



**Decision Notice and  
Finding of No Significant Impact**

**Lower Skokomish Vegetation Management Project**



**USDA Forest Service  
Hood Canal Ranger District, Olympic National Forest  
Mason County, Washington**

I have decided to authorize management actions to improve forested habitat conditions in the Lower Skokomish planning area on the Hood Canal Ranger District of the Olympic National Forest as documented in the project Environmental Assessment (EA). These actions include variable density thinning of approximately 4,484 acres of second-growth forest stands that are between 44 and 78 years old; utilization and post-project decommissioning of approximately 18.7 miles of temporary roads including: 10.4 miles of existing, abandoned unclassified (non-system) road beds; 5.2 miles of new temporary road construction, and 3.1 miles of previously decommissioned roads. Stands selected for treatment are relatively dense younger stands that resulted from past clearcut harvesting activities (as described below). The 31,000-acre project planning area is located within the Lower North Fork Skokomish River, Lower South Fork Skokomish River, and the Middle North Fork Skokomish River 6th field watersheds which lie within the larger 5th field Skokomish River watershed in Mason County, Washington. Units proposed for treatment are located in: T22N, R5W, Sections 1-14, 16-22, 24, 26, 28-3, 31-34, 36; T22N, R6W, Sections 13, 22, 23; and T23N, R4W, Sections 7-9; Willamette Meridian.

Management direction (see EA, Section 1.2) for the project comes from the 1990 Olympic National Forest Land and Resource Management Plan as amended by the 1994 Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl. The 1994 Record of Decision, along with its Standards and Guidelines, is commonly known as the Northwest Forest Plan. The 1990 Olympic National Forest Land and Resource Management Plan, as amended by the 1994 Record of Decision and other current amending documents, is referred to as the Forest Plan in this Decision Notice.

**PURPOSE AND NEED**

The forest in the project planning area has been heavily influenced by past logging activities. Approximately 20,000 acres of National Forest System land in the planning area were clear cut between 1948 and 1992. Most of that acreage was replanted after harvest. As a result of this activity, much of the current forest consists of relatively dense second growth plantations in a structurally simplified stage. These stands do not provide the desired high-quality habitat for species associated with old-growth and late-successional forests. Riparian areas that once supported large conifers are now largely comprised of small-diameter conifers and hardwoods, and the available supply of trees for recruitment of large wood, an important component of fish habitat, into streams has been reduced.

The purpose and need was developed to close the gap between existing and desired conditions, and effectively implement management objectives within the Forest Plan. The purpose and need of the Lower Skokomish project is four-fold.

1. Increase structural and habitat diversity and accelerate the development of late-successional forest characteristics by decreasing stocking in dense, previously managed stands in the Late-Successional Reserve land management allocation.
2. Manage Riparian Reserves for desired conditions needed to attain Aquatic Conservation Strategy objectives (USDA Forest Service and USDI Bureau of Land Management 1994b, p.B-11; C-32).
3. Increase structural and habitat diversity and accelerate the development of late-successional forest characteristics in dense, previously managed stands in the Adaptive Management Area. Test a variety of techniques intended to restore late-successional forest and riparian conditions.
4. Contribute directly and indirectly to the viability of local community economies.

The Lower Skokomish EA provides an analysis of a no action alternative and one action alternative.

## **DECISION AND REASONS FOR DECISION**

I have decided to authorize Alternative B, the Proposed Action, as described in the EA. My decision includes implementing all of the project design criteria (PDCs, Table DN-1) and mitigation measures, and the additional restoration and improvement activities described in Section 2.4.2 of the EA (as funding allows). My decision is based on a review of the EA and the project record, which shows a thorough evaluation of relevant scientific information, and consideration of opposing views and relevant (key) issues.

### **Proposed Action and Modifications - Alternative B**

Alternative B would entail commercial thinning of approximately 4,484 acres in forest stands that are between 44 and 78 years old within the 31,000 acre planning area. Under Alternative B, within the Lower Skokomish EA, the selected stands would be commercially thinned using variable density thinning. On the majority of the treated acres, the thinning would utilize a “thinning from below” treatment which generally retains the larger trees, and would include skips (un-thinned areas), gaps (small openings), and some areas thinned more heavily to provide increased structural and spatial variation within the stands proposed for treatment. Minor tree species would generally not be cut. Logging systems would include a combination of ground-based, cable, and helicopter logging. Current National Forest Transportation System roads, reconstructed unclassified, abandoned, or previously decommissioned road beds (non-system), and new temporary road beds (non-system) would be used to access the stands.

Proposed logging systems include ground-based yarding (1,604 acres), cable yarding (2,082 acres), downhill cable yarding (172 acres), and helicopter yarding (379 acres). Alternative B also includes 247 acres of pre-designated skips, which would receive no thinning treatment. These skips are located in portions of units which have resource concerns or conditions precluding either access to, or feasibility of, available logging systems. They are within unit boundaries (described as the boundaries of the original harvest units) and will be identified as skips in the

silvicultural prescription. All units and their designated logging systems are listed in Appendix C, Table B-4.

### Road Development and Landings

In order to access treatment units, the selected alternative includes 18.7 miles of road development. Temporary road development includes (mileage is approximate): 10.4 miles of unclassified or abandoned roads (non-system), 3.1 miles of previously decommissioned roads for reconstruction, and 5.2 miles of new road construction.

**Table 1.** Planned project road work (Alternative B).

Road Type	Total Miles of Road <sup>1</sup>
Reconstruction of previously decommissioned road	3.1
Construction on old existing abandoned roadbeds (unclassified roads)	10.4
Construction of new temporary road on previously undisturbed ground	5.2

<sup>1</sup>Mileage is approximate.

Additional temporary road segments may be identified for use during timber sale layout. Any additional segments of temporary roads will be decommissioned (as described in the EA, Section 2.4.2) following implementation.

### Haul Routes and Private Road Access

Approximately 125 miles of National Forest Transportation System Roads have been identified as haul routes (EA, Appendix B, Table B-2). Maintenance may be required to reduce resource impacts associated with log haul on roads (in accordance with associated mitigation measures, PDCs Table DN-1). Approximately 6 miles of existing roads occur on private lands and will require the necessary permissions (temporary road use permit or permanent easement) to use the roads to access project stands and to use as haul routes in connection with FS System Roads. A total of about 0.2 miles of road construction will be required on private lands in order to access units or connect with existing road beds or newly constructed temporary roads (planned as part of this project). See the EA Appendix B, Table B-3 and Figure B-1 for a list and map of these road segments.

### Rock Sources

Three existing rock sources in the project planning area would provide material for road development and maintenance associated with this project. The pits are as follows: Big Creek quarry at the Forest Road 2354200, Brown Creek Quarry at the junction of Forest Road 2354000 and the 2354300; and V1043 Quarry off of Forest Road 2360100. Up to two acres of development per rock source pit is proposed for the project, for a total of up to 6 acres of rock source development for the project.

### Landings

Alternative B also includes the development of up to 14 new helicopter landings; each helicopter landing would require land clearing (vegetation) on approximately one acre (EA, Section 2.6.6, Tables 2-20 and 2-21). Traditional log landings (non-helicopter) will be located as described in the PDCs (EA, Section 2.6.6, Tables 2-20 and 2-21).

## **Invasive Species**

Invasive plant treatments included in Alternative B are authorized by the 2008 Record of Decision for the Beyond Prevention: Site-specific Invasive Plant Treatment Final Environmental Impact Statement (2008 ONF Invasive Plant ROD). The 2008 ONF Invasive Plant ROD authorized treatments utilizing a variety of methods, including herbicides, for site specific invasive plant management throughout the Olympic National Forest, including the Lower Skokomish project area. My decision also includes PDCs for reducing the spread of invasive species as a result of project activities (Appendix, Table DN-1).

## **Fuels Treatments**

Alternative B also includes the treatment of material (slash or fuels) generated by commercial thinning activities using a variety of fuel treatment methods, including, but not limited to: machine piling and burning at landings, piling and burning within treatment units, chipping and hauling away from sites, or directional falling of trees outside of treatment units where follow up treatment is not needed. The amount of slash removed from units is dependent on proximity to roads and the fuel conditions within each unit (Appendix, Table DN-1).

## **Restoration Treatments**

As noted in the EA, Section 2.4.2.5 my decision includes additional sale area improvement projects that will be beneficial to aquatic and terrestrial forest resources.

## **Mitigation Measures and Design Features**

PDCs and mitigation measures were developed for the action alternatives and will be implemented to insure compliance with direction in the Forest Plan and Forest program direction, as well as to avoid or minimize adverse impacts of project implementation. Specific PDCs and mitigation measures were developed for the following areas: terrestrial wildlife, including threatened and sensitive species; sensitive moss, lichen, and fungi species; invasive plants; leave tree protection; soils, hydrology, and water quality; fisheries; fire and fuels; and heritage. These requirements, which are described in the EA in Section 2.4.3, and presented in the Appendix Table DN-1, are expected to minimize potential adverse effects of management activities. Implementation of these features is considered to be highly effective.

## **Monitoring**

Specific monitoring activities will be implemented to assure that implementation of elements of my decision are carefully tracked during and after project implementation. Monitoring activities are described in the EA, Section 2.4.2.7 and the individual resource sections (EA, Chapter 3). Monitoring results will be used to inform future management activities and decisions.

