United States
Department of
Agriculture

Forest
Service

Mt. Hood National Forest

**Hood River Ranger
District**

Lava Restoration

Final 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

for the greatest good

DECISION AND REASONS

The Lava 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 Lava Restoration project is located on the Hood River Ranger District of the Mt. Hood National Forest. The large majority of the roughly 13,800 acre project area falls within the Upper and Lower Middle Fork Hood River Watershed with smaller portions within the Middle and Lower East Fork Hood River Watersheds and Upper West Fork Hood River Watershed. The project area consists of entirely National Forest System (NFS) Lands. The stand composition, structure, and densities in the Lava project area have been altered by previous vegetation management, fire suppression, 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 West, East and Middle Fork Hood River sub-watersheds. 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. Stands outside of plantations are also exhibiting some of these same high density conditions, lacking small openings in the canopy necessary for a well-developed shrub layer. As a result, the shrub layer in these stands is poorly developed leading to a deficiency in the shrub component including the culturally and ecologically important huckleberry plant.

Purpose and Need for Action (EA, Section 1.3)

The overarching purpose of the project is to improve the forest conditions within the Middle, East and West Fork Hood River Watersheds. In order to meet this overall goal, the underlying needs based on management direction and the land use allocations (LUAs) of the project will be to:

- Improve forest health conditions by reducing competition, promoting increased growth and vigor, and increasing structural and species diversity within selected stands;
- Improve growing conditions for huckleberry and other native understory vegetation by reducing shading and competition by overstory trees within selected stands;
- Maintain a road system that meets transportation and/or access needs (including reducing the need for incurring ongoing maintenance costs) while reducing aquatic risk associated with specific roads; and,
- Provide timber to meet local and/or regional demands for wood products.

Management Direction (EA, Section 1.3.1)

The Lava 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 final 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

DECISION AND REASONS

The Lava 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 Lava Restoration project is located on the Hood River Ranger District of the Mt. Hood National Forest. The large majority of the roughly 13,800 acre project area falls within the Upper and Lower Middle Fork Hood River Watershed with smaller portions within the Middle and Lower East Fork Hood River Watersheds and Upper West Fork Hood River Watershed. The project area consists of entirely National Forest System (NFS) Lands. The stand composition, structure, and densities in the Lava project area have been altered by previous vegetation management, fire suppression, 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 West, East and Middle Fork Hood River sub-watersheds. 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. Stands outside of plantations are also exhibiting some of these same high density conditions, lacking small openings in the canopy necessary for a well-developed shrub layer. As a result, the shrub layer in these stands is poorly developed leading to a deficiency in the shrub component including the culturally and ecologically important huckleberry plant.

Purpose and Need for Action (EA, Section 1.3)

The overarching purpose of the project is to improve the forest conditions within the Middle, East and West Fork Hood River Watersheds. In order to meet this overall goal, the underlying needs based on management direction and the land use allocations (LUAs) of the project will be to:

- Improve forest health conditions by reducing competition, promoting increased growth and vigor, and increasing structural and species diversity within selected stands;
- Improve growing conditions for huckleberry and other native understory vegetation by reducing shading and competition by overstory trees within selected stands;
- Maintain a road system that meets transportation and/or access needs (including reducing the need for incurring ongoing maintenance costs) while reducing aquatic risk associated with specific roads; and,
- Provide timber to meet local and/or regional demands for wood products.

Management Direction (EA, Section 1.3.1)

The Lava 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 final 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 final decision considered the management recommendations in the Middle, East and West Fork Hood River Watershed Analyses. A portion of the West Fork Hood River watershed (Ladd Creek) is a Tier 1 Key watershed. Tier 1 Key Watersheds were selected for directly contributing to anadromous salmonid and bull trout conservation (see the EA Section 3.5, Water Quality for more details). 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 NFS 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 1-1 through 1-6 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. See EA, Figure 1-8 for a map of the land use allocations within the planning area.

Other management direction for the Lava 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. The majority of the project area (68%) falls within the Matrix LUA.

Treatments are proposed within the Riparian Reserves, which 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.

Final Decision

Based upon my review of the analysis and alternatives, I have decided to implement the Proposed Action described in the EA, Section 2.2, with modifications. Appendix 1 of this Final Decision Notice contains a map of the selected modified alternative as well as unit-specific information for all vegetation treatments. All project design criteria/mitigation measures (PDC) that apply to this final decision are included in Appendix 2 of this Final 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.

Modifications from Proposed Action

I have decided to drop Unit 52 consisting of 68 acres in order to provide an additional buffer between the treated Huckleberry Enhancement Units and the Vista Ridge Trailhead. This will reduce the amount of Huckleberry Enhancement from 103 acres to 35 acres.

This final decision is in response to feedback regarding the potential visual impacts to the Vista Ridge trailhead from public comment, feedback from state representatives and previous discussions with the Hood River Stewardship Crew. Concerns were raised that the impacts from vegetation management in this unit would impact the recreational experience for Forest visitors. While there are PDCs developed to minimize the impacts from this action, the balance between recreational experiences and huckleberry enhancement that the remainder of the project will accomplish, I have decided to drop this one unit. This modification has been discussed with the Confederated Tribes of the Warm Springs as outlined in the Public Involvement Section below.

Throughout the remainder of the final decision, the Modified Proposed Action will be the proposed action from the Final Environmental Analysis without unit 52. The anticipated effects on the human environment from the Modified Proposed Action are expected to be less than those disclosed from the Proposed Action in the EA throughout Chapter 3.

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

The Modified Proposed Action includes treating approximately 1,840 acres within the Middle Fork Hood River Watersheds with smaller portions within the East Fork and West Fork Hood River Watersheds (EA Figure 1.9). The Modified Proposed Action includes planting, sapling thinning, plantation thinning, firewood removal, and huckleberry enhancement. In addition to these treatment units, the Modified Proposed Action includes approximately 9 acres 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 Modified Proposed Action is summarized in Table 1 and is fully described in EA, Section 2.2.

Table 1. Modified Proposed Action Treatments

Vegetative Treatment	Acres
Planting	127
Sapling Thinning	164
Plantation Thinning	1,447
Firewood Removal	58
Huckleberry Enhancement	35
Logging System Access	9
Total	**1,840**

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.

All thinning treatments (plantation thin, sapling thinning and huckleberry enhancement thinning) will utilize variable density thinning (VDT), which allows for flexibility to achieve overall treatment objectives (see EA, Section 2.2.2 and 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 huckleberry enhancement thinning, and gap locations will be focused where openings already exist in frost, wind throw, and root rot pockets. Gaps will range from 1 to 5 acres in size and will retain one to six trees. In gaps, minor tree species will be retained if present. The criteria used to determine the gap size will include percentage of shrub cover present; existing big leaf huckleberry plants; existing frost and root rot pockets; existing shade intolerant species; and plant association. Gaps are intended to create openings to support regeneration of shade intolerant species and more rot resistant species while also providing structural diversity. Gap locations will be focused where openings already exist, in frost, wind throw, and root rot pockets. Gap areas will be incorporated into the average target canopy cover identified in the EA in Table 2-2.

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 6 helicopter landings and 339 skyline and ground-based landings, encompassing approximately 49 acres, are needed for this project. All landings will be located within existing units 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 (approximately 49 acres of disturbance) and number of snags within the plantations, it is estimated that approximately 2.3 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 113 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 that removing these snags is acceptable and will not result in adverse environmental effects. (EA section 2.2.5)

Finally, the no treatment protection buffers have been increased in twelve units (Units 1,3,4,5,6,12,15,16, 18,21,31,48). PDC A-2 states: “A-2. No tree felling will occur within designated protection buffers except associated with woody material introduction into stream channels. Protection buffers for perennial streams and wetlands will be a minimum of 60-feet and a minimum of 30-feet for intermittent streams, except for units outlined in Table 2-7. Buffers are measured from the edge of the bankfull channel on both sides of the stream (or wetted area in the case of a pond or wetland). Buffers will be expanded to include slope breaks where appropriate.” (EA Section 2.3.1) Based on slope breaks and on-the-ground conditions, the buffers for these units have been expanded to compile with this PDC. Table 2-7 in the EA lists the

buffers for perennial streams within these units. 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 larger buffer based on topography is required. All buffers along water bodies with listed fish, including those identified during the layout phase are required to meet all the requirements of the letter of concurrences with NMFS and FWS.

Road Decommissioning (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 2.1 miles of unneeded roads as implementation funding becomes available. The roads will not be decommissioned until the proposed thinning has occurred. This final decision will remove the road from the official Forest Transportation system. In addition, 15.4 miles of road will have a year round closure. Lastly, 7.0 miles of road will be seasonally closed allowing access only during huckleberry harvesting season. The road activities are summarized in the EA, Table 2-5 and more fully described in Section 2.2.7 of the EA.

I will like to emphasize that implementing the road decommissioning and road closures 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.

Road Reconstruction and Temporary Roads (EA, Sections 2.2.4 and 2.2.8)

Construction of temporary roads as well as maintenance of system roads needed for activities outlined in the Modified Proposed Action are included in this final decision. 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 14.7 miles. Of the proposed temporary roads, 1.0 miles are new temporary roads, 11.2 miles are previous temporary roads that will be reconstructed for this project. Approximately two and a half miles are on previously decommissioned roads as depicted in the EA, Figure 2-3. It is my intent 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).

Road reconstruction and maintenance will occur on approximately 51 miles of road along the identified haul route. No new permanent road construction will be necessary to implement the Modified Proposed Action. EA, Table 2-6 discusses basic maintenance and repair work activities that will be utilized on roads during and after use to maintain minimum standards. These work activities include brushing, drainage, blading, maintenance, and surface repair (EA, Section 2.2.8). 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 two culvert replacements on Forest Service Road 16 at

milepost 6.61 and 6.89. Additionally, Forest Service Road 16 will include some road grinding and and resurfacing with aggregate at 3 locations; Mile post 6.40 for 80 feet, mile post 7.29 for 140 feet, and mile post 8.05 for 150 feet.

Forest Plan Exceptions (EA, Sections 2.6.1 and 2.6.2)

There are some Forest Plan standards that will not be met in order to meet the Purpose and Need for Action as described above. 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 period. All other standards and guidelines are expected to be met with this proposal.

- 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.
- Snags and Down Log Associated Species (FW-219): An average total of at least 6 logs per acre in decomposition classes 1, 2 and 3 (USDA Forest Service 1985, Brown editor) should be retained in all project activity areas, e.g., clearcut, commercial thin, salvage, or overwood removal.

Overall, these standards cannot be met because of the on-the-ground conditions present within the stands. Implementation of the Modified Proposed Action 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. However, over the next 100 years, the number of snags over 24" dbh will increase in the project area with the implementation of the modified proposed action (EA Table 3-45). For more information see the EA, Section 3.8, Wildlife.

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 2.3 as well as the standard contract language for implementing these projects. Appendix 2 details the site-specific Best Management Practices for Road Decommissioning and Culvert Replacement/Removal 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 the EA, 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 Modified Proposed Action 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 that will result from this action. 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.

While the Modified Proposed Action includes less Huckleberry enhancement treatments than the original proposed action, a majority of the stands in the Lava planning area include huckleberries. As disclosed in the EA, one of the criteria used to determine gap size will include existing big leaf huckleberry plants (EA section 2.2.2). It is anticipated that huckleberry will be enhanced across the planning area and will result in increased huckleberry growth and vigor. Stand groups A1-A5 (EA at Table 3-3), represent over 1700 acres of the proposed treatment units with huckleberry as an either dominate shrub species or moderate shrub species. The Modified Proposed Action will move these stands to more historic vegetation composition and stand structure, which will help ensure that key ecosystem elements and processes are sustained.

The Modified Proposed Action decommissions, closes and implements seasonal road closures of approximately 24.5 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 while providing for traditional huckleberry harvest access.

Also, the Modified Proposed Action 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 Modified Proposed Action 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 Modified Proposed Action considered all comments received during the collaborative process, scoping period, and notice and comment period. The Modified Proposed Action balances the comments received from all stakeholders, and this final decision provides some modifications based on the comments received. The comments that provoked the most discussion related to huckleberry enhancement treatments/Vista Ridge Trailhead, decommissioning and closing roads, temporary roads, and gap size are discussed below.

Huckleberry Enhancement Treatment/Vista Ridge Trailhead

Throughout the Lava Restoration Project, Huckleberry Enhancement Treatments have been both highly supported while raising concern for others. Many of the comments we received were related to units 52 and 53, the two Huckleberry Enhancement Treatment units in the Lava Restoration Project. Since the release of the Draft EA, I have also had meetings and visits to the field with concerned members of the community and learned much about their interests and concerns.

In February, I met with members of the Hood River Valley Residents Committee and in March, received a letter urging the Forest to drop units 52 and 53. The meeting was productive and allowed us the opportunity to meet each other for the first time, and begin building relationships.

In May, I received a letter from Oregon State Representative Ann Lininger, House District 38 which said, "For Oregon to thrive, we need to strike a balance between logging and our need to protect key natural areas and clean water. I applaud efforts by the Forest Service to build consensus among competing interests. Given the information I have received from concerned community members, however, I encourage you to hold off on the Vista Ridge timber sale. We need to honor community-forged compromises." Representative Ann Lininger and I were able to set up a meeting with her constituents, Oregon Wild and the Hood River Valley Residents Committee, in August. During this meeting, a compromise was offered: drop unit 52 at the Vista Ridge trailhead and add a previously analyzed huckleberry unit from the Red Hill Restoration project, unit 49. This proposal was refreshing and I was seriously interested in this compromise as was Representative Lininger.

Throughout this, the Mt. Hood National Forest Tribal Liaison to The Confederated Tribes of Warm Springs (CTWS) let the tribe know I was considering dropping the huckleberry units. This prospect caused great concern for CTWS given the importance of huckleberry management to the tribe, especially these higher elevation units which are anticipated to have greater huckleberry production rates than lower elevation units. My responsibility to uphold Treaty Rights and Trust Responsibilities with CTWS is my duty as a Line Officer, and I take this responsibility seriously.

In October I met with CTWS and shared the history of events and the proposed compromise for the huckleberry units. We had a rich dialogue and ultimately CTWS determined that this compromise will be:

1. Good for the Tribal Elders; and
2. Demonstrate "good will" between Oregon Wild and CTWS

We proceeded to have a field trip that same week to view units 49 and 52. We listened to tribal members share stories from their Elders about huckleberries and traditions handed down. At the end of the field trip we gathered for a group picture, acknowledged the importance of huckleberry management and expressed gratitude for time spent together in the forest that is important to us.

Given the level of concern raised over the huckleberry units 52 and 53, the meetings I've had with multiple stakeholders and the relationship building that has occurred, I am prepared to drop unit 52 to address the social concerns about the proximity of this unit to the Vista Ridge Trailhead, the potential interruption to use of the trailhead for forest visitors, and visual concerns from local community members and other concerned citizens in Oregon.

In an effort to maintain my trust responsibilities with CTWS, I also intend to support future efforts for other high elevation huckleberry units that will serve as a replacement for unit 52. While CTWS is disappointed with this approach, they understand the importance of compromise and are willing to trust this "good faith effort".

I want to acknowledge the Hood River Collaborative Group and the ID Team for your dedication and hard work on the Lava Restoration project. The science presented in the analysis leaves me with no doubt that implementing this project as originally designed will serve to enhance huckleberry production while meeting Forest Plan standards and guidelines for visual quality in unit 52.

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 Modified Proposed Action 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 development of another alterative considered, but eliminated from detailed study looked at an alternative with no temporary roads. This alternative is outlined below as well as in the EA (EA, Section 2.5.1).

For the Lava Restoration Project, temporary roads were placed on previous 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. As such, I feel the temporary roads are the most ecologically appropriate method to implement the removal of timber. This was analyzed as an alternative considered below.

