. Wherever a hydrologic connection exists, accelerated runoff sediments, and road-associated chemicals such as spills or oils generated on the road surface and cutslope have a direct route to the natural channel network and surface waters.

³ By contract specification, any material containing “excess moisture, muck, frozen lumps, roots, sod, or other deleterious material” along with certain types soils that contain unacceptable amounts of silt or clay and have insufficient load bearing properties and are considered unsuitable for use in construction of any structural component of a roadway.

sheeting when inclement weather is expected to protect it from precipitation and to prevent water quality degradation from runoff.

- R-14. Existing vegetation in ditch lines hydrologically connected to streams (as defined in NWFP) must not be removed unless an effective sediment trap is installed and maintained until vegetation is reestablished. Vegetation and slough removal will be immediately mitigated with sediment control features such as check dams constructed of bio-bags, straw bales, or other biodegradable materials.
- R-15. Scheduled soil disturbing road maintenance or reconstruction shall occur during the Normal Operating Season, unless a waiver is obtained.
- R-16. Follow the appropriate Oregon Department of Fish and Wildlife (ODFW) guidelines for timing of in-water work (in this watershed the in-water work window is July 15 – August 15)⁴. Exceptions to the ODFW in-water work windows must be requested by the Forest or its contractors, and subsequently approved by ODFW, National Marine Fisheries Service (NMFS), U.S. Army Corps of Engineers, and Oregon Division of State Lands.

Log and Rock Hauling

- L-1. Log and rock hauling will be restricted to operating within the Normal Operating Season (generally June 1 – October 31) unless a waiver is approved. Purchasers desiring to haul outside of the Normal Operating Season will be required to apply for a written waiver from the Forest Service Representative for the Timber Sale, who will obtain approval from the District Ranger prior to the issuance of any waiver.
- L-2. Log and rock haul outside of normal operating season shall not occur on the following roads or road segments: 1340000, 1600720, 1630000, 1631000, 1631630, 1650000 (south of Unit 61), and 1811000.
- L-3. Log haul, rock haul and timber transportation may be allowed outside the Normal Operating Season on aggregate and native surface roads, if the following criteria are met:
 - a. The native surface road is not hydrologically connected to any stream or wetland.
 - b. Aggregate and native surface haul routes must not cross any streams that are within 1,000 feet stream distance to listed fish habitat (LFH)⁵. The haul route must not be closer than 500 feet direct distance from LFH if hydrologically connected to that waterway.
 - c. Haul routes must be inspected weekly, or more frequently if weather conditions warrant. Inspections by the timber sale administrator (or qualified specialist) will

⁴ All in-water work windows and exceptions are determined by ODFW. If the in-water window changes during the implementation of this project, the Forest Service would work with ODFW to fully comply with any and all new state requirements/regulations.

⁵ Listed Fish Habitat are those streams that contain Endangered Species Act (ESA) listed fish and/or streams designated as critical habitat for ESA listed fish. In the action area, these streams are West Fork of Hood River, McGee Creek, and Red Hill Creek.

focus on road surface condition, drainage maintenance, and sources of erosion and sediment delivery to streams.

- d. Sediment traps will be installed where there are potential sediment inputs to streams. Sediment traps will be inspected weekly by the timber sale administrator (or qualified specialist) during the wet season and entrained soil will be removed when the traps have filled to 3/4 capacity. Dispose of these materials in a stable site not hydrologically connected to any stream.

L-4. Log haul and heavy vehicle transport on paved roads shall be prohibited when the temperature of the road surface, as measured at the lowest elevation along the haul route on National Forest System lands, is above 28 degrees Fahrenheit and when the temperature as measured at the highest elevation on the active haul route is between 28 and 38 degrees Fahrenheit or at any time when the designated Timber Sale Administrator determines that freeze-thaw conditions along the haul route exist or that the subgrade on the paved roads is saturated.