## **DECISION RATIONALE**

In making this decision, I examined the proposed thinning, road treatments, and other related activities in relationship to the goals and objectives of the Forest Plan. I also considered the resource concerns noted in the watershed analyses and the EA. In making my decision, I carefully reviewed the NEPA analysis and public comments received throughout the planning process and during public review of the preliminary EA. Several areas of concern were raised by the public during scoping and the 30-day comment period on the preliminary EA. I instructed the

project's interdisciplinary team to review and respond to these comments and provide me with information to consider in making my decision. I want to assure those who provided comments that I heard and understood their concerns, and weighed them in light of the NEPA analysis and the achievement of the project's purpose. Concerns, issues, and my responses to them can be found in Appendices D and E of the final EA. I decided that it was important to implement the project as described in the EA in order to meet the project's goals. In addition, I considered the relevance of the decision as it relates to applicable laws, policy, and Tribal Treaty rights. I believe that Alternative B, the proposed action, balances these considerations, meets the purpose and need for action established for this project, and is consistent with the goals, standards, and guidelines of the Forest Plan. Implementing Alternative B with its project design criteria, mitigation measures, and best management practices will result in minimal impacts to resources, and provide long-term benefits to the resources.

### **No Action Alternative**

I did not select the No Action Alternative because it does not meet the purpose and need of accelerating the development of late-successional forest characteristics in dense, previously managed stands in the planning area. These stands do not currently provide quality habitat for plant and animal species associated with late-successional forest conditions. If no action were taken, over time opportunities for thinning would decrease, and the opportunity for hastening the development of late-successional forest characteristics would be lost. These overly dense stands would remain in an undesirable condition. Under this alternative, there would also be no treatment of existing unclassified roads and no associated long-term improvement in watershed conditions. Alternative A would not generate funds that would be available for additional restoration or enhancement work.

### **Other Alternatives Considered**

While I did not find any issues relevant to the development of additional action alternatives, two alternatives were considered but eliminated from detailed analysis (EA, Section 2.3). Alternative C was the original preliminary proposed action that included about 13,500 acres of restoration/thinning treatment. This alternative was not analyzed in detail as much of the area was not ready for commercial treatment or the resource risks of developing access and/or treating the stands precluded the benefits of restoration in the stands proposed for treatment. Alternative B was developed and selected as a better balance between meeting the purpose and need and reducing risks of resource damage. Alternative D was considered based upon internal concerns regarding implementation feasibility concerning the costs and benefits of seasonal operating restrictions on treatment units. Alternative D considered making all units available for treatment year-round. This alternative was not analyzed in detail because it would not meet the purpose and need of the project due to the risk that short term impacts would pose to threatened species and their habitat during the breeding season, aquatic species and their habitat during wet weather, and fragile soil conditions during winter (wet) weather operations. Based on these concerns and anticipated effects, alternative D was not considered or analyzed further.

## **PUBLIC INVOLVEMENT**

The Lower Skokomish project was listed on the Olympic National Forest's *Schedule of Proposed Actions* (SOPA) on December 19, 2013 and has remained on the SOPA throughout the planning,

analysis, objection, and decision process. In addition, as part of the public involvement process, the agency provided updates and project information at Skokomish Watershed Action Team (SWAT) meetings and field trips in 2014 and 2015. A public scoping letter was sent to interested individuals on September 24, 2014. The letter described the proposed action and requested comments. Seven comments were received.

Based on scoping comments received from the public involvement efforts, the Forest's interdisciplinary team and I developed a list of issues. Each issue was discussed and an outcome was determined by the responsible official who considered the following options: modification of the proposed action; include PDCs or mitigation measures to eliminate or minimize the issue; develop an action alternative that addresses the issue to compare to the other alternatives; or develop an alternative that may be dismissed from further analysis for other reasons (e.g., does not meet the purpose and need, is not within the scope of actions being considered for the project) action alternative that addresses the issue to compare to the other alternatives; or develop an alternative that may be dismissed from further analysis for other reasons (e.g., does not meet the purpose and need, is not within the scope of actions being considered for the project).

When the draft EA was complete, it was circulated for a 30-day comment period beginning on December 7, 2015. Twelve comments were received during the 30-day comment period. Comments received on the environmental assessment were used to refine the analysis, which is documented in the revised environmental assessment. My responses to these comments can be found in Appendix D of the EA. Attachments containing references and other materials contributed during the comment period, along with my responses can be found in Appendix E of the EA.

## **TRIBAL CONSULTATION**

Tribal consultation with the Skokomish Tribe has been ongoing throughout the life of the project. A letter inviting formal government-to-government consultation with the Skokomish Tribe, was distributed on September 11, 2014 and a copy of the preliminary EA was provided for review in December of 2015. No formal responses were received.

## **FINDING OF NO SIGNIFICANT IMPACT**

After considering comments from the public and the context and intensity of impacts described in the EA, I have determined that implementation of Alternative B does not constitute a major federal action significantly affecting the quality of the human environment (40CFR 1508.27). Thus, an environmental impact statement will not be prepared. This determination of no significant impact is based on the EA, the design of the selected alternative, and on the following factors:

### **Context of Action**

The activities planned for the Lower Skokomish project will be local and short-term in nature. Commercial thinning will be conducted on 4,484 acres of National Forest System lands in the

Skokomish River 5<sup>th</sup> field watershed. All stands proposed for thinning have been previously harvested. The activities would occur over the next one to ten years.

### **Intensity of Effects**

The environmental effects of the following actions are documented in Chapter 3 of the Lower Skokomish EA: commercial thinning of forest stands; using and maintaining open roads; opening closed system roads and re-closing them for resource protection after project use; constructing or reconstructing and then decommissioning (rehabilitating) existing unclassified roads after project use; constructing new temporary roads and decommissioning them after project use; constructing and decommissioning helicopter landings; developing and using identified rock sources; and treating activity-generated slash. My decision also includes implementing sale area restoration activities such as creating snags and coarse woody habitat for wildlife (EA, Section 2.4.2.5). The beneficial and adverse direct, indirect, and cumulative effects of these activities have been disclosed in the EA. Effects are expected to be low in intensity because of standard management practices and the PDCs and mitigation measures described in Section 2.4.3 of the EA (Appendix, Table DN-1).

**1. Impacts may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on the balance the effects will be beneficial.**

I considered the beneficial and adverse impacts associated with Alternative B as discussed in the EA. The analysis considered both direct and indirect effects, and also the contribution, from implementing the project, to the cumulative effects of other past, present, and reasonably foreseeable actions in the watershed. Key findings are summarized in the EA, Table 5-6). Potential adverse effects of Alternative B, will be reduced or eliminated by the application of the required PDCs and mitigation measures (EA, Section 2.4.3). The whole of the analysis presented in the EA provides sufficient information for me to determine that this project will not have a significant impact (beneficial or adverse) on the land and its natural resources (EA Chapters 2 and 3, appendices, project record). My finding of no significant environmental effects is not biased by the beneficial effects of the action.

**2. The degree to which the proposed action affects public health or safety.**

The project will not have a significant effect on public health or safety. Roads will be closed as needed to protect public and worker safety during logging operations (EA, Section 2.4.3 and PDCs). PDCs and Best Management Practices applied in Riparian Reserves are consistent with current management direction for protecting water quality including the Forest Plan standards and guidelines, Aquatic Conservation Strategy Objectives at the project level, and the Federal Clean Water Act. Implementation of the project as described will ensure protection of water quality and beneficial uses (EA, Sections 2.4.3 and 3.3). There will be no effect on air quality; any burning of project-generated slash will be conducted in compliance with federal and state laws including the Clean Air Act (EA, Section 3.11).

3. **Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.**

The areas proposed for ground-disturbing activities have been surveyed and evaluated for the presence of heritage resources. No historic properties or cultural resources will be affected with this proposal (EA, Section 3.8; SHPO Letter of Concurrence, Project File). The project is not in close proximity to prime farmlands, floodplains, or ecologically critical areas. Wetlands located within the project area would be protected by PDCs, Best Management Practices, and mitigation measures (EA, Section 2.4.3). No project activities will occur within designated Wilderness, Inventoried Roadless Areas, or within the Olympic National Park (EA, Section 3.11).

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

The degree of controversy, with regard to effects on the quality of the human environment, is limited and considered not significant based on comments received during the scoping and comment periods (EA, Section 1.8 and 1.9; EA, Appendix D and E). Differing opinions do not indicate controversy.

This project is based on the best available scientific information and site-specific data. The methodologies used to estimate effects disclosed in the Environmental Consequences Sections for each resource area (EA, Chapter 3) are widely used in similar environmental analyses and have been reviewed by the research and academic communities. I am not aware of any credible, peer-reviewed scientific questioning of methods used in this analysis, nor its results (EA, Chapter 3).

5. **The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.**

The Hood Canal Ranger District has considerable experience with the types of activities to be implemented by this project. Similar types of forest thinning activities, road work, and other connected or similar actions have occurred on this district, this Forest, and other National Forests. Monitoring of these types of project activities at the Forest and Regional level indicate that the objectives of the Forest Plan, as amended, are being met. In addition, the findings presented in the EA do not indicate any impacts to the human environment that are highly uncertain or involve unique or unknown risks (EA, Chapter 3).

6. **The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.**

This action will not establish a precedent for future actions with significant effects, and does not represent a decision in principle about a future consideration. Commercial thinning and road development are common, well-established land management practices

on the Hood Canal Ranger District, with known results. The PDCs (EA, Section 2.4.3) are known to be effective in reducing risks associated with project activities. The interdisciplinary team effectively addressed and analyzed all major issues associated with the project as is reflected in the EA.

**7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.**

Implementation of Alternative B does not represent potential cumulative adverse impacts when considered in combination with other past, present, and reasonably foreseeable future actions. The watershed analyses applicable to the Lower Skokomish project area provide a contextual basis for cumulative effects in this area.

Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into smaller component parts. There would be no significant cumulative effects as a result of this project. I have reviewed the impacts of those past, present, and reasonably foreseeable future actions described in the Environmental Consequences sections of the EA (Chapter 3) and find that this action will not have a significant cumulative impact on the environment.