Gap Size

The collaborative group recommended that plantations be thinned using "… skips and gaps (openings up to two acres). If there is a site specific reason, such as white pine planting areas, up to 3 acre gaps is suggested. Base the silvicultural cutting prescription on function and structure of the stand and leave the best. Gaps are preferred on flat ground and not near open roads or too close to private timber." The Forest Plan limits gap openings to 5-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). 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 sapling thinning. Gap locations will be focused where openings already exist, in frost, wind throw, and root rot pockets. Gap areas will be incorporated into the average target canopy cover identified in Table 2-2 of the EA. As such, I feel that the gap sizes and location methodology located in the EA Section 2.2.2 are the best way to mimic more natural structural stand diversity.

In conclusion, I believe that the Modified Proposed Action 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 will continue to guide management of the area. No timber harvest or other associated actions will be implemented to accomplish project goals. Stands will continue to remain uniformly dense and the overstocked condition will 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 in the overstory, and the understory will remain under-developed with low occurrences of ecologically important tree and shrub species including huckleberry. 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 will continue to have large amounts of small patches of increasing crown closure and little species and structural diversity. Additionally, no wood products will be provided. See the 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 fall apart. 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 large enough size to last longer once on-the-ground and provide more stable habitat creating characteristics in larger streams. See the EA Section 3.5, Water Quality and Section 3.6, Fisheries and Aquatic Fauna for more impacts on the riparian areas.

The No Action Alternative would not repair, decommission, or close any roads. The current use pattern of roads within the project area would not change. 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 the EA, Section 3.2, Transportation Resources for more details.

I did not select this alternative because the overall forest conditions within the Middle, East and West Forks of the Hood River Watershed would not be improved and because this alternative would not meet the purpose and need for action including providing wood fiber to local and regional economies.

No Temporary Road Use (EA, Section 2.5.1)

An alternative was considered, but eliminated from detailed study that would not build any temporary roads to avoid impacts to the water quality and aquatic habitat. See the EA, section 1.7.1, Roads. This alternative would impact 612 acres of the Modified Proposed Action all within the plantation thinning treatment.

The effects of new temporary roads were found to be minimal. The objectives of maintaining long-term site productivity and earthflow stability would still be met even with the proposed temporary roads. Re-

opening these roads and the construction of new temporary roads would pose an overall low risk of introducing sediment to streams because almost all of these roads would be outside of the Riparian Reserves. Of the approximately 13 miles of old existing temporary or decommissioned roads that would be reopened, only those that had an aquatic risk rating of low to moderate, as defined by the 2003 Roads Analysis Report, would be utilized, and only 0.6 miles are within Riparian Reserves. None of the new temporary road construction would be within Riparian Reserves. See the EA, section 3.5.3, Water Quality Effects Analysis. Given the minimal change in effects, this alternative is not substantially different than the proposed action other than that it would reduce the number of acres receiving the benefits described in the purpose and need and diminish the economic viability of the project.

Approximately 40% of the project area is currently in the stem exclusion stage (i.e. dense young stands) there would still be 28% of the project area that would fall within this stage post implementation bringing the amount of dense young stands into alignment with historical levels. However, at the landscape scale there would continue to be an overabundance of dense young stands within the stem exclusion stage. See the EA, section 3.1, Vegetation resources. Dropping 612 acres of dense young stands from treatment due to inaccessibility would not meet the purpose and need of this project.

I did not select this alternative because the Modified Proposed Action includes components and PDC (see Appendix 2) that protect natural resources from vegetation treatments and road use (EA, Section 2.3.1). As such, this alternative is not substantially different than the Modified Proposed Action. Also, I did not select this alternative because it does not meet the purpose and need for action as well as the Modified Proposed Action.

Removing Huckleberry Enhancement Units (EA, Section 2.5.2)

An alternative was considered, but eliminated from detailed study that would drop all the Huckleberry Enhancement units from treatment. See the EA, Section 1.7.3, Huckleberry Enhancement Units 52 and 53. Approximately 103 acres of the Proposed Action would be affected leaving no Huckleberry Enhancement treatments.

One of the explicit needs identified for this project is to “Improve growing conditions for huckleberry and other native understory vegetation by reducing shading and competition by overstory trees within selected stands.” See the EA, Section 1.3, Purpose and Need for Action.

While the thinning activities within plantations would help improve growing conditions for huckleberries the best response would be found where huckleberry plants are currently established but suppressed. Units 52 and 53 were chosen for huckleberry enhancement because they are stands that are part of the Silver fir/ big leaf huckleberry Plant Association. These plant communities should have healthy huckleberry making up at least 30% of its understory. Based on field exams these stands currently have huckleberry in less than 20% of the understory. However, these plants are suppressed and underdeveloped, due to a lack of small scale disturbances to create canopy openings. The Proposed Action would be used as a way to simulate these small scale disturbances allowing huckleberry to thrive. See the EA, Sections 1.3, Purpose and Need for Action; 2.2, Proposed Action Alternative; and 3.1, Vegetation Resources.

Dropping all 103 acres of Huckleberry Enhancement from treatment would not meet the purpose and need for this project and as such this alternative was considered, but eliminated from detailed study. However, while this alternative was not fully developed, the Modified Proposed Action, which serves as the final decision for Lava drops Unit 52, and reduces the number of acres from 103 to 35. This will, in part, meet the purpose and need while reducing the effects that the public has felt would impact their recreation experience.

Public Involvement (EA, Section 1.6.2)

Lava Restoration was listed in the Mt. Hood National Forest quarterly planning newsletter (Schedule of Proposed Action [SOPA]) beginning in January 2013. The project also listed on the Mt. Hood National Forest website beginning in March 2013 at: http://www.fs.usda.gov/projects/mthood/landmanagement/projects. No comments were received through this effort.

In March 2013, a scoping letter providing information and seeking public comment was mailed to approximately 135 individuals and groups. Fifty-three comments were received during the public scoping period. Forty-three comments were form letters received from Bark and the Hood River Valley Residents Committee members. The remaining ten comments were received from Middle Fork Irrigation District (MFID), Oregon Wild, Bark, Hood River County Forestry, Hood River County Board of Commissioners, American Forest Resource Council (AFRC) and four individuals.

The Notice and Comment was initiated in December 2013 and resulted in over 670 comments during the comment period. The large majority of these comments were form emails received from Bark members. The remaining comments were received from Bark, Oregon Wild, American Forest Resource Council (AFRC), Hood River Valley Residents Committee and seventeen individuals. All of the comment letters as well as the response to comments are available in the project record, located at the Hood River Ranger District located in Mount Hood/Parkdale, Oregon. Based on the concerns of local residents, in February 2014, I met with members of the Hood River Valley Residents committee to discuss their concerns with the potential impact to visual quality along the vista ridge trail from the huckleberry enhancement thinning proposed.

Consultation with the Confederated Tribes of Warm Springs Reservation of Oregon was performed before and during the preparation of this EA, and prior to the release of the draft decision dropping Unit 52 and reducing the amount of huckleberry enhancement treatment acres to 35.

In addition to these scoping efforts, the Forest Service participated in government-to-government consultation with National Marine Fisheries Service on this project as detailed in Chapter 4.

Collaboration (EA, Section 1.6.1)

Members of the Hood River Collaborative Stewardship Crew met from September 2012 to February 2013 to identify restoration opportunities within the Lava Project Area. The Hood River Watershed Group and Hood River Soil & Water Conservation District (SWCD) formed the Hood River Collaborative Stewardship Crew made of representatives from Confederated Tribes of Warm Springs, US Forest Service, local and state governmental agencies (Oregon Department of Fish & Wildlife, Oregon Department of Forestry, Hood River County), watershed groups (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 a range of topics including forest health, riparian thinning, huckleberry enhancement, and plantation thinning. The group participated in one field trip to visit potential treatment units and see the outcomes associated with a previous thinning project. In July of 2013, the Hood River Collaborative Stewardship Crew submitted recommendations for the Lava Restoration Project to District Ranger, Janeen Tervo (see EA Appendix 1).

Issues (EA, Section 1.7)

Issues serve to highlight effects or unintended consequences that may occur from the Modified 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 Modified Proposed Action (Forest Service Handbook 1909.15, 12.4).

During the collaborative process scoping and comment periods two issues were brought forward that generated additional alternatives considered but eliminated from detailed study. One alternative was designed to address concerns related to temporary road use and the other was designed to address concerns related to units 52 and 53 (huckleberry enhancement treatments). See the EA, Section 2.5, Alternatives Considered, but Eliminated from Detailed Study for further information.

In addition, there were several concerns (roads, gap size openings, huckleberry enhancement, snags and down logs, riparian reserves, cumulative impacts and best management practices) that were raised. Concerns identified during scoping were used to refine the Modified Proposed Action as well as the effects analysis presented in Chapter 3. Concerns also were identified during the Notice and Comment period. Responses to these comments are contained in Appendix 2 of the EA. All of 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 Modified Proposed Action, 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 Modified Proposed Action authorizes about 1,840 acres of vegetation treatments. This project represents approximately 0.17% of the Forest and 0.9% of the Ranger District. Additionally, the Forest contains 3,034 miles of open roads and the Hood River Ranger District contains 481 miles of open road. The Modified Proposed Action authorizes 20 miles of road decommissioning and road closures. This represents approximately 0.7% across the Forest and 4.1% across the District.

Additionally, this project occurs within five subwatersheds (The Upper Middle Fork Hood River, the Lower Middle Fork Hood River, the Lower East Fork Hood River, the Middle East Fork Hood River, and the Upper West Fork Hood River subwatersheds) which encompass approximately 97,000 acres. This project represents approximately 2% of the total area and only a small percentage of each subwatershed.

Table 2. Subwatersheds located in Lava project boundary, acres of NFS lands and vegetation treatment

Subwatershed (SWS)	Acres in Subwatershed	Acres in NFS Land *(percent of SWS)*	Acres in Project Boundary *(percent of SWS)*	Acres with Vegetation Treatment *(percent of SWS)*
Upper Middle Fork Hood River	12,856	12,836 *(100%)*	2902 *(23%)*	127 *(1.0%)*
Lower Middle Fork Hood River	15,804	8,246 *(52%)*	8,206 *(52%)*	1,670 *(10.6%)*
Lower East Fork Hood River	27,069	5,390 *(20%)*	1,292 *(5%)*	0 *(0%)*
Middle East Fork Hood River	16,958	14,169 *(84%)*	172 *(1%)*	0 *(0%)*
Upper West Fork Hood River	24,145	19,696 (82%)	1192 (5%)	103 (0.4%)

Intensity

1. Analysis of the beneficial and adverse impacts

Adverse and beneficial impacts have been assessed and were not found to be significant. The beneficial effects of the action do not bias my finding of no significant environmental effects. 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 Modified Proposed Action have been minimized or eliminated through PDC (Appendix 2). The Modified Proposed Action will not likely adversely affect listed fish (EA, Section 3.6.4) or northern spotted owl (EA, Section 3.8.7). Any adverse effects from the action will be minimal and localized and are being undertaken to provide for long-term beneficial effects from the addition of Large Woody Debris to critical habitat (EA, Section 3.6). As such, I find that the Modified Proposed Action is not a significant federal action.

2. The degree to which the Modified 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 3.17). 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 where activity will occur in the planning area are C1-Timber Emphasis, B1-Wild, Scenic and Recreational Rivers, B2-Scenic Viewshed and B6-Special Emphasis Watershed. In addition, the secondary Forest Plan land use allocation is 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. 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 Lava Restoration EA. Activities approved in this final 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 other actions with individually insignificant, but cumulatively significant impacts:

The analysis considered not only the direct and indirect effects of the Modified 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 (Appendix 2).

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 two 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 initiated or completed as described below.

The anticipated impacts summarized in the EA Section3.6.4 could have some localized effects to ESA listed fish and or habitat to stream reaches containing ESA-listed fish. Tree falling into stream reaches that are occupied by ESA-listed fish species (only unit 3) ***may affect, and is likely to adversely affect*** Columbia River bull trout and Lower Columbia River steelhead trout. This action is covered under the following biological opinions: *Endangered Species Act – Section 7 Programmatic Consultation Conference and Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for Reinitiation of Aquatic Restoration Activities in States of Oregon and Washington (ARBO II) NMFS Consultation Number: NWR-2013-9664*, and *Endangered Species Act – Section 7 Consultation, Programmatic Biological Opinion for Aquatic Restoration Activities in the States of Oregon, Washington, and portions of California, Idaho and Nevada (ARBO II) [FWS reference: 01EOFW00-2013-F-0090]*. Other actions, such as reductions in large wood potential and small increases in fine sediment from road maintenance ***may affect, but are not likely to adversely*** affect ESA-listed fish species and designated/proposed critical in the action area. Essential Fish Habitat for Chinook and coho salmon will be adversely affected.

Informal consultation on the project with the US Fish and Wildlife Service (USFWS) concerning bull trout and their critical habitat has been completed for the project. The USFWS concurred that the project***, may affect, but is not likely to adversely affect*** bull trout *(Salvelinus confluentus)* or their critical habitat (CH) as designated on October 18, 2010 [FWS *reference*: 01EOFW00-2014-I-0168]. This is in accordance with section 7 of the Endangered Species Act (EA, Section 4.1.2)

Early involvement with NMFS was conducted in regard to listed anadromous fish species and their habitat that occur within or near the action area. A Biological Assessment has been completed for this project and a Letter of Concurrence is pending. No final decision will be signed before the Letter of Concurrence is received. The Forest will comply with all additional conservation recommendations set forth by NMFS (EA, Section 4.1.1).

For Northern Spotted Owls, 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 birds 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 will be maintained and because timing restrictions will reduce impacts from sound, the proposed project ***may affect, but is not likely to adversely affect***, spotted owls (EA, Section 3.8.1.1). The effects to spotted owls and their Critical Habitat for this project were included in a programmatic informal consultation submitted to the U.S. Fish and Wildlife Service on August 8, 2013: Biological Assessment of NLAA Projects with the Potential to Modify the Habitat of Northern Spotted Owls Willamette Planning Province – FY 2014. A Letter of Concurrence was signed on September 27,

2013: Letter of Concurrence and Conference Concurrence Regarding the Effects of Habitat Modification Activities within the Willamette Province, FY 2014, proposed by the Eugene District, Bureau of Land Management; Salem District, Bureau of Land Management; Mt. Hood National Forest; Willamette National Forest; and the Columbia River Gorge National Scenic Area on the Northern Spotted Owl (Strix occidentalis caurina) and its' Designated and Proposed Critical Habitat (FWS Reference Number 01EOFW00-2013-I-0187).

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

This final 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 3.17). 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 Modified Proposed Action 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 3.17.4). 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 Modified Proposed Action 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 Modified Proposed Action is consistent with the major amendments to the Forest Plan as described below.

I find that the modified proposed action 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. In addition, 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.

Additional surveys were conducted in the project area in units with suitable habitat for Survey and Manage and sensitive snail species. Streams located in, or adjacent to, units 3, 13, 21, 27, and 47 were surveyed in 2012. The Columbia duskysnail was found in Bear Creek, an unnamed tributary to Bear Creek, and Tony Creek associated with units 3, 13, 21, and 27. In addition the Columbia duskysnail was found in a spring adjacent to FSR 1600 in the Tony Creek 7th field watershed during unit reconnaissance conducted as part of the Lava planning process in 2012 (Chris Rossel, fisheries biologist, Mt. Hood National Forest, personal communication, 2013).

Columbia duskysnail: This species of aquatic mollusk has been found across the Forest during surveys conducted over the past several years (Mt. Hood National Forest, unpublished data). In 2012 Columbia duskysnails were found in the action area in multiple tributaries to Tony Creek and in the headwaters of Bear Creek. Individuals have not been found in larger streams and rivers or glacial streams. Suitable habitat exists elsewhere in the action area and thus the Columbia duskysnail is presumed present in smaller, perennial, non-glacial streams in the action area.