L-5. Removal of included timber shall be prohibited at any time there is 1.5-inches of precipitation within any given 24-hour period as measured at the lowest elevation along the haul route. To measure precipitation, the purchaser may install a temporary rain gauge on National Forest System land near or adjacent to the lowest elevation along the haul route as agreed upon; otherwise, precipitation will be measured according to the Log Creek RAWS station (LGFO3). Data for the Log Creek RAWS station can be found at : http://raws.wrh.noaa.gov/cgi-bin/roman/raws_flat.cgi?stn=LGFO3

Aquatic Resources

A-1. No ground based mechanized equipment, including but not limited to tractors or skidders may operate within 100-feet of streams, seeps, springs or wetlands while conducting logging operations.

A-2. No tree felling will occur within protection buffers as shown in Table 4 except associated with skyline yarding corridor creation in Units 3, 9, 18, 29, and 31. Trees felled to create skyline yarding corridors within the protection buffer must be left where they fall. Trees can be felled towards streams but any tree, or portion thereof, that could land in the bankfull stream channel must be felled during the ODFW in-water work window (July 15 to August 15). Buffers are measured from the edge of the bankfull channel on both sides of the stream. Minimum buffers should be expanded to include slope breaks where appropriate.

Table 4. Minimum Protection Buffer Widths by Aquatic Feature Type and Proximity to LFH.

Perennial Streams	Intermittent Streams	Wetlands and ponds
Maintain a minimum 60-foot wide buffer	Maintain a minimum 30-foot wide buffer	Maintain a minimum 60-foot wide buffer

A-3. If a tree located outside a protection buffer lands wholly or partially within the protection buffer when felled, none of the tree located within the protection buffer will be removed.

- A-4. Heavy equipment, such as skidders, dozers, and feller-bunchers, operation will not be allowed outside the Normal Operating Season within Riparian Reserves.
- A-5. Locate new landings outside of Riparian Reserves⁶. Use of existing facilities within Riparian Reserves may be allowed if erosion potential and sedimentation concerns can be sufficiently mitigated as determined by a qualified Soil Scientist or Hydrologist. Existing landings within one site potential tree height (130 feet) of streams or wetlands will not be used unless the slope between the landing and surface water is thirty percent or less and there is an intact vegetated buffer between the landing and surface water.
- A-6. Refuel mechanized equipment at least 150-feet from water bodies or as far as possible from the water body where local site conditions do not allow a 150-foot setback to prevent direct delivery of contaminants into water. Each fueling area should have a Forest Service approved spill kit on site. Park mechanized equipment overnight or for longer periods of time at least 150 feet from water bodies or as far as possible from the water body where local site conditions do not allow a 150-foot setback.
- A-7. Skyline yarding may occur over streams outside of LFH, but trees must be fully suspended in the corridor within the no-cut buffers and must have at least one end suspension within the remaining Riparian Reserve.
- A-8. Skyline yarding corridors over perennial stream will be limited to 5 corridors per 1,000 lineal feet of stream. Corridors must not exceed 15-feet in width. Corridors must be spaced at least 100-feet apart.
- A-9. Use erosion control measures (e.g., silt fence, sediment traps) where road maintenance or reconstruction may result in delivery of sediment to adjacent surface water.
- A-10. Install sediment and stormwater controls (e.g., ditching, seeding, mulching) prior to initiating surface disturbing activities to the extent practicable.
- A-11. Install suitable stormwater and erosion control measures (e.g., ditching, seeding, mulching) to stabilize disturbed areas and waterways on incomplete projects prior to seasonal shutdown of operations, or when severe storm or cumulative precipitation events that could result in sediment mobilization to streams are expected.
- A-12. The timber sale administrator or qualified specialist will monitor disturbed areas, as needed, to verify that erosion and stormwater controls are implemented and functioning as designed and are suitably maintained.
- A-13. Maintain erosion and stormwater controls as necessary to ensure proper and effective functioning.

⁶ Riparian Reserve refers to the Northwest Forest Plan Riparian Reserve designation.