**8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in the National Register of Historic Places or may cause loss or destruction of significant cultural or historic resources.**

This action will not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor will it cause loss or destruction of significant scientific, cultural, or historical resources. An appropriate review was conducted by this undertaking. No eligible historic properties were found during surveys of the project area. The Washington State Office of Archaeology and Historic Preservation concurred with the no effect finding (EA, Section 3.8; letter of concurrence, project record).

**9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act.**

Consultation with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) is complete. The USFWS issued a Biological Opinion on July 20, 2016. The NMFS issued a Letter of Concurrence on June 2, 2016.

The Biological Opinion will provided an evaluation of the following Forest Service determinations:

Wildlife Species: The USFWS determined that the proposed action “may affect, likely to adversely affect” individual northern spotted owls potentially nesting in suitable habitat

adjacent to management activities within the planning area due to harassment during the breeding season; but is not likely to jeopardize the continued existence of the spotted owl. The USFWS determined that the proposed action is “not likely to adversely affect” northern spotted owl critical habitat within the planning area. The USFWS determined that the proposed action is “likely to adversely affect” individual marbled murrelets but is not likely to jeopardize the continued existence of the marbled murrelet. The proposed action is “likely to adversely affect” marbled murrelet designated critical habitat but is not likely to destroy or adversely modify designated critical habitat.

Reasonable and Prudent Measures and Terms and Conditions (Biological Opinion, p 70-71)

One measure was indicated in the Biological Opinion (p. 70):

To minimize the potential for smoke to affect murrelets and spotted owls, slash piles would be burned between September 1 and February 28. Additionally slash piles would be burned only during approved atmospheric conditions that lead to vertical smoke movement and quick smoke dissipation (pursuant to Washington State Department of Natural Resources smoke permit approval).

*This measure was erroneously omitted from the EA. With this Decision, I have chosen to add this measure as a Project Design Criterion (Table DN-1, WL-15) as it is integral to the design and implementation of the project for the protection of wildlife species.*

Terms and Conditions:

1. Monitor the location, duration, and timing of activities implemented adjacent to suitable nesting habitat for murrelets. Planned activities such as the Project are often sold as multiple timber sales. Provide a summary table that includes the original Unit numbers and the planned acreage of timber harvest as described in the Environmental Assessment, and provide an estimate of the final harvest acres for each commercial thinning unit. Note the timing of implementation. For example, "Unit 41 was thinned and yarded between August 3, 2016, and September 6, 2016." Include documentation of adherence to the daily, 2-hr timing restrictions. Provide a report that summarizes this information to the Service by February 15th of the following year, until all harvest units have been completed or have been dropped from consideration for thinning.
2. All materials for submittal to the Service shall be sent to the Washington Fish and Wildlife Office's Consultation and Conservation Planning Division (Attn: Manager, Forest Resources Branch).

Fish Species: The US Fish and Wildlife Service concurred with the Forest Service determination that the project is “not likely to adversely affect” bull trout or its critical habitat. NMFS concurred with the Forest Service’s determinations of “may affect, not likely to adversely affect” Puget Sound Chinook and its critical habitat and “may affect, not likely to adversely affect” Puget Sound steelhead or their critical habitat. There will be “no adverse effect” to Essential Fish Habitat. The Forest Service documented that

there would be “No effect” to Hood Canal summer chum and its critical habitat. See EA, Section 3.3 for effects to fish that are considered in these determinations.

Plants: No critical habitat for Endangered Species Act listed threatened, endangered, or proposed plant species exist within the project area or would be affected by the project (EA, Section 3.4).

**10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.**

This action does not threaten a violation of any Federal, State, or local laws or requirements for the protection of the environment. Laws imposed for the protection of the environment are provided in the framework for the Forest Plan, as amended. From the information provided in the EA, the project record, and other findings required (EA, Section 3.11), I find that proposed activities (Alternative B) do not threaten a violation of Federal, State, or local law imposed for the protection of the environment.

**FINDING**

After considering the environmental effects described in the EA and specialist reports, I have determined that Alternative B will not have significant effects on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared.

**Findings Required by Other Laws and Regulations**

This decision is consistent with all applicable acts and regulations as documented in the EA, Section 3.11 (see below).

**National Forest Management Act Compliance, Forest Plan Consistency**

Compliance with the National Forest Management Act (NFMA) can be demonstrated by finding that a project is consistent with the applicable requirements of 16 USC 1604(g)(3).

The analysis performed by the interdisciplinary team found that the actions proposed under both project alternatives are consistent with the Forest Plan. The project’s Purpose and Need are consistent with Forest Plan goals and objectives, and impacts to resources as evaluated in the EA are consistent with Forest Plan direction and standards and guidelines (Compliance with associated Standards and Guidelines from the Forest Plan Management Allocations is documented in the Forest Plan Consistency Checklist in the project record.)

**Effects on Inventoried Roadless Areas**

While there is one inventoried roadless area (Jefferson Ridge, see Appendix A, Figure A-9) within the project area boundary, no treatment units are located within these inventoried roadless areas. The project will have no effect on inventoried roadless areas.

### **Effects on Wilderness Areas or Potential Wilderness Areas**

A portion of the Mt. Skokomish Wilderness area falls within the project area boundary (Appendix A, Figure A-9). However, the Wilderness area is to the west of any treatment units; no treatment units are located within the wilderness. There will be no effect to wilderness as a result of this project. The project area contains no potential wilderness areas as the project area has a well-developed road system and a past of extensive vegetation management.

### **Clean Water Act**

Section 303 of the Clean Water Act mandates that Total Maximum Daily Load (TMDLs) be developed for the parameters causing the impairment of beneficial use for all 303d listed waters. The 2008 federal CWA 303(d) list included the segment of the mainstem South Fork Skokomish River (identified as List ID 35267) within T22N R05W Section 15 (WDOE 2009) for temperature. Harvest units are far enough away from the mainstem channel, at least 200 feet, that shade would not be affected, thus not affecting water temperatures in the South Fork Skokomish River. See the stream temperature discussion of the Fisheries and Water Quality Section of the EA (Chapter 3, Section 3.3) for more details.

### **Clean Air Act**

As disclosed in the Fire and Fuels section of the EA, there would probably be burning of activity-generated slash. Any planned burning of this slash would be done in compliance with all State and Federal laws, including the Clean Air Act.

### **Irreversible Commitment of Resources**

Irreversible impacts result from the use or modification of resources that are replaceable only over a long period of time. Soil productivity would be lost to some degree on temporary skid roads, skid trails, and landings due to soil displacement. Full recovery of soil productivity in these areas would not be anticipated for many decades, although measures to reclaim these areas would speed recovery. Permanent roads represent an irreversible modification of the soils within the road prism; the proposed action contains no increases to the existing system of authorized Forest roads. There are no other irreversible commitments associated with the proposed action.

### **Irretrievable Commitment of Resources**

Irretrievable commitments are opportunities for resource uses that are foregone because of decisions that use that land in another way. Rock pit development: The construction and use of roads and landings for this project would be likely to require the application of road surface rock. Existing rock pits in the planning area would be the source for this material. The further development of these rock sources would forego other future uses of the pit area.

### **Adverse Effects That Cannot Be Avoided**

Implementation the action alternative would result in some adverse environmental effects that cannot be avoided. For example, timber harvest and temporary road construction activities could have short-term adverse effects on water quality and soil productivity (See Chapter 3). The magnitude of these effects relative to the entire project would be very small, and would remain within prescribed standards and guidelines. The degree of these adverse effects would be minimized through the project's required design criteria and MMs, described in chapter 2 of the EA.

### **Conflicts with Plans, Policies, or Other Agencies and Jurisdictions**

This project would not conflict with any plans or policies of other jurisdictions, including the Tribes. This project would not conflict with any other policies, regulations, or laws, including the Clean Water Act (see Section 3.3), Endangered Species Act (see EA, Sections 3.3 and 3.5), and Clean Air Act (see EA, Section 3.6).

### **Effects on Prime Farm Land, Range Land, and Forest Land**

There have been no range activities within the planning area for several decades. There are no prime farm lands or prime range lands associated within the project area. The project would not result in any adverse impacts to the productivity of farmland, rangeland, or forestland.

### **Potential or Unusual Expenditures of Energy**

There would be no unusual energy requirements associated with implementing any of the project's alternatives. Energy consumption needed to harvest timber or for recreation would not necessarily be reduced by lower levels of either activity in the LSVMP planning area. Helicopter yarding operations are always evaluated due to their relatively higher level of fuel consumption, but it is likely that, if they did not occur for this project, they would take place at similar levels elsewhere on the Forest or in the region, with correspondingly similar energy requirements. The LSVMP would not create unusual energy requirements.

### **Effects on Wetlands and Floodplains**

Given the PDCs, BMPs and MMs included in the project, there would be no adverse effects to wetlands or floodplains from the implementation of any of the action alternatives.

### **Effects on American Indians**

The Lower Skokomish Vegetation Management planning area lies within the area ceded to the United States by the 1855 Point-No-Point Treaty. See Cultural Resources (EA, Section 3.9) for details regarding consultation with the Tribe.

### **Effects on Cultural Resources**

No known historic and cultural sites are located within the proposed thinning units or access roads. Given the requirement for cessation of project activities if cultural resources are discovered, followed by an evaluation by a Forest Service Archaeologist, there would be no adverse effects to cultural resources from the implementation of the Proposed Action, Alternative B. The Washington State of Archaeology and Historic Preservation reviewed the findings of cultural resource surveys conducted within the planning area, and concurred with the determination that the project would have no adverse effect on historic resources (Dec. 21, 2015; project record).