This project complies with the court's survey and management direction in Northwest Ecosystem Alliance v. Rey and is consistent with the survey requirements in the 2001 Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (USDA and BLM). As such, I find that the Modified Proposed Action is consistent with the 2001 Survey and Manage ROD.

Surveys for Dalles Sideband were conducted in the project area and one individual of this species was found in the project area during 2012 surveys. The units that contained the snail have been dropped from the proposed action (EA Section 3.8.3.1). Surveys for Larch Mountain Salamander found two individuals of this species in the project area during 2012 surveys. The units that contained these salamanders have subsequently been dropped from the Proposed Action (EA Section 3.8.3.2). The Modified Propose Action is consistent with the survey requirements and management provisions found in the Record of Decision and Standard and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines 2001.

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.

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

I find that the Modified Proposed Action 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), as summarized in Appendix 3 of this Decision Notice/FONSI. The proposed project will treat vegetation in Riparian Reserves to restore them to a more natural vegetation state. This will result in more natural function of the riparian area. Benefits from implementation of the Proposed Action will be noticeable at the site scale and possibly the 7th field sub-watershed scale and include restoration of large woody debris and some adjacent stream channel width to depth ratios (EA, Section 3.7)

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 Modified Proposed Action 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 (Appendix 2).

Further, I find that the Modified Proposed Action 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, bull trout, steelhead trout, coho salmon, and Chinook salmon. Wildlife MIS within the project area include the northern spotted owl, deer and elk, pileated woodpecker, and American marten. I find that the Modified Proposed Action is consistent with the standards and guidelines pertaining to MIS, and that based on the limited effects to any MIS, the Modified Proposed Action 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 Modified Proposed Action 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 Modified Proposed Action 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 harlequin duck and western bumblebee (Bombus occidentalis) are the only wildlife sensitive species present in the project area. The temporary impacts to harlequin duck prey species from large wood placement and disturbance to nesting sites from project activities may impact individuals, but is not likely to impact populations, nor contribute to a potential loss of viability of this species. These impacts will be temporary and habitat will be improved in the long-term. The temporary reduction in flowering shrubs and nesting sites for the western bumblebee 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 450 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 Modified Proposed Action 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 Modified Proposed Action 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 3-25 (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 Modified Proposed Action will not

adversely affect any essential fish habitat (EA, Section 3.6.4 and Table 3-40). 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). Heritage resource inventories were conducted in compliance with the 2004 PA during the project planning stage (FW-602 and FW-606), the field survey results were fully documented (FS-608), and the potential effects to heritage resources from the proposed projects were assessed (FW-609, FW-610). Heritage resources potentially affected by project activities were evaluated as ineligible for inclusion on the NRHP (FW-612). Based on the proposed protective measures, the project meets the criteria in the Programmatic Agreement for "No Historic Properties Affected" determination (Stipulation III (B) 5). As such, I find that the Modified Proposed Action is consistent with the National Historic Presentation Action and all consultation requirements have been met (EA, Section 4.13.4).

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 3.17.3).

SUMMARY OF OBJECTION REVIEW PERIOD

This project was subject to pre-decisional administrative review (objection process) pursuant to 36 CFR 218, Subpart B. The pre-decisional administrative review process replaced the appeal process in March of 2013. The primary difference with the objection process is that a person may object to a project prior to the final decision, whereas under the appeal procedures, appeals were made after the decision. The full text of the rule can be found at: http://www.gpo.gov/fdsys/pkg/FR-2013-03-27/pdf/2013-06857.pdf.

A Draft Decision Notice and FONSI was distributed according to 36 CFR 218.7 providing a 45- day period for objections to be filed prior to making a final decision. One objection was received from Bark (#15-06-06-0001-218(B)). On March 3, 2015 The Mt. Hood National Forest offered to hold an objection resolution meeting with Bark. On March 5, 2015, Mt. Hood National Forest Supervisor, the Objection Reviewing Official received a letter declining an objection resolution meeting.

After reviewing the objections, I was instructed by the Objection Reviewing Officer to sign the Decision Notice with no modification.

Although no modifications were required for the Final Decision Notice, I have summarized the consistency with the ACS objectives in Appendix 3 in this final decision based on the comments received and ensuing discussions. The Draft Decision Notice is replaced by this Final Decision Notice.

As such, I believe this is the right course of action in order to achieve the purpose and need for this project. The Forest Supervisor (Objection Reviewing Officer) has provided written responses to the objections. No further review from any other Forest Service or USDA official of the reviewing officer's written response to the objections is available (36 CFR 218.11(b)(2)). All objection letters and responses are available in the project record.

IMPLEMENTATION DATE

Implementation may occur immediately following the date of this final decision

CONTACT

For additional information concerning this final decision, contact Casey Gatz, Hood River Ranger District, 6780 Highway 35, Mount Hood/Parkdale, OR 97041; phone (541) 352-1255; Email: cgatz@fs.fed.us. Additional information also is available on the project website at: http://www.fs.usda.gov/goto/mthood/projects.

/s/ Janeen Tervo _____ 4/29/2015

JANEEN TERVO Date
District Ranger
Hood River Ranger District
Mt. Hood National Forest

APPENDIX 1: Modified Proposed Action

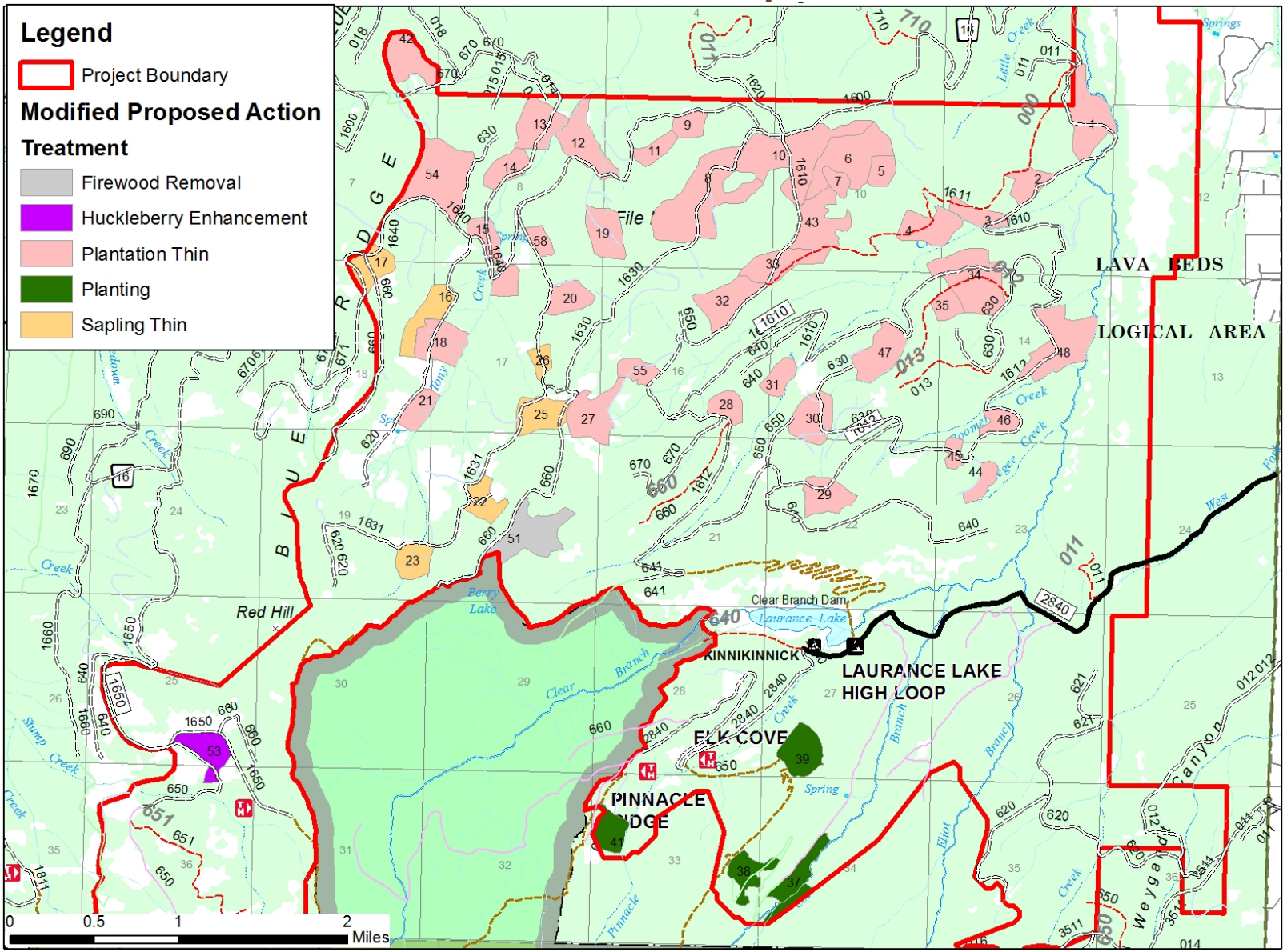

Table 3: Unit Information. Abbreviations used in the table are: DF = Douglas-fir; NF = noble fir; WH = western hemlock; MH = mountain hemlock; SF = spruce fir; GF = grand-fir; LP = lodge pole pine. All fuels treatments within the units are creating piles and pile burning.

Unit	Treatment	Acres	Age (yr)	Tree Species	Skips and Gaps	Current Canopy Cover	Target Canopy Cover	Logging System	Temporary Roads
1	Plantation Thinning	57	45	DF,WH,SF	Yes	70%	40%	Ground, Skyline, Helicopter	Yes
2	Plantation Thinning	23	50	DF,WH,SF	Yes	70%	40%	Skyline	No
3	Plantation Thinning	22	50	DF,WH,SF	Yes	70%	40%	Skyline	No
4	Plantation Thinning	38	50	DF,WH,SF	Yes	70%	40%	Skyline	Yes
5	Plantation Thinning	16	50	DF,WH,SF	Yes	70%	40%	Helicopter	No
6	Plantation Thinning	68	50	DF,WH,SF	Yes	70%	40%	Ground, Helicopter	Yes
7	Plantation Thinning	11	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
8	Plantation Thinning	112	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
9	Plantation Thinning	18	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
10	Plantation Thinning	98	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
11	Plantation Thinning	17	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
12	Plantation Thinning	47	60	WH,SF,DF	Yes	80%	40%	Ground, Skyline, Helicopter	Yes
13	Plantation Thinning	41	50	DF,WH,SF	Yes	70%	40%	Ground, Skyline	Yes
14	Plantation Thinning	25	60	WH,SF,DF		80%	40%	Ground, Skyline	Yes
15	Plantation Thinning	39	60	WH,SF,DF	Yes	80%	40%	Helicopter	No
16	Sapling Thinning	35	25	MH,DF,SF	Yes		40%	n/a	No
17	Sapling Thinning	31	30	MH,DF,SF	Yes		40%	n/a	No
18	Plantation Thinning	41	40	DF,WH,SF	Yes	60%	40%	Ground, Skyline	Yes
19	Plantation Thinning	36	40	DF,WH,SF	Yes	60%	40%	Ground	Yes
20	Plantation Thinning	25	40	DF,WH,SF	Yes	60%	40%	Ground	Yes

Unit	Treatment	Acres	Age (yr)	Tree Species	Skips and Gaps	Current Canopy Cover	Target Canopy Cover	Logging System	Temporary Roads
21	Plantation Thinning	23	40	DF,WH,SF	Yes	60%	40%	Ground, Skyline	Yes
22	Sapling Thinning	24	30	MH,DF,SF	Yes		40%	n/a	No
23	Sapling Thinning	26	30	MH,DF,SF	Yes		40%	n/a	No
25	Sapling Thinning	36	30	MH,DF,SF	Yes		40%	n/a	No
26	Sapling Thinning	12	30	MH,DF,SF	Yes		40%	n/a	No
27	Plantation Thinning	46	40	DF,WH,SF	Yes	70%	40%	Ground, Skyline	Yes
28	Plantation Thinning	19	45	DF,WH,SF	Yes	70%	40%	Ground	Yes
29	Plantation Thinning	34	45	DF,WH,SF	Yes	70%	40%	Ground	Yes
30	Plantation Thinning	39	45	WH,DF	Yes	80%	40%	Ground	Yes
31	Plantation Thinning	19	50	GF,DF	No	80%	40%	Ground, Skyline	Yes
32	Plantation Thinning	43	50	GF,DF	No	80%	40%	Ground, Skyline	Yes
33	Plantation Thinning	39	45	WH,DF	Yes	80%	40%	Ground, Skyline	Yes
34	Plantation Thinning	75	50	GF,DF	No	80%	40%	Ground, Skyline	Yes
35	Plantation Thinning	15	50	GF,DF	No	80%	40%	Ground	No
37	Planting	38	0	MH,WH,DF ,SF	No	30%	n/a	n/a	No
38	Planting	27	0	MH,WH,DF ,SF	No	30%	n/a	n/a	No
39	Planting	37	0	MH,WH,DF ,SF	No	30%	n/a	n/a	No
41	Planting	25	0	MH,WH,DF ,SF	No	30%	n/a	n/a	No
42	Plantation Thinning	42	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
43	Plantation Thinning	49	45	WH,DF	Yes	80%	40%	Ground, Helicopter	Yes
44	Plantation Thinning	15	45	WH,DF	Yes	80%	40%	Ground, Skyline	Yes
45	Plantation Thinning	11	45	WH,DF	Yes	80%	40%	Ground, Skyline	No
46	Plantation	18	50	DF,WH,SF	Yes	70%	40%	Ground,	No

Unit	Treatment	Acres	Age (yr)	Tree Species	Skips and Gaps	Current Canopy Cover	Target Canopy Cover	Logging System	Temporary Roads
	Thinning							Helicopter	
47	Plantation Thinning	43	50	GF,DF	No	80%	40%	Skyline, Helicopter	Yes
48	Plantation Thinning	71	50	DF,WH,SF	Yes	70%	40%	Ground, Skyline	Yes
51	Firewood Removal	58	100	LP,DF,NF, SF,WH	No	50%	50%	Ground	No
53	Huckleberry Enhancement	35	130	MH,WH,DF ,SF	n/a	70%	65%	Ground	Yes
54	Plantation Thinning	81	75	WH,SF,DF	Yes	80%	40%	Ground	Yes
55	Plantation Thinning	18	50	DF,WH,SF	Yes	80%	40%	Ground, Skyline	Yes
58	Plantation Thinning	13	50	DF,WH,SF	Yes	70%	40%	Ground	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 Modified Proposed Action.

Design Criteria/Mitigation Measures for Vegetation Treatments

Vegetation Management

V-1. Gap size and distribution (i.e. location and number) will vary depending on stand specific conditions. Individual gaps will range in size from 1 to 5-acres.

V-2. Within Riparian Reserves for perennial streams, gaps will only be allowed within 1 site potential tree (140 feet or 160 feet for units 3 and 4) if the stream is glacially or spring fed or the gap is located on the north side of the stream. If these conditions are met, gaps could be created, but they will be located outside protection buffers outlined in the Project Design Criteria. If gaps are created along intermittent streams they will be outside the protection buffer. See (PDC A-2 and Table 2-7).

V-3. If a gap is placed in a Riparian Reserve directly adjacent to a stream designated as listed fish habitat (Bear Creek, Tony Creek, or the Middle Fork Hood River) the gap shall be located one site potential tree height or further from the listed fish habitat (LFH) stream regardless of the protection buffer width. This pertains to the above streams in units 1, 3, 4, 12, 13, 14, 15, 18, 21, and 48.

V-4. No gaps will be located in Riparian Reserves within skyline units.

V-5. Tree planting will only occur in gaps larger than 2 acres.