- A-14. No expansion of the Forest Service Road 1340 footprint for use as a landing will be allowed on Units 9 or 50.
- A-15. Road maintenance will protect the wet ditch area located at approximately milepost 2.75 of the Forest Service Road 1340 to protect Columbia dusksnail. Ditch will not be cleaned or dewatered in the area and efforts shall be made to minimize excessive sedimentation to the area.
- A-16. Piling of fuels and pile burning is not allowed within 100 feet of stream channels or wetlands. Lop and scatter may occur anywhere outside of protection buffers (see Table 4).
- A-17. Ensure that any water withdrawal from non-LFH streams for road maintenance or other purposes will not reduce flow at the time of withdrawal by more than 50 percent in streams (visually estimated). Regardless of water withdrawal location, use of screen material with either of the following maximum openings is required: 1.75 mm opening for woven wire or 3/32 inch opening for perforated plate. No water withdrawal is allowed from occupied LFH streams (West Fork Hood River, McGee Creek, Red Hill Creek at and below FSR 1800).
- A-18. All equipment used shall be cleaned and leaks repaired prior to entering the project area. Remove external oil and grease, along with dirt, mud and plant parts prior to entering National Forest System lands. Thereafter, inspect equipment daily for leaks or accumulations of grease, and fix any identified problems before entering streams or areas that drain directly to streams or wetlands. This practice does not apply to service vehicles traveling frequently in and out of the project area that will remain on the roadway.
- A-19. All trucks used for refueling shall carry a hazardous material recovery kit, including absorbent pads to be used during refueling if that occurs in the project area. Any contaminated soil, vegetation or debris must be removed from National Forest System Lands and disposed of in accordance with Oregon State laws.
- A-20. Absorbent pads will be required under all stationary equipment and fuel storage containers.

Soils

- S-1. All skid trails will be rehabilitated immediately after harvest activities. Landings and temporary roads normally will have erosion control measures installed following fuels or reforestation treatments. If those treatments are anticipated to be delayed beyond the current field season, then temporary effective closure of roads will occur to prevent unauthorized use.
- S-2. Ground-based harvest systems should not be used on slopes greater than 30 percent to avoid detrimental soil and/or watershed impacts. Processors only are allowed to operate on slopes up to 40 percent in conjunction with non-ground based yarding systems.

- S-3. If a proposal to implement winter logging is presented, the following should be considered by the line officer if the ground is not frozen hard enough and/or insufficient snow depth to support the weight and movement of machinery in moist to wet soil conditions:
- a. The proposal should be considered on a unit-by-unit basis using soil types in the area since some soils may be more prone to detrimental damage than others
 - b. Because the margin of difference between not detrimental and detrimental soil damage can be so slim under moist to wet soil conditions, monitoring of the logging activity may need to occur daily, or more, as agreed to by sale administration and soil scientist
 - c. Equipment normally expected to traverse the forest, such as feller bunchers, track mounted shears, etc., should be restricted to skid trails once soil moistures are such that even one or two trips are causing detrimental soil damage out in the unit (i.e. not on landings or skid trails)
 - d. Due to higher PSI's than track mounted equipment, no rubber tired skidders should be used even on skid trails once soils become fully saturated (approach their liquid limit)

Wildlife

- W-1. Except for hauling and the removal of hazard trees to protect public safety, no activities will take place within the disruption distance of a known spotted owl activity center during the March 1 to July 15 critical nesting period.
- The use of chainsaws and heavy equipment will not take place between March 1 and July 15 in Units 18, 44, and 56.
 - The use of helicopters will not take place between March 1 and July 15 in Units 1, 18, 19, 43, 44, and 56
- W-2. No activities will take place in B10 Deer/Elk Winter Range between December 1 and April 1. Unit 1 is within B10 winter range and a portion of the Forest Service Road 1340 (<1/4 mile) are also within B10.
- W-3. To enhance diversity, variable-density thinning will include the retention of snags and wildlife trees where possible. The snags within plantations are small planted trees that have died. Few if any legacy snags are currently present.
- W-4. All snags larger than 6 inches will be retained where safety permits. If snags must be cut for safety reasons they will be left on site. To increase the likelihood that key snags will be retained, they may be included in skips.
- W-5. Certain live trees will also be selected as leave trees that have the "elements of wood decay" as described in the DecAID advisor. This may include trees with features such as dead tops, broken tops and heart rot. They may be retained in skips.

- W-6. Down logs currently on the forest floor will be retained. Prior to harvest, contract administrators will approve skid trail and skyline locations in areas that will avoid disturbing key concentrations of down logs or large individual down logs where possible.