### **Consumers, Civil Rights, Minority Groups, and Environmental Justice**

There is no known major scientific controversy surrounding the activities and potential effects of this project. While the sale of National Forest timber would create or sustain jobs and provide consumer goods, no quantitative output, lack of output, or timing of output associated with implementation of any alternative would affect the civil rights, privileges, or status quos of consumers, minority groups, women, or American Indians.

## ADMINISTRATIVE REVIEW OPPORTUNITIES

The draft decision was subject to objection pursuant to 36 CFR 218, Subparts A and B. A 45-day objection period for the draft DN/FONSI was initiated on June 21, 2016. No objections were received.

## IMPLEMENTATION

Implementation may occur immediately following the date that this final decision is signed. The EA and DN/FONSI can be downloaded from the Forest website at:  
[http://www.fs.fed.us/nepa/nepa\\_project\\_exp.php?project=43401](http://www.fs.fed.us/nepa/nepa_project_exp.php?project=43401).

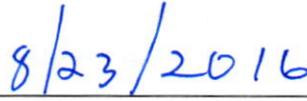
## CONTACT

For additional information concerning this decision, contact Kim Crider, Environmental Coordinator, Olympic National Forest, 1835 Black Lake Blvd. SW, Olympia, WA 98512, email [kcrider@fs.fed.us](mailto:kcrider@fs.fed.us), phone: 360-956-2376.



**DEAN YOSHINA**

District Ranger, Hood Canal Ranger District  
Olympic National Forest



**DATE**

### USDA NON-DISCRIMINATION POLICY STATEMENT

DR 4300.003 USDA Equal Opportunity Public Notification Policy (June 2, 2015)

*In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.*

*Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.*

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*USDA is an equal opportunity provider, employer and lender.*

## Appendix

### Project Design Criteria

<b>Table DN-1. Project Design Criteria.</b>				
Design Criteria	Feature	Definition/Description Or Not Applicable (NA)	Management Requirement Description	Applicable Units
<b>Aquatic Resources<sup>1</sup></b>				
AQUA-01	Mainstem streams or rivers – i.e., SF Skokomish River	Streams are defined as an area with a flowing body of water confined within a bed and banks. Those areas that may not contain flowing water at time of delineation but have the characteristics of a bed, bank, and visible scour within a channel are also classified as streams.	No-cut buffer width of 200 feet, measured from outer edge of the channel migration zone on either side of channel. <sup>2</sup>	Applies to all units.
AQUA-02	All other fish-bearing streams (includes intermittent fish-bearing streams).		No cut buffer width of 100 feet, measured from the outer edge of the streambank or to the top of the slope break, whichever distance is greater.	Applies to all units.
AQUA-03	Non-fish-bearing perennial, intermittent, and ephemeral streams	Ephemeral channels are those that may or may not flow during storm events and have a definite, visible scour channel.	No cut buffer width of 50 feet, measured from the outer edge of the streambank, or to the top of the slope break, whichever distance is greater.	Applies to all units.

**Table DN-1. Project Design Criteria.**

<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
AQUA-04	Riparian Reserves	Riparian reserves are designated in the Forest Plan	No gap openings or heavily thinned areas will be created adjacent to no-cut buffers within the Riparian Reserve on slopes greater than 70 percent.	Applies to all units.
AQUA-04b	No-cut buffers adjacent to fish-bearing streams	Fish-bearing streams	No gap openings or heavily thinned areas will be created adjacent to no-cut buffers adjacent to fish-bearing streams.	Applies to all units.
AQUA-05	Lakes and natural ponds	The riparian area surrounding a lake, pond, or wetland includes the body of water (if any), and the area to the outer edges of the riparian vegetation, or to the extent of perennially saturated edge of lake, pond, or wetland.	No cut buffer to outer edge of riparian area or 300 feet from edge of waterbody, whichever is greater.	Applies to all units.
AQUA-06	Wetlands greater than 1.0 acre	The riparian area surrounding a lake, pond, or wetland includes the body of water (if any), and the area to the outer edges of the riparian vegetation, or to the extent of perennially saturated edge of lake, pond, or wetland.	No cut buffer to outer edge of riparian area or 150 feet from edge of wetland, whichever is greater.	Applies to all units.
AQUA-07	Wetlands 0.5 to 1.0 acre	The riparian area surrounding a lake, pond, or wetland includes the body of water (if any), and the area to the outer edges of the riparian vegetation,	No cut buffer to outer edge of riparian area or 100 feet from edge of wetland, whichever is greater.	Applies to all units.

**Table DN-1. Project Design Criteria.**

Design Criteria	Feature	Definition/Description Or Not Applicable (NA)	Management Requirement Description	Applicable Units
		or to the extent of perennially saturated edge of lake, pond, or wetland.		
AQUA-08	Perennial wet areas less than 0.5 acres, including seeps and springs	<p>The riparian area surrounding a lake, pond, or wetland includes the body of water (if any), and the area to the outer edges of the riparian vegetation, or to the extent of perennially saturated edge of lake, pond, or wetland.</p> <p>Seeps and springs are characterized by (characterized as small depressions less than 0.5 acres in size) with hydrophytic plants present. Site is normally saturated during the growing season and is dry in summer months.</p>	<p>No cut buffer extends 30 feet from edge of perennially wet area. Use skips (buffer along wetted edge of interlocking trees) to protect unique habitat patches.</p> <p>Avoid equipment entry into these areas.</p> <p>Directionally fell trees away from these features. Upon review by a watershed specialist, the no-cut buffer width may be waived or modified to allow use of ground based equipment with appropriate protection (corduroy logs, slash placement).</p>	Applies to all units.
AQUA-09	Hydraulic projects	All road construction.	Project activities will follow all applicable provisions of the Memorandum of Understanding (MOU) between the Washington Department of Fish and Wildlife and USDA Forest Service, Pacific Northwest Region, regarding hydraulic projects conducted by USDA Forest Service, Pacific Northwest Region (2012). Follow all applicable general and project-specific provisions found in Appendix A of the MOU.	Applies to all units.

**Table DN-1. Project Design Criteria.**

<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
AQUA-10	Temporary roads <sup>3</sup> and wetlands	All road construction.	Construction of new temporary roads that intersect wetlands of any size is not allowed. Reconstruction of existing NFS roads or unclassified roads must be reviewed by a watershed and wildlife specialist if placement or removal of fill would encroach on a wetland.	Applies to all units.
AQUA-11	Temporary culverts	All road construction. Q100: is a one hundred year flood event that has a 1% probability of occurring in any given year. The number is based on the expected 100-year flood flow rate in a given creek, river, or surface water system.	Temporary culverts are instream culverts installed to accommodate a single season of work, and are to be removed prior to the onset of high flows. They are not required to meet Q100 criteria, and shall only remain in place between July 15 and September 30 or as agreed upon by the Forest Service Fisheries Biologist and Washington Department of Fish and Wildlife.	Applies to all units.
AQUA-12	Ditch relief culverts	Reconstruction, repair, and maintenance of existing NFS roads.	Additional ditch relief culverts will be installed as needed to divert runoff away from stream channels.	Applies to all units.
AQUA-13	Cutslope vegetation	Reconstruction, repair, and maintenance of existing NFS roads.	Cutslope vegetation will be maintained to reduce soil erosion, ditch plugging, road maintenance and impacts to water quality.	Applies to all units.
AQUA-14	Unstable sidecast	Reconstruction, repair, and maintenance of existing NFS roads.	Unstable sidecast located along fillslopes that are within harvest units and near landings will be stabilized and/or hauled to stable waste disposal area to the extent feasible.	Applies to all units.

**Table DN-1. Project Design Criteria.**

<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
AQUA-15	Sidecast of waste material	Reconstruction, repair, and maintenance of existing NFS roads.	Sidecasting of waste material along fillslopes and ditchlines is prohibited.	Applies to all units.
AQUA-16	Timing of road reconstruction	Reconstruction, repair, and maintenance of existing NFS roads.	All road reconstruction will occur during the summer season: from June 1 through October 31 unless otherwise agreed.	Applies to all units.
AQUA-17	Road drainage	Log haul.	Aggregate and unsurfaced road surfaces used for log haul will be bladed and cross-drained as outlined under contract provision C(T)5.31#. Ditches and culvert inlets will be kept free of debris.	Applies to all units.
AQUA-18	Erosion control	Log haul.	To minimize the amount of sediment delivered to streams along the haul route, sediment filters (including but not limited to straw wattles, slash filter windrow, and/or sediment fence) will be placed in ditchlines along the haul route in areas where ground is disturbed and sediment has the potential for delivery to streams (i.e. stream crossing fills). Sediment filters will be maintained and adjusted as directed by the Sale Administrator. Removal of sediment filters will be done when site conditions are dry, and captured sediment will be relocated to a stable location away from streamcourses.	Applies to all units.
AQUA-19	Wet conditions	Log haul.	Weather conditions will be monitored, and log haul temporarily suspended during prolonged periods of precipitation when soil moisture becomes elevated and there is a high likelihood of sediment being delivered to streamcourses. If maintenance cannot be performed	Applies to all units.