V-6. In huckleberry enhancement units a priority on heavy thins and gap locations shall be where there are existing big leaf huckleberry plants.

Fuels

F-1. Sale generated slash shall be piled where the Forest Plan down woody tons per acre standards and guidelines are exceeded.

F-2. Slash piles shall have a sound base to prevent toppling over and shall be wider than they are tall. Pile branches with their butt-ends toward the outside of the pile, and overlap them so as to form a series of dense layers piled upon each other. Use a mixture of sizes and fuels throughout the pile. Piles shall be kept compact and free of soil and noncombustible material, with no long extensions. Do not construct piles on stumps or on sections of large down logs.

F-3. Pile size and location shall be such to minimize damage to residual trees. Piles shall be located at least 20-feet inside the unit boundary. Piles shall not be placed on or in the following areas: pavement, road surface, ditch lines, or within 100-feet of a stream course.

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. 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-4. 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-5. 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-6. 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-7. 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-8. Temporary roads will be obliterated upon the completion of use. Temporary roads and landings on temporary roads shall be sub-soiled or scarified as necessary. Culverts shall be removed as appropriate and cross-drain ditches or water bars shall be installed as needed. Disturbed ground shall be seeded and mulched and available logging slash, logs, or root wads shall 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-9. 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-10. Unsuitable excavation[1] resulting from ditch cleaning and other operations will be disposed of only at Forest Service approved sites outside riparian protection buffers (PDC A-2 and Table 2-7). Material disposed of shall be spread evenly over an appropriate area in non-conical shaped piles with a maximum layer thickness of 3 feet. All disposals shall be seeded and mulched at the completion of operations.

R-11. Stockpiles of aggregate intended for use on the project will be staged only at Forest Service approved sites. Materials shall be placed in non-conical shaped piles with a maximum layer thickness of 3-feet. Stockpiles shall be covered with weighted plastic sheeting when inclement weather is expected to protect it from precipitation and to prevent water quality degradation from runoff.

R-12. 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-13. Scheduled soil disturbing road maintenance or reconstruction shall occur during the Normal Operating Season (generally June 1 – October 31), unless a waiver is obtained.

R-14. 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)[2]. 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

[1] By contract specification, any material containing "excess moisture, muck, frozen lumps, roots, sod, or other deleterious material" along with certain types of 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.

[2] 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 will work with ODFW to fully comply with any and all new state requirements/regulations.

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 (generally June 1 – October 31) shall not occur on the following roads or road segments[3]: 1600000 (5.4 miles from the intersection with the 1650000 to the intersection with the 1800000), 1600015, 1600670, 1610000 (3.2 miles from the intersection with the 1610630 to the intersection with the 161200), 1610012, 1610630, 1610640, 1611000 (0.4 miles from the intersection with unit 3 to the intersection with unit 4), 1612000, 1612630, 1612640, 1612650, 1631000, 1631630, 1640000, 1640620, 1640630, 1650000, 1650650, and 1800000.

L-3. Log haul, rock haul and equipment transportation may be allowed outside the Normal Operating Season (generally June 1 – October 31) on aggregate and native surface roads not listed in L-2, if the following criteria are met:

a. Haul routes must be inspected weekly, or more frequently if weather conditions warrant. Inspections by the timber sale administrator (or qualified specialist) will focus on road surface condition, drainage maintenance, and sources of erosion and sediment delivery to streams.
b. 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 exists or that the subgrade on the paved roads is saturated.

L-5. Log and rock haul on system and temporary roads 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

[3] These are roads that met one or both of the following conditions:

- Native surface road hydrologically connected to a stream or wetland.
- Aggregate and native surface haul routes that cross a stream within 1,000 feet stream distance to listed fish habitat (LFH) and/or the haul route was closer than 500 feet direct distance from LFH if hydrologically connected to that waterway.

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 designated protection buffers except associated with woody material introduction into stream channels. Protection buffers for perennial streams and wetlands will be a minimum of 60-feet and a minimum of 30-feet for intermittent streams, except for units outlined in Table 0-1. Buffers are measured from the edge of the bankfull channel on both sides of the stream (or wetted area in the case of a pond or wetland). Buffers will be expanded to include slope breaks where appropriate. Trees can be felled towards streams but any tree, or portion thereof, directionally felled towards surface water that could land in the bankfull stream channel must be felled during the ODFW in-water work window (July 15 to August 15).

Table 0-1: Proposed Stream Protection Buffers that Exceed the Minimum Standard Due to Slope Breaks or other Topographical Features.

Unit	Stream Protection Buffer – Perennial (ft.)[1]	Stream Protection Buffer - Intermittent (ft.)[1]
1	140	30
3	100	50
4	100	50
5	N/A	40
6	N/A	40
12	75	30
15	150 (Tony Cr.) / 60	30
16	N/A	50
18	100	30
21	60	50 / 30
31	150	30
48	150 (MFHR) / 60	100

[1]Actual protection buffer widths may exceed these values due to slope breaks or other site conditions. The buffer in unit 12 is an absolute minimum buffer width whereas other buffer widths greater than 60 or 30 feet for perennial and intermittent streams respectively are averages that allow up to a 10 percent variance closer to the water feature (i.e. a 100ft buffer could be as close as 90ft from the water source).

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 (generally June 1 – October 31) within Riparian Reserves.

A-5. Locate new landings outside of Riparian Reserves[4]. Use of existing landing locations 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 from streams, seeps, springs 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. Parking of mechanized equipment overnight or for longer periods of time shall be 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. Absorbent pads will be required under all stationary equipment and fuel storage containers. A Spill Prevention Control and Countermeasures Plan shall be prepared by the contractor as required under EPA requirements (40 CFR 112).

A-7. Skyline yarding shall allow at least one end log suspension at all times.

A-8. Skyline yarding corridors shall not exceed 15-feet in width and shall be spaced at least 100-feet apart on average.

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) 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.

A-14. No water will be withdrawn from any occupied LFH stream except in an emergency (e.g. wildfire) situation. Limit water withdrawals for road maintenance or other purposes in unoccupied LFH and within 1,500 feet of occupied or unoccupied LFH to 10 percent or less of stream flow at the point of withdrawal (visually estimated). In non - LFH streams greater than 1,500 feet from LFH limit withdrawal by 50 percent or less of the stream flow (visually estimated). Regardless of water withdrawal location, use of screen material with either of the

[4] Riparian Reserve refers to the Northwest Forest Plan Riparian Reserve designation.

following maximum openings is required: 1.75 mm opening for woven wire or 3/32 inch opening for perforated plate.

A-15. 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.

Soils

S-1. All skid trails will be rehabilitated immediately after harvest activities are completed. Landings and temporary roads normally will have erosion control measures installed following vegetation 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 shall not be used on slopes greater than 30 percent to avoid detrimental soil and/or watershed impacts.

S-3. If a proposal to implement winter logging is presented, the following shall 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 shall 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., shall 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 shall 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.

a. The use of chainsaws and heavy equipment will not take place between March 1 and July 15 in Units 27 and 41.
b. The use of helicopters will not take place between March 1 and September 30 in Units 27, 31, 32, 33, 41, 43, 47, and 55.

W-2. No activities will take place in B10 Deer/Elk Winter Range between December 1 and April 1. A portion of the Forest Service Road 2840 (<¼ mile) is within B10. A seasonal restriction for hauling will be in place for this portion of the road.

W-3. To enhance diversity, variable-density thinning will include the retention of snags and wildlife trees where possible.

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 0-2 before harvest activities are implemented. All treatment methods (including herbicide application) 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). If sites are within restricted buffer areas only manual treatment (handpulling, mowing, etc.) could be used if feasible. Sites listed below include historic sites where treatment methods applied over the years have effectively eradicated target noxious weeds (66-028 and 66-047) however, the sites shall continue to be monitored and treated annually if necessary.

Table 0-2: Invasive Species Treatments

ROAD # / LOCATION	VICINITY UNITS	EIS TREATMENT #	SPECIES (Past and/or Present)
1600	Haul route / 42, 54	66-083	Butter and eggs
1610	31, 34, 35, 47	66-063	Meadow and spotted knapweeds; 1 isolated tansy site (historic)
1631-630 Dollar Quarry	Haul route / 20, 22, 23, 25, 26, 27, 58	66-047	Meadow knapweed and yellow star thistle (eradicated)
Junction of roads 1600, 1610, 1620, and 1630 (stockpile at "4-Corners")	Haul route / 5, 6, 7, 8, 10, 32, 33, 43	66-028	Meadow knapweed in stockpile (eradicated)
1630	Haul route / 5, 6, 7, 8, 10, 32, 33, 43	To be added	Meadow knapweed
2840-650	39, 41	06-062	Diffuse knapweed; isolated tansy site (historic)
1600 and 2840	Main haul routes	Road system	Spotted and diffuse knapweeds

I-2. Monitor all management activities for potential spread or establishment of invasive species in terrestrial areas of the National Forest System (FSM 2903.9). For on-going projects, continue to monitor until reasonable certainty is obtained that no weeds have occurred. Provide for follow-up treatments based on inspection results (BMP Practice 18).

I-3. Ensure genetically appropriate native plant materials are given primary consideration (FSM 2070.3.1) in areas identified for restoration. Consult with a Forest Service botanist or ecologist to ensure native species seed (and genetic heritage) is appropriate for the area where revegetation will occur (FSM 2070.3.5). Use of non-persistent, non-native, non-invasive plant materials in the Lava project area is restricted to 1) emergency situations when necessary to protect basic resource values (such as, soil stability, water quality, and prevention of 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 (2005 Invasives ROD SG-13).

I-4. If using straw, hay, or wood fiber mulch for restoration/revegetation in any areas, use only certified, weed-free materials (2005 Invasives ROD SG-3).

I-5. Use only gravel, fill, sand, and rock that are judged to be weed free by District or Forest weed specialists. Inspect active quarry sites, gravel pits, fill and stockpiles, and re-usable disposal material (e.g. "borrow" material) for invasive plants before use in the project area (2005 Invasives ROD SG-7). Treat or require treatment of infested sources before use; strip and stockpile contaminated material before any use (BMP Practice 10). Inspect and document the area where material from treated weed-infested sources is used, annually for at least three years after project completion, to ensure that any weeds transported to the site are promptly detected and controlled (BMP Practice 11). Maintain stockpiled, uninfested material in a weed-free condition (BMP Practice 12).

I-6. Actions conducted or authorized by written permit by the Forest Service that will operate outside the limits of the road prism (including public works and service contracts), require the cleaning of all heavy equipment (bulldozers, skidders, graders, backhoes, dump trucks, etc.) prior to entering National Forest System Lands (2005 Invasives ROD SG-2). Incorporate CT6.36, B6.35, and R6/SPS 601.01 (Work) that require cleaning of equipment before entering National Forest lands.

I-7. Schedule and conduct road blading, brushing and ditch cleaning in areas with high concentrations of invasive plants in consultation with District or Forest-level invasive plant specialists; incorporate invasive plant prevention practices as appropriate (2005 Invasives ROD SG-8).

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. Treatment of vegetation by hand could still occur as necessary. Prescribed burning may occur, but piling may not occur within the flagged buffer zones.

H-2. Culturally-modified trees will be flagged individually and avoided. Harvest trees will be felled directionally away from flagged trees.

Recreation

RC-1. Sale Administrator will coordinate trail and road closures and associated signage with eastside recreation staff to lessen impacts to recreationists and Special Use Permit events.

RC-2. No road maintenance, yarding or log haul activities located on or adjacent to Forest Road 1600 from Friday, 12 P.M. through Monday, 12 A.M (weekends) between Memorial Day and Labor Day or on any Federal holidays.

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 shall be commensurate with technical requirements of a project.

D-2. Follow the appropriate ODFW guidelines for timing of in-water work (July 15 to August 15). 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 have a written Spill Prevention Control and Containment Plan (SPCCP) as required under EPA requirements (40 CFR 112), which describes measures to prevent or reduce impacts from potential spills (fuel, hydraulic fluid, etc.). The SPCCP shall 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. Parking of mechanized equipment overnight or for longer periods of time shall be 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 at a Forest Service approved sites outside riparian protection buffers (PDC A-2 and Table 2-7). 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 shall 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 shall be performed at the project site(s). If any invasive plants are found on or near roads, the full extent of the invasion shall 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 shall 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 substantial 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.

Appendix 3: ACS Summary

1. Maintain The Distribution, Diversity And Complexity Of Watershed And Landscape-Scale Features:

Over 97% of the Riparian Reserves in the Middle Fork, East Fork and West Fork Hood River Watershed comprising this project will be left untreated so their current condition will be maintained. A specific prescription for vegetation treatments in Riparian Reserves has been developed for this project and this prescription is intended to maintain or enhance the development of a diverse, healthy riparian area while protecting it with a variety of project design criteria/mitigation measures (PDC). The prescription includes a protection buffer adjacent to each perennial and intermittent stream that will maintain existing vegetative conditions adjacent to these features. No new road crossings of perennial streams or wetlands are proposed. Three existing temporary road crossings of intermittent channels may be reconstructed and will be rehabilitated immediately after project completion. These crossings will not result in any long-term aquatic habitat fragmentation. There will be 2.1 miles of road decommissioning which will decrease overall aquatic habitat fragmentation.

2. Maintain Spatial And Temporal Connectivity Within And Between Watersheds:

The project will increase the spatial and temporal connectivity within and between watersheds due to culvert removal associated with road decommissioning. Over 97 percent of the Riparian Reserves in the 6th field sub-watersheds comprising the project will be left untreated so their current condition will be maintained. A specific prescription for vegetation treatments in Riparian Reserves has been developed for this project and this prescription is intended to maintain or enhance the development of a diverse, healthy riparian area while protecting it with a variety of PDC. The prescription includes a protection buffer adjacent to each perennial and intermittent stream that will maintain existing vegetative conditions adjacent to these features.

3. Maintain the Physical Integrity of the Aquatic System, Including Streambanks, Side channels (Refugia), And Channel Bottom Configurations:

This project will meet this objective through PDC aimed at reducing soil compaction and erosion, restricting near-stream ground disturbance and establishment of undisturbed vegetative buffers next to perennial and intermittent streams which will maintain current levels of snags and wood input. A prescription for vegetation treatments in Riparian Reserves that is intended to maintain or enhance the development of a diverse, healthy riparian area and the lack of any new crossings on perennial streams will greatly reduce risks of sedimentation, increased peak flow, and resulting bank erosion and channel bed scour. Additionally, trees are proposed to be dropped into stream channels where field reviews identified a deficiency of in-stream woody material. This action should improve the physical integrity of channel bottoms and side channels.

4. Maintain Water Quality Necessary To Support Healthy Ecosystems:

This project will meet this objective through PDC and inclusion of a specific prescription for vegetation treatments in Riparian Reserves that includes a protection buffer adjacent to each perennial and intermittent stream. This protection buffer includes the primary shade zone along perennial streams that will maintain stream temperature. The protection buffer will also trap any eroded material prior to reaching surface water, thus reducing or eliminating the potential for sediment delivery. The protection buffers in conjunction with PDC aimed at reducing erosion will maintain the sediment levels in the long-term. These measures are discussed in detail in the Soil Productivity, Water Quality, and Fisheries sections in Chapter 3.

5. Maintain Sediment Regimes:

PDC aimed at reducing soil compaction and erosion, restricting near stream ground disturbance and establishment of undisturbed vegetative buffers next to perennial and intermittent streams will minimize sediment introduction in the short and long-term. There will be 2.1 miles of road decommissioning and 22.4 miles of road closures implemented which will decrease overall anthropogenic sedimentation, but some short-term sedimentation is expected from culvert removal during road decommissioning and reinstallation of temporary road crossings on 3 intermittent streams. Sedimentation resulting from road decommissioning and reinstallation of the temporary road crossings will be most evident at the site scale.