Invasive Species

- I-1. It is recommended that pre-treatment occur in the locations listed in Table 5 before any harvest activities are implemented. All pre-treatments will follow the prescriptions and methods in the Record of Decision for the Site Specific Invasive Plant Treatments for Mt. Hood National Forest, including Forest Plan Amendment #16 Environmental Impact Statement (USFS 2008).

Table 5. Invasive Species Treatments

ROAD # /LOCATION	UNIT #
1600-018 / end	18, 27
Junction of 1600, 1620-630, 1612	Haul Route
1600	5
Junction of 1811 and 1811-011	15
1340	9
1800	6
1800	Edge of 6
1340	44

- I-2. If possible schedule implementation of work from infestation-free areas into infested areas, rather than vice-versa. Incorporate the standard contract provision that require cleaning of equipment.
- I-3. The process for locating all new skid trails and landing locations will be coordinated with a noxious weed specialist so as to insure these locations are not within any currently established noxious weed populations. If necessary, pre-treat existing landings and skid trails that may be used for project implementation where existing infestations present an unacceptable risk of spreading established invasive plant populations.
- I-4. If the need for restoration/revegetation of skid trails and landings is identified, the use of native plant materials are the first choice for meeting this objective where timely natural regeneration of the native plant community is not likely to occur. Non-native, non-invasive plant species may be used in any of the following situations: 1) when needed in emergency conditions to protect basic resource values (e.g., soil stability, water quality and to help prevent the establishment of invasive species), 2) as an interim, non-persistent measure designed to aid in the re-establishment of native plants, 3) if native plant materials are not available, or 4) in permanently altered plant communities.
- I-5. If using straw, hay or mulch for restoration/revegetation in any areas, use only certified, weed-free materials.
- I-6. Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport. Treat or require treatment of infested sources before any

use of pit material. Use only gravel, fill, sand, and rock that are judged to be weed free.

Heritage Resource Sites

- H-1. All designated cultural resource sites requiring protection will have a 100-foot buffer zone where heavy machinery and timber harvest will be excluded. Trees will be felled directionally away from the buffer zone. Hand treatment of vegetation could occur within the buffer zone. Piling is excluded from within the buffer zone, but low temperature broadcast burning could occur.

Recreation

- RC-1. Visible stumps within 100-feet of roads used for recreation will be cut to 6-inches or less. This applies to Forest Service Roads 1800 and 1600.
- RC-2. Sale Administrator will coordinate road closures and associated signage with recreation personnel to lessen impacts to Special Use Permit events.
- RC-3. No log hauling will be permitted during the Mt. Hood Classic cycling event, which normally occurs in June.
- RC-4. Winter hauling and associated plowing that will affect snowmobile routes will be published in regional and local newspapers at least two weeks in advance. Key representatives of snowmobile organizations shall be informed of affected snowmobile routes.
- RC-5. No road maintenance, yarding or log haul activities located on or adjacent to Forest Road 1300 and 1800 from Friday, 12 P.M. through Monday, 12 A.M. between Memorial Day and Labor Day.
- RC-6. No road maintenance, yarding or log haul activities shall occur on Forest Road 1300 and 1800 on Federal holidays.
- RC-7. Leave groups of low-branched trees in the immediate foreground or in the harvest unit itself, and create a transition from surrounding stands at the edges as viewed from roads open during the summer.

Design Criteria/Mitigation Measures for Road Decommissioning and Storm Proofing

- D-1. Ensure that an experienced professional fisheries biologist, hydrologist or technician is involved in the design of road decommissioning and/or culvert removal/replacement projects. The experience should be commensurate with technical requirements of a project.
- D-2. Follow the appropriate ODFW guidelines for timing of in-water work. Exceptions to the ODFW in-water work windows must be requested by the Forest or its contractors, and subsequently approved by ODFW, NMFS, U.S. Army Corps of Engineers, and Oregon

Division of State Lands.