**Table DN-1. Project Design Criteria.**

<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
			adequately due to weather, haul will be discontinued until conditions improve.	
AQUA-20	Freezing conditions	Log haul.	Log haul on surfaced and un-surfaced roads will be allowed during freezing conditions, but will be suspended as roads begin to thaw. Purchaser will work with Forest Service Engineering Representative to develop standards for checking thaw.	Applies to all units.
AQUA-21	Snow plowing	Log haul.	Plowing of snow will be permitted as needed, if Snow Removal requirements in the contract are met.	Applies to all units.
AQUA-22	Winter maintenance	Log haul.	For winter maintenance on surfaced and un-surfaced roads, ditches will not be bladed past the last cross-drain before a stream crossing.	Applies to all units.
AQUA-23	Winter erosion control	Log haul.	If the purchaser's plan of operations includes log haul between November 1 and May 31, the Sale Administrator and a Forest Service watershed specialist or fish biologist will review and approve the purchaser's plan to prevent sediment from entering stream channels. This may include, but is not limited to, placing additional road surfacing, rock armoring ditches, constructing silt fencing, and straw mulching exposed soils along cutbanks and fillslopes.	Applies to all units.
AQUA-24	Timing of temporary road and helicopter landing construction	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	All temporary road and helicopter landing site construction will occur during the summer season: from June 1 through October 31 unless otherwise agreed.	Applies to all units.
AQUA-25	Temporary road location approval	Location construction, and use of temporary roads,	Temporary road locations shall be approved by the Sale Administrator prior to construction.	Applies to all units.

**Table DN-1. Project Design Criteria.**

<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
		log landings, and helicopter landing sites.		
AQUA-26	Temporary road location	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	New temporary roads will be located and designed to minimize disruption to hydrologic flows by following the contour of the terrain; minimizing clearing limits (generally no more than 16 feet on level ground, 20 feet for curves, slightly more for steeper grades); minimizing excavation of cutslopes and fillslopes; and routing road drainage away from potentially unstable hillslopes, sidecast fillslopes and channels.	Applies to all units.
AQUA-27	Potentially unstable areas or sidecast	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	Roads that are located in potentially unstable areas and/or have potentially unstable sidecast fillslopes will have additional emphasis on road drainage and stabilization.	Applies to all units.
AQUA-28	Road stabilization	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	Stabilization measures will be required if a temporary road is in place for more than one year.	Applies to all units.
AQUA-29	Cross-drains or waterbars	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	Prior to the wet season, cross-drains or waterbars will be installed approximately every 150 feet, or more frequently where slopes exceed 5 percent.	Applies to all units.
AQUA-30	Unstable landforms	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	Construction or reconstruction of temporary roads and landings within or directly adjacent to potentially unstable landforms will be assessed on the ground by a Forest Service geotechnical engineer or soils scientist prior to approval by the Sale Administrator.	Applies to all units.

**Table DN-1. Project Design Criteria.**

<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
AQUA-31	Failing culverts	Location construction, and use of temporary roads, NFS roads, log landings, and helicopter landing sites.	Existing culverts on temporary or NFS roads that are not functioning, or whose use for log haul in the current condition may impact water quality, will be replaced as necessary.	Applies to all units.
AQUA-32	Wet conditions	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	If roads are left open through extended wet weather, erosion and sedimentation control measures will be maintained. Spot rocking will be used as needed to reduce off-site erosion and sedimentation risk.	Applies to all units.
AQUA-33	Helicopter landing location approval	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	All helicopter landing site locations will be approved by the Sale Administrator prior to construction. Existing landings will be reused where possible.	Applies to all units.
AQUA-34	Helicopter landing size	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	New helicopter landing sites will be limited to one acre in size. Some vegetation may need to be removed outside of this one-acre area to facilitate flight paths and safe operating procedures	Applies to all units.
AQUA-35	Helicopter landing location in riparian reserves	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	If landing sites must be located within Riparian Reserves, they will be placed on existing roadways or on existing landings that require only minimum reconstruction (e.g., clearing vegetation, sloping for drainage, or surfacing for erosion control purposes) to be made suitable for use.	Applies to all units.
AQUA-36	Helicopter and log landing location	Location construction, and use of temporary roads,	Helicopter and log landings will not be located within or adjacent to designated riparian no-cut buffers.	Applies to all units.

**Table DN-1. Project Design Criteria.**

<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
		log landings, and helicopter landing sites.		
AQUA-37	Helicopter and log landing location – wet areas	Location construction, and use of temporary roads, log landings, and helicopter landing sites.	Skyline/cable and helicopter landings will be placed in areas away from streamcourses, wet areas, and unstable soils. Short landing extensions may be used to reduce and control potential runoff.	Applies to all units.
AQUA-38	Decommissioning of temporary roads after use	Decommissioning of temporary roads, skid trails, & landings	All temporary roads will be scarified as necessary to improve water infiltration and restore soil productivity. Available logging slash will be placed across the decompacted surface.	Applies to all units with the exception of unit 33to protect trail.
AQUA-39	Timing of Decommissioning	Decommissioning of temporary roads, skid trails, & landings	All temporary road and helicopter landing obliteration will occur during the summer season: from June 1 through October 31, unless otherwise agreed.	Applies to all units.
AQUA-40	Skid trail rehabilitation	Decommissioning of temporary roads, skid trails, & landings	Skid trails will be rehabilitated as needed to restore long term soil productivity. The Sale Administrator will collaborate with the soil scientist to determine skid trail rehabilitation prescriptions.	Applies to all units.
AQUA-41	Culverts and fills	Decommissioning of temporary roads, skid trails, & landings	All culverts and all road fills within wet areas will be removed and stream bank profiles reestablished to restore hydrologic function.	Applies to all units.
AQUA-42	Culvert removal	Decommissioning of temporary roads, skid trails, & landings	Culverts removed from stream crossings and ditches will be transported off forest by the contractor.	Applies to all units.

<b>Table DN-1. Project Design Criteria.</b>				
<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
AQUA-43	Cross-drains or waterbars	Decommissioning of temporary roads, skid trails, & landings	Waterbars or cross ditches will be installed as needed to control drainage.	Applies to all units.
AQUA-44	Potentially unstable landforms	Decommissioning of temporary roads, skid trails, & landings	Road surfaces in potentially unstable landforms will be scarified and outsloped as needed. All sidecast material will be removed and placed in a stable location.	Applies to all units.
AQUA-45	Unauthorized motorized access	Decommissioning of temporary roads, skid trails, & landings	Post-harvest motorized access to all temporary roads and landings will be prevented by construction of an approved closure device (e.g., earth berm, large boulder placement and planting of native materials).	Applies to all units.
AQUA-46	Revegetation	Decommissioning of temporary roads, skid trails, & landings	Road surfaces would be revegetated with appropriate native or specified non-native grass seed and/or native shrub and tree seedlings as needed. Acceptable seed types, types of weed free mulch, and application rates will be determined by the Forest Service. (See PDC, BOT-07, BOT-08, BOT-09, BOT-10)	Applies to all units.
AQUA-47	Rock Pit Development	Development of rock pits including clearing vegetation, blasting, and crushing rock.	Rock pit development activities will be conducted outside of Riparian Reserves.	Applies to all rock pits proposed for development.
<b>Archaeology</b>				
ARCH-01	Previously undetected archaeological,		If subsurface archaeological evidence or previously unidentified cultural resources are located during implementation of the project, activities will cease pending	Applies to all units.

**Table DN-1. Project Design Criteria.**

Design Criteria	Feature	Definition/Description Or Not Applicable (NA)	Management Requirement Description	Applicable Units
	historical, or cultural resources		an evaluation of cultural eligibility by a qualified Forest Service archaeologist, who will determine appropriate mitigation measures. The Forest will fulfill its consultation requirements in accordance with 36 CFR 800.11.	
<b>Fire and Fuel</b>				
FUEL-01	Open roadways		<p>A slope distance fuels buffer strip will be created along all affected roadways that are left open to the public after the project has been completed. This includes road-adjacent turnouts and landings used for the project. Surface fuel conditions within the buffer strip will resemble pre-thinning conditions. All units are shown, but not all units will require treatment.</p> <p>Fuels buffer widths will be based upon a slope and aspect rating for each unit ranging from 0-4, with greater distances applied to steeper slopes and southerly aspects. Treatment distances are measured from the road edge and are as follows:</p> <ul style="list-style-type: none"> <li>• Rating of 0 = 30 ft uphill and downhill</li> <li>• 1 = 60 ft uphill and 30ft downhill</li> <li>• 2 = 90 ft uphill and 30ft down</li> <li>• 3 = 120ft uphill and 60 downhill</li> <li>• 4 = 150ft uphill and 60ft downhill.</li> </ul>	<p><i>Units classified as 0:</i> 11, 9, D3A-01, D3A-02, D1A-21</p> <p><i>Units classified as 1:</i> D23, D28, D10B, D15 ,R5, D1B-01, D1A-18, D10B, D2-02, D3B-02, D2-03, D1A-21, D1A-42, D3B-03, D3B-04, D3A-03, D3B-05, D3C, D2-04, D2-05, D2-06</p> <p><i>Units classified as 2:</i> D10A, D10C, S2, V4, 35, 36, D25, V26, V22, D29C, R12, R23, D10, D12B, D23B, D9,</p>

**Table DN-1. Project Design Criteria.**

Design Criteria	Feature	Definition/Description Or Not Applicable (NA)	Management Requirement Description	Applicable Units
				<p>D12, S4, D30, D21A, V26, D21-04, D1B-04, D21-05, D1A-13, D1A-16, D1A-24, D1A-15, D1A-46, D1A-45, D1A-47, D1A-14, D21-07, D1A-51, D1A-49, D29D, D29E, V14, V5, D25A, D11, D24A, D23A, D20, D3B-01, D1A-22, D1A-39, D1A-08, D1A-01A, D1A-01, R11, D24B</p> <p><i>Units classified as 3:</i> 33, D12A, D1A-03, D1A-04, D1A-06, D1A-07, D1A-17, D1A-19, D1A-20, D1A-25, D1A-26, D1A-26A, D1A-27, D1A-31, D1A-35, D1A-40, D1A-48, D21-11, D22, D22A, D24, D29, D29A, D29B,</p>

**Table DN-1. Project Design Criteria.**

Design Criteria	Feature	Definition/Description Or Not Applicable (NA)	Management Requirement Description	Applicable Units
				D29E, R12, R18, R23, R7, R9, V33  <i>Units classified as 4:</i> 37, R11, R23, R8, V1
FUEL-02	No-cut resource protection buffers within units	NA	No fuel treatments will occur in no-cut buffers within units.	Applies to all units.
FUEL-03	Riparian areas	NA	Fuel treatments will be designed to meet Aquatic Conservation Strategy objectives and to minimize disturbance to riparian vegetation.	Applies to all units.
FUEL-04	Fuel Piles	NA	Piles of slash created on machine and helicopter landings should be placed as far as possible from surrounding forest vegetation so as to reduce the risk of causing any damage to the forest when they are burned.  Any piles that are created are to be covered with plastic over 40 to 60 percent of the pile area and must be free of unburnable material such as rock and soil to allow complete and efficient combustion when conditions are appropriate for burning.	Applies to all units.