6. Maintain In-Stream Flows That Are Closer To Natural Regimes:

As described in the Water Quality section in Chapter 3 of the EA, this project will maintain the Watershed Impact Area well below the 35% Forest Plan Standard and Guide which should not result in any peak flow increase from this project. In addition, road decommissioning will "disconnect" the road system from streams which should move runoff toward a more natural rate.

7. Maintain The Timing, Variability, And Duration Of Floodplain Inundation:

This project will meet this objective through PDC (such as establishment of undisturbed vegetative buffers next to perennial and intermittent streams) which will maintain floodplain and channel roughness and ultimately the timing, variability and duration of floodplain inundation. Trees are proposed to be dropped into stream channels where field reviews identified a deficiency of in-stream woody material which will add to channel roughness. Maintaining the Watershed Impact Area well below the 35% Forest Plan Standard and Guide will protect the integrity of the floodplains while minimizing the potential for increased peak flows. In addition, road decommissioning will "disconnect" the road system from streams which should move runoff toward a more natural rate. Floodplains are extremely limited in this area due to the steep nature of the landscape.

8. Maintain The Species Composition And Structural Diversity Of Plant Communities In Riparian Areas And Wetlands:

A specific prescription for vegetation treatments in Riparian Reserves has been developed for this project and the prescription is intended to maintain or enhance the development of a diverse, healthy riparian area while protecting it with a variety of PDC. Treatments within the Riparian Reserves are aimed at producing a more natural vegetative composition and density that has been lost through many decades of fire suppression.

9. Maintain And Restore Habitat To Support Well-Distributed Populations Of Native Plant And Riparian Dependent Species:

The project will meet this objective with PDC and vegetative treatments that are designed to simulate a more natural disturbance regime within the area.

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 final decision considered the management recommendations in the Middle, East and West Fork Hood River Watershed Analyses. A portion of the West Fork Hood River watershed (Ladd Creek) is a Tier 1 Key watershed. Tier 1 Key Watersheds were selected for directly contributing to anadromous salmonid and bull trout conservation (see the EA Section 3.5, Water Quality for more details). 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 NFS 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 1-1 through 1-6 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. See EA, Figure 1-8 for a map of the land use allocations within the planning area.

Other management direction for the Lava 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. The majority of the project area (68%) falls within the Matrix LUA.

Treatments are proposed within the Riparian Reserves, which 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.

Final Decision

Based upon my review of the analysis and alternatives, I have decided to implement the Proposed Action described in the EA, Section 2.2, with modifications. Appendix 1 of this Final Decision Notice contains a map of the selected modified alternative as well as unit-specific information for all vegetation treatments. All project design criteria/mitigation measures (PDC) that apply to this final decision are included in Appendix 2 of this Final 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.

Modifications from Proposed Action

I have decided to drop Unit 52 consisting of 68 acres in order to provide an additional buffer between the treated Huckleberry Enhancement Units and the Vista Ridge Trailhead. This will reduce the amount of Huckleberry Enhancement from 103 acres to 35 acres.

This final decision is in response to feedback regarding the potential visual impacts to the Vista Ridge trailhead from public comment, feedback from state representatives and previous discussions with the Hood River Stewardship Crew. Concerns were raised that the impacts from vegetation management in this unit would impact the recreational experience for Forest visitors. While there are PDCs developed to minimize the impacts from this action, the balance between recreational experiences and huckleberry enhancement that the remainder of the project will accomplish, I have decided to drop this one unit. This modification has been discussed with the Confederated Tribes of the Warm Springs as outlined in the Public Involvement Section below.

Throughout the remainder of the final decision, the Modified Proposed Action will be the proposed action from the Final Environmental Analysis without unit 52. The anticipated effects on the human environment from the Modified Proposed Action are expected to be less than those disclosed from the Proposed Action in the EA throughout Chapter 3.

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

The Modified Proposed Action includes treating approximately 1,840 acres within the Middle Fork Hood River Watersheds with smaller portions within the East Fork and West Fork Hood River Watersheds (EA Figure 1.9). The Modified Proposed Action includes planting, sapling thinning, plantation thinning, firewood removal, and huckleberry enhancement. In addition to these treatment units, the Modified Proposed Action includes approximately 9 acres 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 Modified Proposed Action is summarized in Table 1 and is fully described in EA, Section 2.2.

Table 1. Modified Proposed Action Treatments

Vegetative Treatment	Acres
Planting	127
Sapling Thinning	164
Plantation Thinning	1,447
Firewood Removal	58
Huckleberry Enhancement	35
Logging System Access	9
Total	**1,840**

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.

All thinning treatments (plantation thin, sapling thinning and huckleberry enhancement thinning) will utilize variable density thinning (VDT), which allows for flexibility to achieve overall treatment objectives (see EA, Section 2.2.2 and 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 huckleberry enhancement thinning, and gap locations will be focused where openings already exist in frost, wind throw, and root rot pockets. Gaps will range from 1 to 5 acres in size and will retain one to six trees. In gaps, minor tree species will be retained if present. The criteria used to determine the gap size will include percentage of shrub cover present; existing big leaf huckleberry plants; existing frost and root rot pockets; existing shade intolerant species; and plant association. Gaps are intended to create openings to support regeneration of shade intolerant species and more rot resistant species while also providing structural diversity. Gap locations will be focused where openings already exist, in frost, wind throw, and root rot pockets. Gap areas will be incorporated into the average target canopy cover identified in the EA in Table 2-2.

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 6 helicopter landings and 339 skyline and ground-based landings, encompassing approximately 49 acres, are needed for this project. All landings will be located within existing units 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 (approximately 49 acres of disturbance) and number of snags within the plantations, it is estimated that approximately 2.3 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 113 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 that removing these snags is acceptable and will not result in adverse environmental effects. (EA section 2.2.5)

Finally, the no treatment protection buffers have been increased in twelve units (Units 1,3,4,5,6,12,15,16, 18,21,31,48). PDC A-2 states: “A-2. No tree felling will occur within designated protection buffers except associated with woody material introduction into stream channels. Protection buffers for perennial streams and wetlands will be a minimum of 60-feet and a minimum of 30-feet for intermittent streams, except for units outlined in Table 2-7. Buffers are measured from the edge of the bankfull channel on both sides of the stream (or wetted area in the case of a pond or wetland). Buffers will be expanded to include slope breaks where appropriate.” (EA Section 2.3.1) Based on slope breaks and on-the-ground conditions, the buffers for these units have been expanded to compile with this PDC. Table 2-7 in the EA lists the

buffers for perennial streams within these units. 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 larger buffer based on topography is required. All buffers along water bodies with listed fish, including those identified during the layout phase are required to meet all the requirements of the letter of concurrences with NMFS and FWS.

Road Decommissioning (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 2.1 miles of unneeded roads as implementation funding becomes available. The roads will not be decommissioned until the proposed thinning has occurred. This final decision will remove the road from the official Forest Transportation system. In addition, 15.4 miles of road will have a year round closure. Lastly, 7.0 miles of road will be seasonally closed allowing access only during huckleberry harvesting season. The road activities are summarized in the EA, Table 2-5 and more fully described in Section 2.2.7 of the EA.

I will like to emphasize that implementing the road decommissioning and road closures 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.

Road Reconstruction and Temporary Roads (EA, Sections 2.2.4 and 2.2.8)

Construction of temporary roads as well as maintenance of system roads needed for activities outlined in the Modified Proposed Action are included in this final decision. 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 14.7 miles. Of the proposed temporary roads, 1.0 miles are new temporary roads, 11.2 miles are previous temporary roads that will be reconstructed for this project. Approximately two and a half miles are on previously decommissioned roads as depicted in the EA, Figure 2-3. It is my intent 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).

Road reconstruction and maintenance will occur on approximately 51 miles of road along the identified haul route. No new permanent road construction will be necessary to implement the Modified Proposed Action. EA, Table 2-6 discusses basic maintenance and repair work activities that will be utilized on roads during and after use to maintain minimum standards. These work activities include brushing, drainage, blading, maintenance, and surface repair (EA, Section 2.2.8). 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 two culvert replacements on Forest Service Road 16 at

milepost 6.61 and 6.89. Additionally, Forest Service Road 16 will include some road grinding and and resurfacing with aggregate at 3 locations; Mile post 6.40 for 80 feet, mile post 7.29 for 140 feet, and mile post 8.05 for 150 feet.

Forest Plan Exceptions (EA, Sections 2.6.1 and 2.6.2)

There are some Forest Plan standards that will not be met in order to meet the Purpose and Need for Action as described above. 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 period. All other standards and guidelines are expected to be met with this proposal.

- 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.
- Snags and Down Log Associated Species (FW-219): An average total of at least 6 logs per acre in decomposition classes 1, 2 and 3 (USDA Forest Service 1985, Brown editor) should be retained in all project activity areas, e.g., clearcut, commercial thin, salvage, or overwood removal.

Overall, these standards cannot be met because of the on-the-ground conditions present within the stands. Implementation of the Modified Proposed Action 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. However, over the next 100 years, the number of snags over 24" dbh will increase in the project area with the implementation of the modified proposed action (EA Table 3-45). For more information see the EA, Section 3.8, Wildlife.

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 2.3 as well as the standard contract language for implementing these projects. Appendix 2 details the site-specific Best Management Practices for Road Decommissioning and Culvert Replacement/Removal 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 the EA, 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 Modified Proposed Action 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 that will result from this action. 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.

While the Modified Proposed Action includes less Huckleberry enhancement treatments than the original proposed action, a majority of the stands in the Lava planning area include huckleberries. As disclosed in the EA, one of the criteria used to determine gap size will include existing big leaf huckleberry plants (EA section 2.2.2). It is anticipated that huckleberry will be enhanced across the planning area and will result in increased huckleberry growth and vigor. Stand groups A1-A5 (EA at Table 3-3), represent over 1700 acres of the proposed treatment units with huckleberry as an either dominate shrub species or moderate shrub species. The Modified Proposed Action will move these stands to more historic vegetation composition and stand structure, which will help ensure that key ecosystem elements and processes are sustained.

The Modified Proposed Action decommissions, closes and implements seasonal road closures of approximately 24.5 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 while providing for traditional huckleberry harvest access.

Also, the Modified Proposed Action 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 Modified Proposed Action 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 Modified Proposed Action considered all comments received during the collaborative process, scoping period, and notice and comment period. The Modified Proposed Action balances the comments received from all stakeholders, and this final decision provides some modifications based on the comments received. The comments that provoked the most discussion related to huckleberry enhancement treatments/Vista Ridge Trailhead, decommissioning and closing roads, temporary roads, and gap size are discussed below.

Huckleberry Enhancement Treatment/Vista Ridge Trailhead

Throughout the Lava Restoration Project, Huckleberry Enhancement Treatments have been both highly supported while raising concern for others. Many of the comments we received were related to units 52 and 53, the two Huckleberry Enhancement Treatment units in the Lava Restoration Project. Since the release of the Draft EA, I have also had meetings and visits to the field with concerned members of the community and learned much about their interests and concerns.

In February, I met with members of the Hood River Valley Residents Committee and in March, received a letter urging the Forest to drop units 52 and 53. The meeting was productive and allowed us the opportunity to meet each other for the first time, and begin building relationships.

In May, I received a letter from Oregon State Representative Ann Lininger, House District 38 which said, "For Oregon to thrive, we need to strike a balance between logging and our need to protect key natural areas and clean water. I applaud efforts by the Forest Service to build consensus among competing interests. Given the information I have received from concerned community members, however, I encourage you to hold off on the Vista Ridge timber sale. We need to honor community-forged compromises." Representative Ann Lininger and I were able to set up a meeting with her constituents, Oregon Wild and the Hood River Valley Residents Committee, in August. During this meeting, a compromise was offered: drop unit 52 at the Vista Ridge trailhead and add a previously analyzed huckleberry unit from the Red Hill Restoration project, unit 49. This proposal was refreshing and I was seriously interested in this compromise as was Representative Lininger.

Throughout this, the Mt. Hood National Forest Tribal Liaison to The Confederated Tribes of Warm Springs (CTWS) let the tribe know I was considering dropping the huckleberry units. This prospect caused great concern for CTWS given the importance of huckleberry management to the tribe, especially these higher elevation units which are anticipated to have greater huckleberry production rates than lower elevation units. My responsibility to uphold Treaty Rights and Trust Responsibilities with CTWS is my duty as a Line Officer, and I take this responsibility seriously.

In October I met with CTWS and shared the history of events and the proposed compromise for the huckleberry units. We had a rich dialogue and ultimately CTWS determined that this compromise will be:

1. Good for the Tribal Elders; and
2. Demonstrate "good will" between Oregon Wild and CTWS

We proceeded to have a field trip that same week to view units 49 and 52. We listened to tribal members share stories from their Elders about huckleberries and traditions handed down. At the end of the field trip we gathered for a group picture, acknowledged the importance of huckleberry management and expressed gratitude for time spent together in the forest that is important to us.

Given the level of concern raised over the huckleberry units 52 and 53, the meetings I've had with multiple stakeholders and the relationship building that has occurred, I am prepared to drop unit 52 to address the social concerns about the proximity of this unit to the Vista Ridge Trailhead, the potential interruption to use of the trailhead for forest visitors, and visual concerns from local community members and other concerned citizens in Oregon.

In an effort to maintain my trust responsibilities with CTWS, I also intend to support future efforts for other high elevation huckleberry units that will serve as a replacement for unit 52. While CTWS is disappointed with this approach, they understand the importance of compromise and are willing to trust this "good faith effort".

I want to acknowledge the Hood River Collaborative Group and the ID Team for your dedication and hard work on the Lava Restoration project. The science presented in the analysis leaves me with no doubt that implementing this project as originally designed will serve to enhance huckleberry production while meeting Forest Plan standards and guidelines for visual quality in unit 52.

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 Modified Proposed Action 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 development of another alterative considered, but eliminated from detailed study looked at an alternative with no temporary roads. This alternative is outlined below as well as in the EA (EA, Section 2.5.1).

For the Lava Restoration Project, temporary roads were placed on previous 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. As such, I feel the temporary roads are the most ecologically appropriate method to implement the removal of timber. This was analyzed as an alternative considered below.

Gap Size

The collaborative group recommended that plantations be thinned using "… skips and gaps (openings up to two acres). If there is a site specific reason, such as white pine planting areas, up to 3 acre gaps is suggested. Base the silvicultural cutting prescription on function and structure of the stand and leave the best. Gaps are preferred on flat ground and not near open roads or too close to private timber." The Forest Plan limits gap openings to 5-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). 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 sapling thinning. Gap locations will be focused where openings already exist, in frost, wind throw, and root rot pockets. Gap areas will be incorporated into the average target canopy cover identified in Table 2-2 of the EA. As such, I feel that the gap sizes and location methodology located in the EA Section 2.2.2 are the best way to mimic more natural structural stand diversity.

In conclusion, I believe that the Modified Proposed Action 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 will continue to guide management of the area. No timber harvest or other associated actions will be implemented to accomplish project goals. Stands will continue to remain uniformly dense and the overstocked condition will 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 in the overstory, and the understory will remain under-developed with low occurrences of ecologically important tree and shrub species including huckleberry. 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 will continue to have large amounts of small patches of increasing crown closure and little species and structural diversity. Additionally, no wood products will be provided. See the 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 fall apart. 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 large enough size to last longer once on-the-ground and provide more stable habitat creating characteristics in larger streams. See the EA Section 3.5, Water Quality and Section 3.6, Fisheries and Aquatic Fauna for more impacts on the riparian areas.

The No Action Alternative would not repair, decommission, or close any roads. The current use pattern of roads within the project area would not change. 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 the EA, Section 3.2, Transportation Resources for more details.

I did not select this alternative because the overall forest conditions within the Middle, East and West Forks of the Hood River Watershed would not be improved and because this alternative would not meet the purpose and need for action including providing wood fiber to local and regional economies.