- D-3. Project actions will follow all provisions and requirements (including permits) of the Clean Water Act for maintenance of water quality standards as described by the Oregon Department of Environmental Quality.
- D-4. All equipment used for restoration work shall be cleaned and leaks repaired prior to entering the project area. Remove external oil and grease, along with dirt, mud and plant parts prior to entering National Forest system lands. Thereafter, inspect equipment daily for leaks or accumulations of grease, and fix any identified problems before entering streams or areas that drain directly to streams or wetlands. This practice does not apply to service vehicles traveling frequently in and out of the project area that will remain on the roadway.
- D-5. The contractor will be required to have a written Spill Prevention Control and Containment Plan (SPCCP), which describes measures to prevent or reduce impacts from potential spills (fuel, hydraulic fluid, etc.). The SPCCP should contain a description of the hazardous materials that will be used, including inventory, storage, handling procedures; a description of quick response containment supplies that will be available on the site (e.g., a silt fence, straw bales, and an oil-absorbing, floating boom whenever surface water is present.).
- D-6. All trucks used for refueling shall carry a hazardous material recovery kit, including absorbent pads to be used during refueling if that occurs in the project area. Any contaminated soil, vegetation or debris must be removed from National Forest System Lands and disposed of in accordance with Oregon State laws.
- D-7. Refuel mechanized equipment at least 150-feet from water bodies or as far as possible from the water body where local site conditions do not allow a 150-foot setback to prevent direct delivery of contaminants into water. Each fueling area should have a Forest Service approved spill kit on site. Park mechanized equipment overnight or for longer periods at least 150 feet from water bodies or as far as possible from the water body where local site conditions do not allow a 150-foot setback.
- D-8. Absorbent pads will be required under all stationary equipment and fuel storage containers.
- D-9. Dispose of slide and waste material in stable sites out of the flood prone area. Waste material other than hardened surface material (asphalt, concrete, etc.) may be used to restore natural or near-natural contours.
- D-10. Trees that need to be felled during project implementation should be directionally felled, where feasible, away from the road prism and into the surrounding forest. Trees will not be bucked and will be left undisturbed to the extent possible.
- D-11. Prior to implementation of any road decommissioning, culvert removal, or culvert

replacement invasive plant surveys should be performed at the project site(s). If any invasive plants are found on or near roads, the full extent of the invasion should be determined by surveying off road to the extent that it is reasonable to assume the invasive species may have spread. The invasive plant infestations should then be mapped and weed site reports completed. Depending upon the seriousness of the weed invasion, as determined by a trained botany or noxious weed coordinator, recommendations for treatment of the weed site(s) will be made and an updated Noxious Weed Risk Analysis and Mitigation Report will be prepared.

- D-12. Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport. Treat or require treatment of infested sources before any use of pit material. Use only gravel, fill, sand, and rock that are judged to be weed free by District or Forest weed specialists.
- D-13. Place sediment barriers prior to construction around sites where significant levels of fine sediment may enter the stream directly or through road ditches. Maintain barriers throughout construction.
- D-14. For road decommissioning projects within riparian areas, re-contour the road prism to mimic natural floodplain contours and gradient to the greatest degree possible.
- D-15. Drainage features used for storm proofing projects shall be spaced to disconnect road surface runoff from stream channels.
- D-16. Minimize disturbance of existing vegetation in ditches and at stream crossings to the greatest extent possible.
- D-17. Conduct activities during dry-field conditions—low to moderate soil moisture levels.
- D-18. Restore the stream channel and banks to original pre-road (natural) contours as much as possible when culverts are removed from the road prism.
- D-19. The following PDC apply to culvert removal/replacement when water is in the channel:
 - a. Dewater Construction Site – Upstream of the isolated construction area, coffer dams (diversions) constructed with non-erosive materials are typically used to divert stream flow with pumps or a by-pass culvert. Diversions constructed with material mined from the streambed or floodplain are not permitted. Pumps must have fish screens and be operated in accordance with NMFS fish screen criteria. Dissipate flow energy at the bypass outflow to prevent damage to riparian vegetation or stream channel. If diversion allows for downstream fish passage, (i.e., is not screened), place diversion outlet in a location to promote safe reentry of fish into the stream channel, preferably into pool habitat with cover. When necessary, pump seepage water from the dewatered work area to a temporary storage and treatment site or into upland areas, and allow water to filter through vegetation prior to reentering the stream channel.

- b. Stream Re-Watering – Upon project completion, slowly re-water the construction site to prevent loss of surface water downstream as the construction site streambed absorbs water and to prevent a sudden increase in stream turbidity. Monitor downstream during re-watering to prevent stranding of aquatic organisms below the construction site.