<b>Table DN-1. Project Design Criteria.</b>				
<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
FUEL-05	Burning	NA	All burning will be conducted in compliance with the current Washington State Smoke Management Plan.	Applies to all units/adjacent areas used for burning.
<b>Soil</b>				
SOIL-01	Landforms prone to mass movement. Specifically, Escarpments and Inner Gorges within this project area.	Landforms prone to mass movement are defined as: Potentially unstable areas based on landform, signs of instability, and history of disturbance.	25 feet upslope from a major slope break that defines an escarpment, inner gorge, or potentially unstable area.  The project soil scientist will delineate and map escarpments, inner gorges and other potentially unstable areas within project area. These areas will be field verified by the project soil scientist during layout. If legitimate concern for potential mass movement due to project activities exists, the soil scientist and a member of the layout crew will consult in the field to ensure effective buffers are maintained. A map showing potential units of concern ((D10)(c), D15(c),D29(c), V1(c), V5(c)) will be provided to layout crew.	Applies to all units.
SOIL-02	Ground-based skidding	Ground-based skidding	Ground-based skidding operations will be designed and implemented to minimize the extent and degree of detrimental soil disturbance. When soil conditions are such that operation of conventional ground-based equipment would result in extensive deep rutting in mineral soil, creating areas of standing water, loss of soil structure, and/or	Applies to all units with ground-based skidding.

**Table DN-1. Project Design Criteria.**

Design Criteria	Feature	Definition/Description Or Not Applicable (NA)	Management Requirement Description	Applicable Units
			<p>complete displacement of topsoil*, operations will be restricted to methods that minimize compaction, displacement and rutting, (such as placing slash in the skid trails), or operations will be postponed until conditions improve such that yarding may proceed without causing excessive soil compaction, displacement, and rutting and the long-term impacts to soil productivity and moisture absorption capacity that can result.</p> <p><i>*These impacts would generally be consistent with Soil Disturbance Class 3 in the USDA Forest Service Soil Disturbance Field Guide (Napper et al., 2009).</i></p>	
SOIL-03	Soil disturbance	Ground-based skidding	<p>Ground-based skidding activities would create some low-level Soil Disturbance Class 3 impacts throughout most primary and secondary skid trails. Excessive soil impacts such as rutting greater than 12 inches deep in mineral soil, creating areas of standing water, deep puddling, or total removal of the topsoil layer* would potentially occur, but this degree of soil impact would be rare and limited to small, isolated areas.</p> <p><i>*These impacts would generally be consistent with Soil Disturbance Class 3 in the USDA Forest Service Soil Disturbance Field Guide (Napper et al., 2009).</i></p>	Applies to all units with ground-based skidding.
SOIL-04	Reuse of existing skid trails	Ground-based skidding	Existing skid trails and landings from prior harvest will be used to the extent feasible unless unacceptable resource damage would result due to location or site conditions.	Applies to all units with ground-based skidding.

<b>Table DN-1. Project Design Criteria.</b>				
<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
SOIL-05	Operating on steep slopes	Ground-based skidding	Operation of conventional ground-based skidding equipment will be restricted to sustained slopes that are 30 percent or less.	Applies to all units with ground-based skidding.
SOIL-06	Detrimental soil conditions	Ground-based skidding	Detrimental soil conditions resulting from previous and current logging activity will not exceed 20 percent of the area of any individual harvest unit, including roads and landings. If detrimental soil conditions from previous logging activity exceed 20 percent of the unit area, the amount of area in detrimental soil condition will not be increased.	Applies to all units with ground-based skidding.
SOIL-07	Skid trail approval	Ground-based skidding	Operation of ground-based yarding and skidding equipment will generally be restricted to authorized skid trails. Equipment may be allowed to operate off of designated skid trails occasionally to resolve operational issues. These instances would be rare and will be limited to a single out and back pass by a single piece of equipment.	Applies to all units with ground-based skidding.
SOIL-08	Equipment exclusion zone	Ground-based skidding	Operation of ground-based skidding equipment will be restricted within 30 feet of harvest unit boundaries. This will provide additional protection where riparian no-cut buffers serve as harvest unit boundaries.	Applies to all units with ground-based skidding.
<b>Nonnative invasive species<sup>4</sup></b>				
NNIS-01	Existing herb Robert ( <i>Geranium robertianum</i> ) infestations	Weeds/Ground disturbing activities	Avoid ground disturbance within 50 feet of herb Robert ( <i>Geranium robertianum</i> ) infestations.	D10A, 33, 35, 36, 37, D29, D29A, D29B, D29C, D29E and R23

**Table DN-1. Project Design Criteria.**

Design Criteria	Feature	Definition/Description Or Not Applicable (NA)	Management Requirement Description	Applicable Units
NNIS-02	Existing weed infestations along access roads	Weeds/Ground disturbing activities	Avoid ground disturbance on access roads entering units with known infestations until infestations on the roads are controlled to a point where risk of spreading weeds through project activities is low, as determined by an invasive plant specialist.	Lake Cushman units: 33, 35, 36, and 37
NNIS-03	Treat existing infestations	Invasive plant infested areas	Treat existing invasive plant infestations with appropriate herbicide, mechanical, or manual methods before ground disturbing activities begin when practical. If timing or resources prevent treatment before the project begins, then treat infestations in the project area upon completion of the project in order to prevent invasive plants from colonizing the disturbed ground.	Applies to all units.
NNIS-04	Equipment cleaning	<b>Off-road equipment:</b> includes all machinery other than log trucks, chip vans, pickup trucks or vehicles used to transport personnel on a daily basis.	Clean all off-road equipment of dirt/mud, seeds, and other plant parts before it is moved onto National Forest System land. If operating in an area infested with invasive plants, clean all equipment before moving between sites or leaving the project area. For cleaning equipment on Forest Service land, the Contractor and Forest Service shall agree on methods of cleaning, locations of the cleaning, and control of off-site impacts, if any. <b>'Off-road equipment' includes</b> all machinery other than log trucks, chip vans, pickup trucks or vehicles used to transport personnel on a daily basis.	Applies to all units.
NNIS-05	Work/travel in infested areas	Invasive plant infested areas	Forest Service shall flag locations of high priority invasive plant infestations prior to work commencing and provide the contractor with a map of these locations. These areas shall be avoided during work and travel associated with the project unless otherwise directed by the Contracting Officer. If directed to work in infested area, the contractor shall be	Applies to all units.

<b>Table DN-1. Project Design Criteria.</b>				
<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
			required to prevent spreading the infestation into un-infested areas by cleaning vehicles and equipment. The contractor shall use wash stations approved by the Contracting Officer.	
NNIS-06	Weed-free material, Gov. and Contractor provided	NA	All material (e.g. soil, gravel, sand borrow, aggregate, etc.) transported onto National Forest System land or incorporated into the work shall be weed-free. The Contracting Officer may request written documentation of methods used to determine the weed-free status of any and all materials furnished by the contractor. Contractor-provided expertise and methods to establish weed-free status must be appropriate for the weeds on the current Washington State noxious weed list ( <a href="http://www.nwcb.wa.gov/weed_list/weed_list.htm">http://www.nwcb.wa.gov/weed_list/weed_list.htm</a> ).  A Forest Service weed specialist shall inspect proposed sources to determine weed-free status. The contractor shall provide the Contracting Officer written notification of proposed material sources 14 days prior to use. If weed species are present in the proposed source, appropriate mitigation measures may allow conditional use of the source as required by the Contracting Officer.	Applies to all units.
NNIS-07	Disposal of infested fill	NA	Fill material generated from the project site, containing or suspected to contain invasive plants, shall be stockpiled within the project area and as close to the infested source area as possible. The material shall not be broadcast for disposal.	Applies to all units.
NNIS-08	Weed-free mulch	NA	Mulch used on the project shall be weed-free. The Contracting Officer may request written documentation of methods used to determine the weed-free status of any and all materials furnished by the contractor. Contractor-	Applies to all units.