No Temporary Road Use (EA, Section 2.5.1)

An alternative was considered, but eliminated from detailed study that would not build any temporary roads to avoid impacts to the water quality and aquatic habitat. See the EA, section 1.7.1, Roads. This alternative would impact 612 acres of the Modified Proposed Action all within the plantation thinning treatment.

The effects of new temporary roads were found to be minimal. The objectives of maintaining long-term site productivity and earthflow stability would still be met even with the proposed temporary roads. Re-

opening these roads and the construction of new temporary roads would pose an overall low risk of introducing sediment to streams because almost all of these roads would be outside of the Riparian Reserves. Of the approximately 13 miles of old existing temporary or decommissioned roads that would be reopened, only those that had an aquatic risk rating of low to moderate, as defined by the 2003 Roads Analysis Report, would be utilized, and only 0.6 miles are within Riparian Reserves. None of the new temporary road construction would be within Riparian Reserves. See the EA, section 3.5.3, Water Quality Effects Analysis. Given the minimal change in effects, this alternative is not substantially different than the proposed action other than that it would reduce the number of acres receiving the benefits described in the purpose and need and diminish the economic viability of the project.

Approximately 40% of the project area is currently in the stem exclusion stage (i.e. dense young stands) there would still be 28% of the project area that would fall within this stage post implementation bringing the amount of dense young stands into alignment with historical levels. However, at the landscape scale there would continue to be an overabundance of dense young stands within the stem exclusion stage. See the EA, section 3.1, Vegetation resources. Dropping 612 acres of dense young stands from treatment due to inaccessibility would not meet the purpose and need of this project.

I did not select this alternative because the Modified Proposed Action includes components and PDC (see Appendix 2) that protect natural resources from vegetation treatments and road use (EA, Section 2.3.1). As such, this alternative is not substantially different than the Modified Proposed Action. Also, I did not select this alternative because it does not meet the purpose and need for action as well as the Modified Proposed Action.

Removing Huckleberry Enhancement Units (EA, Section 2.5.2)

An alternative was considered, but eliminated from detailed study that would drop all the Huckleberry Enhancement units from treatment. See the EA, Section 1.7.3, Huckleberry Enhancement Units 52 and 53. Approximately 103 acres of the Proposed Action would be affected leaving no Huckleberry Enhancement treatments.

One of the explicit needs identified for this project is to “Improve growing conditions for huckleberry and other native understory vegetation by reducing shading and competition by overstory trees within selected stands.” See the EA, Section 1.3, Purpose and Need for Action.

While the thinning activities within plantations would help improve growing conditions for huckleberries the best response would be found where huckleberry plants are currently established but suppressed. Units 52 and 53 were chosen for huckleberry enhancement because they are stands that are part of the Silver fir/ big leaf huckleberry Plant Association. These plant communities should have healthy huckleberry making up at least 30% of its understory. Based on field exams these stands currently have huckleberry in less than 20% of the understory. However, these plants are suppressed and underdeveloped, due to a lack of small scale disturbances to create canopy openings. The Proposed Action would be used as a way to simulate these small scale disturbances allowing huckleberry to thrive. See the EA, Sections 1.3, Purpose and Need for Action; 2.2, Proposed Action Alternative; and 3.1, Vegetation Resources.

Dropping all 103 acres of Huckleberry Enhancement from treatment would not meet the purpose and need for this project and as such this alternative was considered, but eliminated from detailed study. However, while this alternative was not fully developed, the Modified Proposed Action, which serves as the final decision for Lava drops Unit 52, and reduces the number of acres from 103 to 35. This will, in part, meet the purpose and need while reducing the effects that the public has felt would impact their recreation experience.

Public Involvement (EA, Section 1.6.2)

Lava Restoration was listed in the Mt. Hood National Forest quarterly planning newsletter (Schedule of Proposed Action [SOPA]) beginning in January 2013. The project also listed on the Mt. Hood National Forest website beginning in March 2013 at: http://www.fs.usda.gov/projects/mthood/landmanagement/projects. No comments were received through this effort.

In March 2013, a scoping letter providing information and seeking public comment was mailed to approximately 135 individuals and groups. Fifty-three comments were received during the public scoping period. Forty-three comments were form letters received from Bark and the Hood River Valley Residents Committee members. The remaining ten comments were received from Middle Fork Irrigation District (MFID), Oregon Wild, Bark, Hood River County Forestry, Hood River County Board of Commissioners, American Forest Resource Council (AFRC) and four individuals.

The Notice and Comment was initiated in December 2013 and resulted in over 670 comments during the comment period. The large majority of these comments were form emails received from Bark members. The remaining comments were received from Bark, Oregon Wild, American Forest Resource Council (AFRC), Hood River Valley Residents Committee and seventeen individuals. All of the comment letters as well as the response to comments are available in the project record, located at the Hood River Ranger District located in Mount Hood/Parkdale, Oregon. Based on the concerns of local residents, in February 2014, I met with members of the Hood River Valley Residents committee to discuss their concerns with the potential impact to visual quality along the vista ridge trail from the huckleberry enhancement thinning proposed.

Consultation with the Confederated Tribes of Warm Springs Reservation of Oregon was performed before and during the preparation of this EA, and prior to the release of the draft decision dropping Unit 52 and reducing the amount of huckleberry enhancement treatment acres to 35.

In addition to these scoping efforts, the Forest Service participated in government-to-government consultation with National Marine Fisheries Service on this project as detailed in Chapter 4.

Collaboration (EA, Section 1.6.1)

Members of the Hood River Collaborative Stewardship Crew met from September 2012 to February 2013 to identify restoration opportunities within the Lava Project Area. The Hood River Watershed Group and Hood River Soil & Water Conservation District (SWCD) formed the Hood River Collaborative Stewardship Crew made of representatives from Confederated Tribes of Warm Springs, US Forest Service, local and state governmental agencies (Oregon Department of Fish & Wildlife, Oregon Department of Forestry, Hood River County), watershed groups (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 a range of topics including forest health, riparian thinning, huckleberry enhancement, and plantation thinning. The group participated in one field trip to visit potential treatment units and see the outcomes associated with a previous thinning project. In July of 2013, the Hood River Collaborative Stewardship Crew submitted recommendations for the Lava Restoration Project to District Ranger, Janeen Tervo (see EA Appendix 1).

Issues (EA, Section 1.7)

Issues serve to highlight effects or unintended consequences that may occur from the Modified 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 Modified Proposed Action (Forest Service Handbook 1909.15, 12.4).

During the collaborative process scoping and comment periods two issues were brought forward that generated additional alternatives considered but eliminated from detailed study. One alternative was designed to address concerns related to temporary road use and the other was designed to address concerns related to units 52 and 53 (huckleberry enhancement treatments). See the EA, Section 2.5, Alternatives Considered, but Eliminated from Detailed Study for further information.

In addition, there were several concerns (roads, gap size openings, huckleberry enhancement, snags and down logs, riparian reserves, cumulative impacts and best management practices) that were raised. Concerns identified during scoping were used to refine the Modified Proposed Action as well as the effects analysis presented in Chapter 3. Concerns also were identified during the Notice and Comment period. Responses to these comments are contained in Appendix 2 of the EA. All of 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 Modified Proposed Action, 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 Modified Proposed Action authorizes about 1,840 acres of vegetation treatments. This project represents approximately 0.17% of the Forest and 0.9% of the Ranger District. Additionally, the Forest contains 3,034 miles of open roads and the Hood River Ranger District contains 481 miles of open road. The Modified Proposed Action authorizes 20 miles of road decommissioning and road closures. This represents approximately 0.7% across the Forest and 4.1% across the District.

Additionally, this project occurs within five subwatersheds (The Upper Middle Fork Hood River, the Lower Middle Fork Hood River, the Lower East Fork Hood River, the Middle East Fork Hood River, and the Upper West Fork Hood River subwatersheds) which encompass approximately 97,000 acres. This project represents approximately 2% of the total area and only a small percentage of each subwatershed.

Table 2. Subwatersheds located in Lava project boundary, acres of NFS lands and vegetation treatment

Subwatershed (SWS)	Acres in Subwatershed	Acres in NFS Land *(percent of SWS)*	Acres in Project Boundary *(percent of SWS)*	Acres with Vegetation Treatment *(percent of SWS)*
Upper Middle Fork Hood River	12,856	12,836 *(100%)*	2902 *(23%)*	127 *(1.0%)*
Lower Middle Fork Hood River	15,804	8,246 *(52%)*	8,206 *(52%)*	1,670 *(10.6%)*
Lower East Fork Hood River	27,069	5,390 *(20%)*	1,292 *(5%)*	0 *(0%)*
Middle East Fork Hood River	16,958	14,169 *(84%)*	172 *(1%)*	0 *(0%)*
Upper West Fork Hood River	24,145	19,696 (82%)	1192 (5%)	103 (0.4%)

Intensity

1. Analysis of the beneficial and adverse impacts

Adverse and beneficial impacts have been assessed and were not found to be significant. The beneficial effects of the action do not bias my finding of no significant environmental effects. 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 Modified Proposed Action have been minimized or eliminated through PDC (Appendix 2). The Modified Proposed Action will not likely adversely affect listed fish (EA, Section 3.6.4) or northern spotted owl (EA, Section 3.8.7). Any adverse effects from the action will be minimal and localized and are being undertaken to provide for long-term beneficial effects from the addition of Large Woody Debris to critical habitat (EA, Section 3.6). As such, I find that the Modified Proposed Action is not a significant federal action.

2. The degree to which the Modified 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 3.17). 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 where activity will occur in the planning area are C1-Timber Emphasis, B1-Wild, Scenic and Recreational Rivers, B2-Scenic Viewshed and B6-Special Emphasis Watershed. In addition, the secondary Forest Plan land use allocation is 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. 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 Lava Restoration EA. Activities approved in this final 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 other actions with individually insignificant, but cumulatively significant impacts:

The analysis considered not only the direct and indirect effects of the Modified 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 (Appendix 2).

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 two 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 initiated or completed as described below.

The anticipated impacts summarized in the EA Section3.6.4 could have some localized effects to ESA listed fish and or habitat to stream reaches containing ESA-listed fish. Tree falling into stream reaches that are occupied by ESA-listed fish species (only unit 3) ***may affect, and is likely to adversely affect*** Columbia River bull trout and Lower Columbia River steelhead trout. This action is covered under the following biological opinions: *Endangered Species Act – Section 7 Programmatic Consultation Conference and Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for Reinitiation of Aquatic Restoration Activities in States of Oregon and Washington (ARBO II) NMFS Consultation Number: NWR-2013-9664*, and *Endangered Species Act – Section 7 Consultation, Programmatic Biological Opinion for Aquatic Restoration Activities in the States of Oregon, Washington, and portions of California, Idaho and Nevada (ARBO II) [FWS reference: 01EOFW00-2013-F-0090]*. Other actions, such as reductions in large wood potential and small increases in fine sediment from road maintenance ***may affect, but are not likely to adversely*** affect ESA-listed fish species and designated/proposed critical in the action area. Essential Fish Habitat for Chinook and coho salmon will be adversely affected.

Informal consultation on the project with the US Fish and Wildlife Service (USFWS) concerning bull trout and their critical habitat has been completed for the project. The USFWS concurred that the project***, may affect, but is not likely to adversely affect*** bull trout *(Salvelinus confluentus)* or their critical habitat (CH) as designated on October 18, 2010 [FWS *reference*: 01EOFW00-2014-I-0168]. This is in accordance with section 7 of the Endangered Species Act (EA, Section 4.1.2)

Early involvement with NMFS was conducted in regard to listed anadromous fish species and their habitat that occur within or near the action area. A Biological Assessment has been completed for this project and a Letter of Concurrence is pending. No final decision will be signed before the Letter of Concurrence is received. The Forest will comply with all additional conservation recommendations set forth by NMFS (EA, Section 4.1.1).

For Northern Spotted Owls, 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 birds 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 will be maintained and because timing restrictions will reduce impacts from sound, the proposed project ***may affect, but is not likely to adversely affect***, spotted owls (EA, Section 3.8.1.1). The effects to spotted owls and their Critical Habitat for this project were included in a programmatic informal consultation submitted to the U.S. Fish and Wildlife Service on August 8, 2013: Biological Assessment of NLAA Projects with the Potential to Modify the Habitat of Northern Spotted Owls Willamette Planning Province – FY 2014. A Letter of Concurrence was signed on September 27,

2013: Letter of Concurrence and Conference Concurrence Regarding the Effects of Habitat Modification Activities within the Willamette Province, FY 2014, proposed by the Eugene District, Bureau of Land Management; Salem District, Bureau of Land Management; Mt. Hood National Forest; Willamette National Forest; and the Columbia River Gorge National Scenic Area on the Northern Spotted Owl (Strix occidentalis caurina) and its' Designated and Proposed Critical Habitat (FWS Reference Number 01EOFW00-2013-I-0187).

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

This final 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 3.17). 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 Modified Proposed Action 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 3.17.4). 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 Modified Proposed Action 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 Modified Proposed Action is consistent with the major amendments to the Forest Plan as described below.

I find that the modified proposed action 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. In addition, 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.

Additional surveys were conducted in the project area in units with suitable habitat for Survey and Manage and sensitive snail species. Streams located in, or adjacent to, units 3, 13, 21, 27, and 47 were surveyed in 2012. The Columbia duskysnail was found in Bear Creek, an unnamed tributary to Bear Creek, and Tony Creek associated with units 3, 13, 21, and 27. In addition the Columbia duskysnail was found in a spring adjacent to FSR 1600 in the Tony Creek 7th field watershed during unit reconnaissance conducted as part of the Lava planning process in 2012 (Chris Rossel, fisheries biologist, Mt. Hood National Forest, personal communication, 2013).

Columbia duskysnail: This species of aquatic mollusk has been found across the Forest during surveys conducted over the past several years (Mt. Hood National Forest, unpublished data). In 2012 Columbia duskysnails were found in the action area in multiple tributaries to Tony Creek and in the headwaters of Bear Creek. Individuals have not been found in larger streams and rivers or glacial streams. Suitable habitat exists elsewhere in the action area and thus the Columbia duskysnail is presumed present in smaller, perennial, non-glacial streams in the action area.

This project complies with the court's survey and management direction in Northwest Ecosystem Alliance v. Rey and is consistent with the survey requirements in the 2001 Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (USDA and BLM). As such, I find that the Modified Proposed Action is consistent with the 2001 Survey and Manage ROD.

Surveys for Dalles Sideband were conducted in the project area and one individual of this species was found in the project area during 2012 surveys. The units that contained the snail have been dropped from the proposed action (EA Section 3.8.3.1). Surveys for Larch Mountain Salamander found two individuals of this species in the project area during 2012 surveys. The units that contained these salamanders have subsequently been dropped from the Proposed Action (EA Section 3.8.3.2). The Modified Propose Action is consistent with the survey requirements and management provisions found in the Record of Decision and Standard and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines 2001.

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.

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

I find that the Modified Proposed Action 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), as summarized in Appendix 3 of this Decision Notice/FONSI. The proposed project will treat vegetation in Riparian Reserves to restore them to a more natural vegetation state. This will result in more natural function of the riparian area. Benefits from implementation of the Proposed Action will be noticeable at the site scale and possibly the 7th field sub-watershed scale and include restoration of large woody debris and some adjacent stream channel width to depth ratios (EA, Section 3.7)

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 Modified Proposed Action 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 (Appendix 2).

Further, I find that the Modified Proposed Action 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, bull trout, steelhead trout, coho salmon, and Chinook salmon. Wildlife MIS within the project area include the northern spotted owl, deer and elk, pileated woodpecker, and American marten. I find that the Modified Proposed Action is consistent with the standards and guidelines pertaining to MIS, and that based on the limited effects to any MIS, the Modified Proposed Action 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 Modified Proposed Action 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 Modified Proposed Action 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 harlequin duck and western bumblebee (Bombus occidentalis) are the only wildlife sensitive species present in the project area. The temporary impacts to harlequin duck prey species from large wood placement and disturbance to nesting sites from project activities may impact individuals, but is not likely to impact populations, nor contribute to a potential loss of viability of this species. These impacts will be temporary and habitat will be improved in the long-term. The temporary reduction in flowering shrubs and nesting sites for the western bumblebee 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 450 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 Modified Proposed Action 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 Modified Proposed Action 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 3-25 (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 Modified Proposed Action will not

adversely affect any essential fish habitat (EA, Section 3.6.4 and Table 3-40). 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). Heritage resource inventories were conducted in compliance with the 2004 PA during the project planning stage (FW-602 and FW-606), the field survey results were fully documented (FS-608), and the potential effects to heritage resources from the proposed projects were assessed (FW-609, FW-610). Heritage resources potentially affected by project activities were evaluated as ineligible for inclusion on the NRHP (FW-612). Based on the proposed protective measures, the project meets the criteria in the Programmatic Agreement for "No Historic Properties Affected" determination (Stipulation III (B) 5). As such, I find that the Modified Proposed Action is consistent with the National Historic Presentation Action and all consultation requirements have been met (EA, Section 4.13.4).

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 3.17.3).

SUMMARY OF OBJECTION REVIEW PERIOD

This project was subject to pre-decisional administrative review (objection process) pursuant to 36 CFR 218, Subpart B. The pre-decisional administrative review process replaced the appeal process in March of 2013. The primary difference with the objection process is that a person may object to a project prior to the final decision, whereas under the appeal procedures, appeals were made after the decision. The full text of the rule can be found at: http://www.gpo.gov/fdsys/pkg/FR-2013-03-27/pdf/2013-06857.pdf.

A Draft Decision Notice and FONSI was distributed according to 36 CFR 218.7 providing a 45- day period for objections to be filed prior to making a final decision. One objection was received from Bark (#15-06-06-0001-218(B)). On March 3, 2015 The Mt. Hood National Forest offered to hold an objection resolution meeting with Bark. On March 5, 2015, Mt. Hood National Forest Supervisor, the Objection Reviewing Official received a letter declining an objection resolution meeting.

After reviewing the objections, I was instructed by the Objection Reviewing Officer to sign the Decision Notice with no modification.

Although no modifications were required for the Final Decision Notice, I have summarized the consistency with the ACS objectives in Appendix 3 in this final decision based on the comments received and ensuing discussions. The Draft Decision Notice is replaced by this Final Decision Notice.

As such, I believe this is the right course of action in order to achieve the purpose and need for this project. The Forest Supervisor (Objection Reviewing Officer) has provided written responses to the objections. No further review from any other Forest Service or USDA official of the reviewing officer's written response to the objections is available (36 CFR 218.11(b)(2)). All objection letters and responses are available in the project record.

IMPLEMENTATION DATE

Implementation may occur immediately following the date of this final decision

CONTACT

For additional information concerning this final decision, contact Casey Gatz, Hood River Ranger District, 6780 Highway 35, Mount Hood/Parkdale, OR 97041; phone (541) 352-1255; Email: cgatz@fs.fed.us. Additional information also is available on the project website at: http://www.fs.usda.gov/goto/mthood/projects.

Janeen Tervo

JANEEN TERVO
District Ranger
Hood River Ranger District
Mt. Hood National Forest

April 29, 2015
Date

APPENDIX 1: Modified Proposed Action

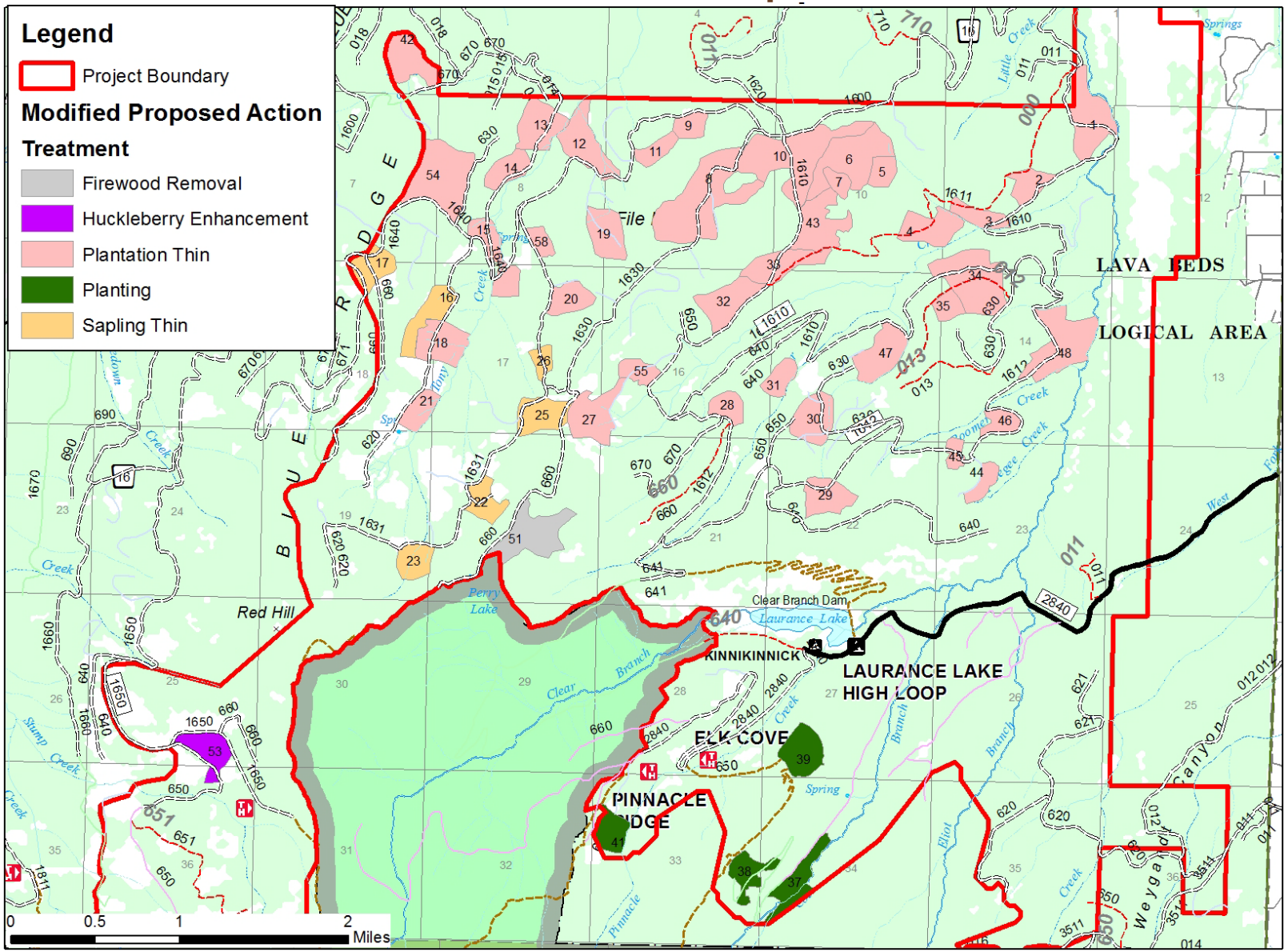

Table 3: Unit Information. Abbreviations used in the table are: DF = Douglas-fir; NF = noble fir; WH = western hemlock; MH = mountain hemlock; SF = spruce fir; GF = grand-fir; LP = lodge pole pine. All fuels treatments within the units are creating piles and pile burning.

Unit	Treatment	Acres	Age (yr)	Tree Species	Skips and Gaps	Current Canopy Cover	Target Canopy Cover	Logging System	Temporary Roads
1	Plantation Thinning	57	45	DF,WH,SF	Yes	70%	40%	Ground, Skyline, Helicopter	Yes
2	Plantation Thinning	23	50	DF,WH,SF	Yes	70%	40%	Skyline	No
3	Plantation Thinning	22	50	DF,WH,SF	Yes	70%	40%	Skyline	No
4	Plantation Thinning	38	50	DF,WH,SF	Yes	70%	40%	Skyline	Yes
5	Plantation Thinning	16	50	DF,WH,SF	Yes	70%	40%	Helicopter	No
6	Plantation Thinning	68	50	DF,WH,SF	Yes	70%	40%	Ground, Helicopter	Yes
7	Plantation Thinning	11	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
8	Plantation Thinning	112	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
9	Plantation Thinning	18	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
10	Plantation Thinning	98	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
11	Plantation Thinning	17	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
12	Plantation Thinning	47	60	WH,SF,DF	Yes	80%	40%	Ground, Skyline, Helicopter	Yes
13	Plantation Thinning	41	50	DF,WH,SF	Yes	70%	40%	Ground, Skyline	Yes
14	Plantation Thinning	25	60	WH,SF,DF		80%	40%	Ground, Skyline	Yes
15	Plantation Thinning	39	60	WH,SF,DF	Yes	80%	40%	Helicopter	No
16	Sapling Thinning	35	25	MH,DF,SF	Yes		40%	n/a	No
17	Sapling Thinning	31	30	MH,DF,SF	Yes		40%	n/a	No
18	Plantation Thinning	41	40	DF,WH,SF	Yes	60%	40%	Ground, Skyline	Yes
19	Plantation Thinning	36	40	DF,WH,SF	Yes	60%	40%	Ground	Yes
20	Plantation Thinning	25	40	DF,WH,SF	Yes	60%	40%	Ground	Yes

Unit	Treatment	Acres	Age (yr)	Tree Species	Skips and Gaps	Current Canopy Cover	Target Canopy Cover	Logging System	Temporary Roads
21	Plantation Thinning	23	40	DF,WH,SF	Yes	60%	40%	Ground, Skyline	Yes
22	Sapling Thinning	24	30	MH,DF,SF	Yes		40%	n/a	No
23	Sapling Thinning	26	30	MH,DF,SF	Yes		40%	n/a	No
25	Sapling Thinning	36	30	MH,DF,SF	Yes		40%	n/a	No
26	Sapling Thinning	12	30	MH,DF,SF	Yes		40%	n/a	No
27	Plantation Thinning	46	40	DF,WH,SF	Yes	70%	40%	Ground, Skyline	Yes
28	Plantation Thinning	19	45	DF,WH,SF	Yes	70%	40%	Ground	Yes
29	Plantation Thinning	34	45	DF,WH,SF	Yes	70%	40%	Ground	Yes
30	Plantation Thinning	39	45	WH,DF	Yes	80%	40%	Ground	Yes
31	Plantation Thinning	19	50	GF,DF	No	80%	40%	Ground, Skyline	Yes
32	Plantation Thinning	43	50	GF,DF	No	80%	40%	Ground, Skyline	Yes
33	Plantation Thinning	39	45	WH,DF	Yes	80%	40%	Ground, Skyline	Yes
34	Plantation Thinning	75	50	GF,DF	No	80%	40%	Ground, Skyline	Yes
35	Plantation Thinning	15	50	GF,DF	No	80%	40%	Ground	No
37	Planting	38	0	MH,WH,DF ,SF	No	30%	n/a	n/a	No
38	Planting	27	0	MH,WH,DF ,SF	No	30%	n/a	n/a	No
39	Planting	37	0	MH,WH,DF ,SF	No	30%	n/a	n/a	No
41	Planting	25	0	MH,WH,DF ,SF	No	30%	n/a	n/a	No
42	Plantation Thinning	42	50	DF,WH,SF	Yes	70%	40%	Ground	Yes
43	Plantation Thinning	49	45	WH,DF	Yes	80%	40%	Ground, Helicopter	Yes
44	Plantation Thinning	15	45	WH,DF	Yes	80%	40%	Ground, Skyline	Yes
45	Plantation Thinning	11	45	WH,DF	Yes	80%	40%	Ground, Skyline	No
46	Plantation	18	50	DF,WH,SF	Yes	70%	40%	Ground,	No

Unit	Treatment	Acres	Age (yr)	Tree Species	Skips and Gaps	Current Canopy Cover	Target Canopy Cover	Logging System	Temporary Roads
	Thinning							Helicopter	
47	Plantation Thinning	43	50	GF,DF	No	80%	40%	Skyline, Helicopter	Yes
48	Plantation Thinning	71	50	DF,WH,SF	Yes	70%	40%	Ground, Skyline	Yes
51	Firewood Removal	58	100	LP,DF,NF, SF,WH	No	50%	50%	Ground	No
53	Huckleberry Enhancement	35	130	MH,WH,DF ,SF	n/a	70%	65%	Ground	Yes
54	Plantation Thinning	81	75	WH,SF,DF	Yes	80%	40%	Ground	Yes
55	Plantation Thinning	18	50	DF,WH,SF	Yes	80%	40%	Ground, Skyline	Yes
58	Plantation Thinning	13	50	DF,WH,SF	Yes	70%	40%	Ground	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 Modified Proposed Action.

Design Criteria/Mitigation Measures for Vegetation Treatments

Vegetation Management

V-1. Gap size and distribution (i.e. location and number) will vary depending on stand specific conditions. Individual gaps will range in size from 1 to 5-acres.

V-2. Within Riparian Reserves for perennial streams, gaps will only be allowed within 1 site potential tree (140 feet or 160 feet for units 3 and 4) if the stream is glacially or spring fed or the gap is located on the north side of the stream. If these conditions are met, gaps could be created, but they will be located outside protection buffers outlined in the Project Design Criteria. If gaps are created along intermittent streams they will be outside the protection buffer. See (PDC A-2 and Table 2-7).

V-3. If a gap is placed in a Riparian Reserve directly adjacent to a stream designated as listed fish habitat (Bear Creek, Tony Creek, or the Middle Fork Hood River) the gap shall be located one site potential tree height or further from the listed fish habitat (LFH) stream regardless of the protection buffer width. This pertains to the above streams in units 1, 3, 4, 12, 13, 14, 15, 18, 21, and 48.

V-4. No gaps will be located in Riparian Reserves within skyline units.

V-5. Tree planting will only occur in gaps larger than 2 acres.

V-6. In huckleberry enhancement units a priority on heavy thins and gap locations shall be where there are existing big leaf huckleberry plants.

Fuels

F-1. Sale generated slash shall be piled where the Forest Plan down woody tons per acre standards and guidelines are exceeded.

F-2. Slash piles shall have a sound base to prevent toppling over and shall be wider than they are tall. Pile branches with their butt-ends toward the outside of the pile, and overlap them so as to form a series of dense layers piled upon each other. Use a mixture of sizes and fuels throughout the pile. Piles shall be kept compact and free of soil and noncombustible material, with no long extensions. Do not construct piles on stumps or on sections of large down logs.

F-3. Pile size and location shall be such to minimize damage to residual trees. Piles shall be located at least 20-feet inside the unit boundary. Piles shall not be placed on or in the following areas: pavement, road surface, ditch lines, or within 100-feet of a stream course.

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. 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-4. 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-5. 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-6. 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-7. 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-8. Temporary roads will be obliterated upon the completion of use. Temporary roads and landings on temporary roads shall be sub-soiled or scarified as necessary. Culverts shall be removed as appropriate and cross-drain ditches or water bars shall be installed as needed. Disturbed ground shall be seeded and mulched and available logging slash, logs, or root wads shall 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-9. 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-10. Unsuitable excavation[1] resulting from ditch cleaning and other operations will be disposed of only at Forest Service approved sites outside riparian protection buffers (PDC A-2 and Table 2-7). Material disposed of shall be spread evenly over an appropriate area in non-conical shaped piles with a maximum layer thickness of 3 feet. All disposals shall be seeded and mulched at the completion of operations.