<b>Table DN-1. Project Design Criteria.</b>				
<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
			provided expertise and methods to establish weed-free status must be appropriate for the weeds on the current Washington State noxious weed list ( <a href="http://www.nwcb.wa.gov/weed_list/weed_list.htm">http://www.nwcb.wa.gov/weed_list/weed_list.htm</a> ). (Refer to the North American Weed Free Forage Program standards, Regional EIS, Appendix O)	
NNIS-09	Weed-free seed	NA	Seed used in the project shall be weed-free and meet state and local noxious weed laws. Refer to the Olympic National Forest Native Plant Handbook for guidelines and/or consult Forest Service Invasive Plant, Botany, or Native Plant staff for guidance.	Applies to all units.
<b>Botany</b>				
BOT-01	Plant natives	NA	Give priority to seed mixes and plantings with local native species. Refer to the Focus List for Olympic National Forest for guidelines and/or consult Forest Service Invasive Plant, Botany, or Native Plant staff for guidance.	Applies to all units.
<b>Wildlife<sup>5</sup></b>				
WL-01	Suitable nest trees (SNTs) for marbled murrelet in stands that have been surveyed for SNTs by FS staff	SNTs (individual trees with potential nesting platforms) are defined as: a live conifer at least 18 inches dbh that contains one or more platforms located in the live crown of the tree 33 feet or more above the ground; is within 55 miles of marine waters; with one branch that is at least 4 inches in diameter at a height of 33 feet or higher on the tree .	<ul style="list-style-type: none"> <li>• No-thin buffer that includes the SNT and all trees with intermingling branches.</li> <li>• No yarding or skidding through buffer.</li> <li>• If SNTs outside of thinning unit need to be used as anchor trees, then a Forest Service wildlife biologist should be consulted.</li> </ul> <p>Proposed thinning units will be surveyed for SNTs in LSR using the following priorities: high probability of SNT component and density; adjacency to contiguous OG; probability of SNT component of various density. Surveys for SNTs in AMA will be done in proposed thinning stands with a high probability of SNT components.</p>	Applies to all units.

**Table DN-1. Project Design Criteria.**

Design Criteria	Feature	Definition/Description Or Not Applicable (NA)	Management Requirement Description	Applicable Units
		<p>A platform is defined as a relatively flat surface on the branch at least 4 inches in diameter that can function as a platform and may or may not have some amount of moss or lichen, mistletoe, witch's broom, and/or other deformities; some degree of cover to the potential nesting platforms that is provided by adjacent trees.</p>		
WL-02	Marbled murrelet SNTs in stands that have not been surveyed for SNTs by FS staff.	Western hemlock and Western red cedar 28-inch or greater dbh, and Douglas-fir 32-inch or greater dbh in stands that have not been surveyed for SNTs.	<p>No-thin buffer that includes the tree and all trees with intermingling branches.</p> <p>Yarding and skidding may occur within buffer but should be avoided if possible.</p> <p>If legacy trees outside of thinning unit need to be used as anchor trees, then a Forest Service wildlife biologist should be consulted.</p>	Applies to all units.
WL-03	Legacy Trees	Legacy trees are defined as having at least three of the following characteristics: 32-inch or greater dbh; deeply furrowed bark (applicable to Douglas-fir only); one	<p>No-thin buffer that includes the legacy and all trees with intermingling branches.</p> <p>Yarding and skidding may occur within buffer, but should be avoided if possible.</p>	Applies to all units.

**Table DN-1. Project Design Criteria.**

Design Criteria	Feature	Definition/Description Or Not Applicable (NA)	Management Requirement Description	Applicable Units
		<p>or more branches 3 inches or greater in diameter; substantially (at least 25% or more) more crown cover than adjacent trees; one or more dead tops or multiple live tops; platforms of mistletoe (western hemlock); platforms from epicormic branching (Douglas-fir).</p>	<p>If legacy snags outside of thinning units need to be used as anchor trees, then a Forest Service wildlife biologist should be consulted.</p>	
WL-04	Legacy Snags	<p>Standing dead trees that are 30- inch or greater dbh and 12 feet tall or taller.</p>	<p>Legacy snags will be retained wherever possible and, where necessary for worker safety, will be given a no-cut buffer of 1.5 times the height of the snag.</p>	<p>Applies to all units.</p>
WL-05	Created Wildlife Trees	<p>Topped trees created as future wildlife trees are scattered throughout the planning area and are identified with brown "Wildlife Tree" tag and/or orange paint.</p>	<p>Trees will not be felled; if felling is needed for safety concerns, tree will be left on site.</p>	<p>Applies to all units.</p>
WL-06	Suitable marbled murrelet or northern spotted owl habitat	<p>Coniferous forest mapped as "suitable habitat" and/or forest stands that meet late-successional characteristics (large trees and logs, multiple</p>	<p>No harvest of suitable spotted owl/murrelet nesting habitat. This also precludes harvest of suitable habitat in areas of temporary road or helicopter landing locations, or any other areas related to harvest activity of second-growth stands</p>	<p>Applies to all units mapped as "suitable habitat".</p>

**Table DN-1. Project Design Criteria.**

Design Criteria	Feature	Definition/Description Or Not Applicable (NA)	Management Requirement Description	Applicable Units
		canopies, high amount of canopy cover, etc.)		
WL-07	Suitable marbled murrelet or northern spotted owl habitat	Suitable habitat adjacent to thinning unit boundaries and/or associated activities	No gaps, heavy thins, or new road construction will occur within 100 feet of suitable habitat edge. Where the boundary between suitable habitat and the thinning unit is an existing NFS road, temporary road reconstruction into the thinning unit will be allowed.  Unit boundary adjacent to late seral/old growth will have buffer depth of intermingled branches.	Applies to all units.
WL-08	Unsurveyed suitable marbled murrelet habitat	Unsurveyed suitable habitat of marbled murrelet adjacent to thinning unit boundaries and/or associated activities	In all cases where timber harvest or associated activities (e.g., road construction) take place within the specified harassment distance of equipment being used or visual disturbance during the marbled murrelet breeding season, there will be 2-hour daily restrictions between April 1 and September 23: work may not commence until 2 hours after sunrise, and must cease two hours before sunset.	Applies to all units mapped as “suitable habitat” not previously surveyed.
WL-09	Individual spotted owls or marbled murrelets	Adult or young spotted owls or marbled murrelets observed during project operations.	If any individual spotted owl or marbled murrelet is observed during project operations, a Forest Service wildlife biologist will be notified and measures to minimize or eliminate harassment will be applied.	Applies to all units.

**Table DN-1. Project Design Criteria.**

<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
WL-10	Marbled murrelets	To minimize nest predation by corvids (crows, ravens, jays).	Contractors and other project workers will properly store and dispose of food and garbage while working on site.	Applies to all units.
WL-11	Coarse Wood	Existing dead and down wood on the forest floor exceeding 30 inches in diameter.	Coarse wood may be moved for access, however disturbance should be minimized. Big, old stumps will be kept intact and not uprooted wherever possible.	Applies to all units.
WL-12	Marbled murrelet nesting season	The breeding season for marbled murrelet is April 1 through September 23.	Timber harvest units and/or associated activities identified for operational restrictions will be identified on the timber sale area map for areas of avoidance.	Applies to all units.
WL-13	Northern spotted owl nesting season	The breeding season for northern spotted owl is March 1 through September 30. The early breeding period is March 1 through July 15; the late season is July 16 to September 30.	Timber harvest units and/or associated activities identified for operational restrictions will be identified on the timber sale area map for areas of avoidance.	Applies to all units.
WL-14	Pacific fisher known, active denning sites		If any active denning sites are known or discovered, motorized/mechanized activities will be restricted between Mid-March and late May in these areas.	Applies to all units.
WL-15	Slash Pile burning	The breeding season for northern spotted owl is March 1 through September 30. The early breeding period is March	To minimize the potential for smoke to affect murrelets and spotted owls, slash piles would be burned between September 1 and February 28. Additionally slash piles would be burned only during approved atmospheric conditions that lead to vertical smoke movement and quick	Applies to all units.

<b>Table DN-1. Project Design Criteria.</b>				
<b>Design Criteria</b>	<b>Feature</b>	<b>Definition/Description Or Not Applicable (NA)</b>	<b>Management Requirement Description</b>	<b>Applicable Units</b>
		1 through July 15; the late season is July 16 to September 30.	smoke dissipation (pursuant to Washington State Department of Natural Resources smoke permit approval).	
<b>Recreation</b>				
REC-01	Big Creek Campground and Big Creek Campground Loop Trail	Development of the Big Creek rock pit.	Rock Pit expansion should be limited to the north side of the existing pit, or at least 200 feet from the Big Creek Loop trail corridor.	Applies to the Big Creek Rock Pit only.
REC-02	FS Road 2340 Milepost 12.9 to 13.3 near Browns Creek Campground	Log haul restrictions.	Log Haul on Forest Service Road 2340 (MP 12.9 to MP 13.3) will not be permitted on Friday, Saturday, Sunday or holidays.  Log haul will occur Monday through Thursday between 8:00 am and 6:00 pm along this section of road.  A news release will be prepared well in advance of any log hauling along this section of 2340.  Loaded log trucks must maintain a speed at or below 15 mph along this section of road.	Applies to road indicated.
REC-03	Intersection of FSR 2340 and 2354.	Log haul and rock haul restrictions	A traffic control plan will be developed for the intersection at FSR 2340 and 2354 prior to implementation	Applies to road indicated.

<sup>1</sup>These measures are designed to provide protection of fish, soil, and water resources. They cover activities associated with construction, use, and rehabilitation of roads, landings, and skid trails; and logging system equipment use. Many of these measures are standard practices or are contained in standard timber sale contract language.

<sup>2</sup> The objective of the no-cut riparian buffers is to retain riparian vegetation to provide shade to maintain or improve stream temperatures, minimize soil erosion, protect riparian vegetation, and provide protection for aquatic and riparian-dependent species. Buffer distances are measured along the slope. The appropriate Forest Service watershed specialist, botanist, or wildlife biologist will be consulted to determine riparian and wetland buffer location at layout stage.

<sup>3</sup>Temporary roads include: newly constructed road and reconstructed existing, unclassified (non-system) or previously decommissioned roads.