R-11. Stockpiles of aggregate intended for use on the project will be staged only at Forest Service approved sites. Materials shall be placed in non-conical shaped piles with a maximum layer thickness of 3-feet. Stockpiles shall be covered with weighted plastic sheeting when inclement weather is expected to protect it from precipitation and to prevent water quality degradation from runoff.

R-12. 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-13. Scheduled soil disturbing road maintenance or reconstruction shall occur during the Normal Operating Season (generally June 1 – October 31), unless a waiver is obtained.

R-14. 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)[2]. 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

[1] By contract specification, any material containing "excess moisture, muck, frozen lumps, roots, sod, or other deleterious material" along with certain types of 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.

[2] 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 will work with ODFW to fully comply with any and all new state requirements/regulations.

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 (generally June 1 – October 31) shall not occur on the following roads or road segments[3]: 1600000 (5.4 miles from the intersection with the 1650000 to the intersection with the 1800000), 1600015, 1600670, 1610000 (3.2 miles from the intersection with the 1610630 to the intersection with the 161200), 1610012, 1610630, 1610640, 1611000 (0.4 miles from the intersection with unit 3 to the intersection with unit 4), 1612000, 1612630, 1612640, 1612650, 1631000, 1631630, 1640000, 1640620, 1640630, 1650000, 1650650, and 1800000.

L-3. Log haul, rock haul and equipment transportation may be allowed outside the Normal Operating Season (generally June 1 – October 31) on aggregate and native surface roads not listed in L-2, if the following criteria are met:

a. Haul routes must be inspected weekly, or more frequently if weather conditions warrant. Inspections by the timber sale administrator (or qualified specialist) will focus on road surface condition, drainage maintenance, and sources of erosion and sediment delivery to streams.
b. 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 exists or that the subgrade on the paved roads is saturated.

L-5. Log and rock haul on system and temporary roads 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

[3] These are roads that met one or both of the following conditions:

- Native surface road hydrologically connected to a stream or wetland.
- Aggregate and native surface haul routes that cross a stream within 1,000 feet stream distance to listed fish habitat (LFH) and/or the haul route was closer than 500 feet direct distance from LFH if hydrologically connected to that waterway.

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 designated protection buffers except associated with woody material introduction into stream channels. Protection buffers for perennial streams and wetlands will be a minimum of 60-feet and a minimum of 30-feet for intermittent streams, except for units outlined in Table 0-1. Buffers are measured from the edge of the bankfull channel on both sides of the stream (or wetted area in the case of a pond or wetland). Buffers will be expanded to include slope breaks where appropriate. Trees can be felled towards streams but any tree, or portion thereof, directionally felled towards surface water that could land in the bankfull stream channel must be felled during the ODFW in-water work window (July 15 to August 15).

Table 0-1: Proposed Stream Protection Buffers that Exceed the Minimum Standard Due to Slope Breaks or other Topographical Features.

Unit	Stream Protection Buffer – Perennial (ft.)[1]	Stream Protection Buffer - Intermittent (ft.)[1]
1	140	30
3	100	50
4	100	50
5	N/A	40
6	N/A	40
12	75	30
15	150 (Tony Cr.) / 60	30
16	N/A	50
18	100	30
21	60	50 / 30
31	150	30
48	150 (MFHR) / 60	100

[1]Actual protection buffer widths may exceed these values due to slope breaks or other site conditions. The buffer in unit 12 is an absolute minimum buffer width whereas other buffer widths greater than 60 or 30 feet for perennial and intermittent streams respectively are averages that allow up to a 10 percent variance closer to the water feature (i.e. a 100ft buffer could be as close as 90ft from the water source).

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 (generally June 1 – October 31) within Riparian Reserves.

A-5. Locate new landings outside of Riparian Reserves[4]. Use of existing landing locations 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 from streams, seeps, springs 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. Parking of mechanized equipment overnight or for longer periods of time shall be 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. Absorbent pads will be required under all stationary equipment and fuel storage containers. A Spill Prevention Control and Countermeasures Plan shall be prepared by the contractor as required under EPA requirements (40 CFR 112).

A-7. Skyline yarding shall allow at least one end log suspension at all times.

A-8. Skyline yarding corridors shall not exceed 15-feet in width and shall be spaced at least 100-feet apart on average.

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) 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.

A-14. No water will be withdrawn from any occupied LFH stream except in an emergency (e.g. wildfire) situation. Limit water withdrawals for road maintenance or other purposes in unoccupied LFH and within 1,500 feet of occupied or unoccupied LFH to 10 percent or less of stream flow at the point of withdrawal (visually estimated). In non - LFH streams greater than 1,500 feet from LFH limit withdrawal by 50 percent or less of the stream flow (visually estimated). Regardless of water withdrawal location, use of screen material with either of the

[4] Riparian Reserve refers to the Northwest Forest Plan Riparian Reserve designation.

following maximum openings is required: 1.75 mm opening for woven wire or 3/32 inch opening for perforated plate.

A-15. 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.

Soils

S-1. All skid trails will be rehabilitated immediately after harvest activities are completed. Landings and temporary roads normally will have erosion control measures installed following vegetation 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 shall not be used on slopes greater than 30 percent to avoid detrimental soil and/or watershed impacts.

S-3. If a proposal to implement winter logging is presented, the following shall 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 shall 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., shall 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 shall 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.

a. The use of chainsaws and heavy equipment will not take place between March 1 and July 15 in Units 27 and 41.
b. The use of helicopters will not take place between March 1 and September 30 in Units 27, 31, 32, 33, 41, 43, 47, and 55.

W-2. No activities will take place in B10 Deer/Elk Winter Range between December 1 and April 1. A portion of the Forest Service Road 2840 (<¼ mile) is within B10. A seasonal restriction for hauling will be in place for this portion of the road.

W-3. To enhance diversity, variable-density thinning will include the retention of snags and wildlife trees where possible.

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 0-2 before harvest activities are implemented. All treatment methods (including herbicide application) 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). If sites are within restricted buffer areas only manual treatment (handpulling, mowing, etc.) could be used if feasible. Sites listed below include historic sites where treatment methods applied over the years have effectively eradicated target noxious weeds (66-028 and 66-047) however, the sites shall continue to be monitored and treated annually if necessary.

Table 0-2: Invasive Species Treatments

ROAD # / LOCATION	VICINITY UNITS	EIS TREATMENT #	SPECIES (Past and/or Present)
1600	Haul route / 42, 54	66-083	Butter and eggs
1610	31, 34, 35, 47	66-063	Meadow and spotted knapweeds; 1 isolated tansy site (historic)
1631-630 Dollar Quarry	Haul route / 20, 22, 23, 25, 26, 27, 58	66-047	Meadow knapweed and yellow star thistle (eradicated)
Junction of roads 1600, 1610, 1620, and 1630 (stockpile at "4-Corners")	Haul route / 5, 6, 7, 8, 10, 32, 33, 43	66-028	Meadow knapweed in stockpile (eradicated)
1630	Haul route / 5, 6, 7, 8, 10, 32, 33, 43	To be added	Meadow knapweed
2840-650	39, 41	06-062	Diffuse knapweed; isolated tansy site (historic)
1600 and 2840	Main haul routes	Road system	Spotted and diffuse knapweeds

I-2. Monitor all management activities for potential spread or establishment of invasive species in terrestrial areas of the National Forest System (FSM 2903.9). For on-going projects, continue to monitor until reasonable certainty is obtained that no weeds have occurred. Provide for follow-up treatments based on inspection results (BMP Practice 18).

I-3. Ensure genetically appropriate native plant materials are given primary consideration (FSM 2070.3.1) in areas identified for restoration. Consult with a Forest Service botanist or ecologist to ensure native species seed (and genetic heritage) is appropriate for the area where revegetation will occur (FSM 2070.3.5). Use of non-persistent, non-native, non-invasive plant materials in the Lava project area is restricted to 1) emergency situations when necessary to protect basic resource values (such as, soil stability, water quality, and prevention of 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 (2005 Invasives ROD SG-13).

I-4. If using straw, hay, or wood fiber mulch for restoration/revegetation in any areas, use only certified, weed-free materials (2005 Invasives ROD SG-3).

I-5. Use only gravel, fill, sand, and rock that are judged to be weed free by District or Forest weed specialists. Inspect active quarry sites, gravel pits, fill and stockpiles, and re-usable disposal material (e.g. "borrow" material) for invasive plants before use in the project area (2005 Invasives ROD SG-7). Treat or require treatment of infested sources before use; strip and stockpile contaminated material before any use (BMP Practice 10). Inspect and document the area where material from treated weed-infested sources is used, annually for at least three years after project completion, to ensure that any weeds transported to the site are promptly detected and controlled (BMP Practice 11). Maintain stockpiled, uninfested material in a weed-free condition (BMP Practice 12).

I-6. Actions conducted or authorized by written permit by the Forest Service that will operate outside the limits of the road prism (including public works and service contracts), require the cleaning of all heavy equipment (bulldozers, skidders, graders, backhoes, dump trucks, etc.) prior to entering National Forest System Lands (2005 Invasives ROD SG-2). Incorporate CT6.36, B6.35, and R6/SPS 601.01 (Work) that require cleaning of equipment before entering National Forest lands.

I-7. Schedule and conduct road blading, brushing and ditch cleaning in areas with high concentrations of invasive plants in consultation with District or Forest-level invasive plant specialists; incorporate invasive plant prevention practices as appropriate (2005 Invasives ROD SG-8).

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. Treatment of vegetation by hand could still occur as necessary. Prescribed burning may occur, but piling may not occur within the flagged buffer zones.

H-2. Culturally-modified trees will be flagged individually and avoided. Harvest trees will be felled directionally away from flagged trees.

Recreation

RC-1. Sale Administrator will coordinate trail and road closures and associated signage with eastside recreation staff to lessen impacts to recreationists and Special Use Permit events.

RC-2. No road maintenance, yarding or log haul activities located on or adjacent to Forest Road 1600 from Friday, 12 P.M. through Monday, 12 A.M (weekends) between Memorial Day and Labor Day or on any Federal holidays.

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 shall be commensurate with technical requirements of a project.

D-2. Follow the appropriate ODFW guidelines for timing of in-water work (July 15 to August 15). 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 have a written Spill Prevention Control and Containment Plan (SPCCP) as required under EPA requirements (40 CFR 112), which describes measures to prevent or reduce impacts from potential spills (fuel, hydraulic fluid, etc.). The SPCCP shall 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. Parking of mechanized equipment overnight or for longer periods of time shall be 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 at a Forest Service approved sites outside riparian protection buffers (PDC A-2 and Table 2-7). 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 shall 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 shall be performed at the project site(s). If any invasive plants are found on or near roads, the full extent of the invasion shall 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 shall 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 substantial 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.

Appendix 3: ACS Summary

1. Maintain The Distribution, Diversity And Complexity Of Watershed And Landscape-Scale Features:

Over 97% of the Riparian Reserves in the Middle Fork, East Fork and West Fork Hood River Watershed comprising this project will be left untreated so their current condition will be maintained. A specific prescription for vegetation treatments in Riparian Reserves has been developed for this project and this prescription is intended to maintain or enhance the development of a diverse, healthy riparian area while protecting it with a variety of project design criteria/mitigation measures (PDC). The prescription includes a protection buffer adjacent to each perennial and intermittent stream that will maintain existing vegetative conditions adjacent to these features. No new road crossings of perennial streams or wetlands are proposed. Three existing temporary road crossings of intermittent channels may be reconstructed and will be rehabilitated immediately after project completion. These crossings will not result in any long-term aquatic habitat fragmentation. There will be 2.1 miles of road decommissioning which will decrease overall aquatic habitat fragmentation.

2. Maintain Spatial And Temporal Connectivity Within And Between Watersheds:

The project will increase the spatial and temporal connectivity within and between watersheds due to culvert removal associated with road decommissioning. Over 97 percent of the Riparian Reserves in the 6th field sub-watersheds comprising the project will be left untreated so their current condition will be maintained. A specific prescription for vegetation treatments in Riparian Reserves has been developed for this project and this prescription is intended to maintain or enhance the development of a diverse, healthy riparian area while protecting it with a variety of PDC. The prescription includes a protection buffer adjacent to each perennial and intermittent stream that will maintain existing vegetative conditions adjacent to these features.

3. Maintain the Physical Integrity of the Aquatic System, Including Streambanks, Side channels (Refugia), And Channel Bottom Configurations:

This project will meet this objective through PDC aimed at reducing soil compaction and erosion, restricting near-stream ground disturbance and establishment of undisturbed vegetative buffers next to perennial and intermittent streams which will maintain current levels of snags and wood input. A prescription for vegetation treatments in Riparian Reserves that is intended to maintain or enhance the development of a diverse, healthy riparian area and the lack of any new crossings on perennial streams will greatly reduce risks of sedimentation, increased peak flow, and resulting bank erosion and channel bed scour. Additionally, trees are proposed to be dropped into stream channels where field reviews identified a deficiency of in-stream woody material. This action should improve the physical integrity of channel bottoms and side channels.

4. Maintain Water Quality Necessary To Support Healthy Ecosystems:

This project will meet this objective through PDC and inclusion of a specific prescription for vegetation treatments in Riparian Reserves that includes a protection buffer adjacent to each perennial and intermittent stream. This protection buffer includes the primary shade zone along perennial streams that will maintain stream temperature. The protection buffer will also trap any eroded material prior to reaching surface water, thus reducing or eliminating the potential for sediment delivery. The protection buffers in conjunction with PDC aimed at reducing erosion will maintain the sediment levels in the long-term. These measures are discussed in detail in the Soil Productivity, Water Quality, and Fisheries sections in Chapter 3.

5. Maintain Sediment Regimes:

PDC aimed at reducing soil compaction and erosion, restricting near stream ground disturbance and establishment of undisturbed vegetative buffers next to perennial and intermittent streams will minimize sediment introduction in the short and long-term. There will be 2.1 miles of road decommissioning and 22.4 miles of road closures implemented which will decrease overall anthropogenic sedimentation, but some short-term sedimentation is expected from culvert removal during road decommissioning and reinstallation of temporary road crossings on 3 intermittent streams. Sedimentation resulting from road decommissioning and reinstallation of the temporary road crossings will be most evident at the site scale.

6. Maintain In-Stream Flows That Are Closer To Natural Regimes:

As described in the Water Quality section in Chapter 3 of the EA, this project will maintain the Watershed Impact Area well below the 35% Forest Plan Standard and Guide which should not result in any peak flow increase from this project. In addition, road decommissioning will "disconnect" the road system from streams which should move runoff toward a more natural rate.

7. Maintain The Timing, Variability, And Duration Of Floodplain Inundation:

This project will meet this objective through PDC (such as establishment of undisturbed vegetative buffers next to perennial and intermittent streams) which will maintain floodplain and channel roughness and ultimately the timing, variability and duration of floodplain inundation. Trees are proposed to be dropped into stream channels where field reviews identified a deficiency of in-stream woody material which will add to channel roughness. Maintaining the Watershed Impact Area well below the 35% Forest Plan Standard and Guide will protect the integrity of the floodplains while minimizing the potential for increased peak flows. In addition, road decommissioning will "disconnect" the road system from streams which should move runoff toward a more natural rate. Floodplains are extremely limited in this area due to the steep nature of the landscape.

8. Maintain The Species Composition And Structural Diversity Of Plant Communities In Riparian Areas And Wetlands:

A specific prescription for vegetation treatments in Riparian Reserves has been developed for this project and the prescription is intended to maintain or enhance the development of a diverse, healthy riparian area while protecting it with a variety of PDC. Treatments within the Riparian Reserves are aimed at producing a more natural vegetative composition and density that has been lost through many decades of fire suppression.

9. Maintain And Restore Habitat To Support Well-Distributed Populations Of Native Plant And Riparian Dependent Species:

The project will meet this objective with PDC and vegetative treatments that are designed to simulate a more natural disturbance regime within the area.