<sup>4</sup>There are many known infestations of invasive plants and noxious weeds in the project area. The following design criteria and mitigation measures are designed to prevent the spread of existing infestations in the vicinity of project activities, and to prevent the introduction and spread of new infestations. They are drawn from the ONF's 2008 Environmental Impact Statement and ROD – Beyond Prevention: Site-Specific Invasive Plant Treatment (USDA Forest Service 2008).

<sup>5</sup> These criteria are in place to protect and benefit marbled murrelets, northern spotted owls, cavity nesters, amphibians, and other wildlife species. Some of the criteria protect specific habitat structures, and some are intended to minimize the potential for disturbance during nesting and breeding seasons.

<b>Table DN-2. Treatment unit information.</b>					
<b>Unit Number</b>	<b>Logging System</b>	<b>Acres</b>	<b>Forest Plan Management Allocation</b>	<b>Stand Age in 2014</b>	<b>Season of Logging Operations</b>
9	Ground based	11	Adaptive Management Area	77	June1-Oct31
11	Ground based	14	Adaptive Management Area	77	June1-Oct31
33	Ground based	47	Adaptive Management Area	78	July16-Oct31
35	Ground based	17	Adaptive Management Area	78	June1-Oct31
36	Ground based	133	Adaptive Management Area	76	June1-Oct31
37	Downhill Cable	14	Adaptive Management Area	73	June1-Oct31
37	Downhill Cable	7	Adaptive Management Area	73	June1-Oct31
37	Ground based	5	Adaptive Management Area	73	June1-Oct31
37	Ground based	36	Adaptive Management Area	73	June1-Oct31
37	SKIP	45	Adaptive Management Area	73	Skip
D10	Cable	28	Late-Successional Reserve	72	June1-Oct31
D10	Cable	2	Late-Successional Reserve	72	June1-Oct31
D10	Cable	3	Late-Successional Reserve	72	June1-Oct31
D10	Cable	1	Late-Successional Reserve	72	June1-Oct31
D10	Cable	4	Late-Successional Reserve	72	June1-Oct31
D10	Downhill Cable	3	Late-Successional Reserve	72	June1-Oct31
D10	Ground based	5	Late-Successional Reserve	72	June1-Oct31
D10	SKIP	6	Late-Successional Reserve	72	Skip
D10A	Cable	9	Late-Successional Reserve	72	June1-Oct31

<b>Table DN-2. Treatment unit information.</b>					
<b>Unit Number</b>	<b>Logging System</b>	<b>Acres</b>	<b>Forest Plan Management Allocation</b>	<b>Stand Age in 2014</b>	<b>Season of Logging Operations</b>
D10A	Ground based	52	Late-Successional Reserve	72	June1-Oct31
D10A	SKIP	1	Late-Successional Reserve	72	Skip
D10B	Cable	13	Late-Successional Reserve	72	June1-Oct31
D10B	Ground based	4	Late-Successional Reserve	72	June1-Oct31
D10C	Ground based	34	Late-Successional Reserve	69	June1-Oct31
D11	Cable	1	Adaptive Management Area	72	June1-Oct31
D11	Cable	107	Adaptive Management Area	72	June1-Oct31
D12	Cable	98	Late-Successional Reserve	72	June1-Oct31
D12A	Cable	16	Both	66	June1-Oct31
D12A	Cable	4	Both	66	June1-Oct31
D12A	Ground based	76	Late-Successional Reserve	66	June1-Oct31
D12B	Downhill Cable	4	Late-Successional Reserve	72	June1-Oct31
D15	Cable	64	Late-Successional Reserve	69	June1-Oct31
D15	Ground based	56	Late-Successional Reserve	69	June1-Oct31
D15	Helicopter	46	Late-Successional Reserve	69	Sept24-Feb28
D1A-01	Cable	5	Late-Successional Reserve	72	June1-Oct31
D1A-01A	Cable	15	Late-Successional Reserve	72	June1-Oct31
D1A-03	Cable	4	Late-Successional Reserve	72	June1-Oct31
D1A-04	Ground based	4	Late-Successional Reserve	72	June1-Oct31
D1A-06	Cable	2	Late-Successional Reserve	72	June1-Oct31
D1A-07	Cable	5	Late-Successional Reserve	72	June1-Oct31
D1A-08	Ground based	1	Late-Successional Reserve	72	June1-Oct31
D1A-13	Cable	6	Adaptive Management Area	72	June1-Oct31
D1A-14	Ground based	2	Adaptive Management Area	72	June1-Oct31

<b>Table DN-2. Treatment unit information.</b>					
<b>Unit Number</b>	<b>Logging System</b>	<b>Acres</b>	<b>Forest Plan Management Allocation</b>	<b>Stand Age in 2014</b>	<b>Season of Logging Operations</b>
D1A-15	Cable	30	Adaptive Management Area	72	June1-Oct31
D1A-16	Cable	11	Adaptive Management Area	72	June1-Oct31
D1A-17	Cable	7	Adaptive Management Area	72	June1-Oct31
D1A-18	Ground based	14	Adaptive Management Area	72	June1-Oct31
D1A-19	Ground based	7	Adaptive Management Area	72	June1-Oct31
D1A-20	Ground based	3	Adaptive Management Area	72	June1-Oct31
D1A-21	Ground based	2	Late-Successional Reserve	72	June1-Oct31
D1A-22	Ground based	13	Late-Successional Reserve	72	June1-Oct31
D1A-24	Cable	2	Adaptive Management Area	72	June1-Oct31
D1A-25	Cable	10	Adaptive Management Area	72	June1-Oct31
D1A-26	Cable	5	Adaptive Management Area	72	June1-Oct31
D1A-26A	Ground based	2	Adaptive Management Area	72	June1-Oct31
D1A-27	Cable	7	Adaptive Management Area	72	June1-Oct31
D1A-31	Cable	8	Adaptive Management Area	72	June1-Oct31
D1A-35	Cable	5	Adaptive Management Area	72	June1-Oct31
D1A-39	Cable	11	Late-Successional Reserve	72	June1-Oct31
D1A-40	Ground based	5	Late-Successional Reserve	72	June1-Oct31
D1A-42	Ground based	8	Late-Successional Reserve	72	June1-Oct31
D1A-45	Ground based	21	Adaptive Management Area	72	June1-Oct31
D1A-46	Cable	9	Adaptive Management Area	72	June1-Oct31
D1A-47	Cable	5	Adaptive Management Area	72	June1-Oct31
D1A-48	Cable	11	Adaptive Management Area	72	June1-Oct31
D1A-49	Cable	2	Adaptive Management Area	72	June1-Oct31
D1A-51	Cable	3	Adaptive Management Area	72	June1-Oct31

<b>Table DN-2. Treatment unit information.</b>					
<b>Unit Number</b>	<b>Logging System</b>	<b>Acres</b>	<b>Forest Plan Management Allocation</b>	<b>Stand Age in 2014</b>	<b>Season of Logging Operations</b>
D1B-01	Ground based	1	Adaptive Management Area	71	June1-Oct31
D1B-04	Ground based	7	Adaptive Management Area	71	June1-Oct31
D20	Helicopter	1	Adaptive Management Area	67	June1-Oct31
D20	Helicopter	195	Adaptive Management Area	67	June1-Oct31
D2-02	Ground based	32	Late-Successional Reserve	74	June1-Oct31
D2-03	Ground based	3	Late-Successional Reserve	74	June1-Oct31
D2-04	Ground based	18	Late-Successional Reserve	74	June1-Oct31
D2-05	Ground based	10	Late-Successional Reserve	74	June1-Oct31
D2-06	Ground based	36	Late-Successional Reserve	74	June1-Oct31
D21-04	Cable	23	Adaptive Management Area	68	June1-Oct31
D21-05	Cable	15	Adaptive Management Area	68	June1-Oct31
D21-07	Ground based	5	Adaptive Management Area	68	June1-Oct31
D21-11	Cable	10	Adaptive Management Area	68	June1-Oct31
D21A	Cable	52	Both	55	June1-Oct31
D21A	Cable	59	Both	55	June1-Oct31
D21A	Ground based	3	Both	55	June1-Oct31
D21A	Ground based	5	Both	55	June1-Oct31
D22	Cable	216	Adaptive Management Area	67	June1-Oct31
D22	Ground based	4	Adaptive Management Area	67	June1-Oct31
D22	Ground based	9	Adaptive Management Area	67	June1-Oct31
D22A	Cable	11	Adaptive Management Area	67	June1-Oct31
D23	Cable	18	Late-Successional Reserve	68	June1-Oct31
D23	Cable	23	Late-Successional Reserve	68	June1-Oct31
D23	Ground based	12	Late-Successional Reserve	68	June1-Oct31

<b>Table DN-2. Treatment unit information.</b>					
<b>Unit Number</b>	<b>Logging System</b>	<b>Acres</b>	<b>Forest Plan Management Allocation</b>	<b>Stand Age in 2014</b>	<b>Season of Logging Operations</b>
D23	Ground based	41	Late-Successional Reserve	68	June1-Oct31
D23	SKIP	35	Late-Successional Reserve	68	Skip
D23A	Ground based	97	Adaptive Management Area	68	June1-Oct31
D23B	Ground based	50	Adaptive Management Area	68	June1-Oct31
D23B	Ground based	18	Adaptive Management Area	68	June1-Oct31
D23B	SKIP	23	Adaptive Management Area	68	Skip
D24	Cable	7	Both	66	June1-Oct31
D24	Cable	208	Both	66	June1-Oct31
D24	Ground based	8	Adaptive Management Area	66	June1-Oct31
D24	Ground based	2	Adaptive Management Area	66	June1-Oct31
D24	SKIP	6	Adaptive Management Area	66	Skip
D24A	Cable	2	Adaptive Management Area	66	June1-Oct31
D24A	Cable	1	Adaptive Management Area	66	June1-Oct31
D24A	Cable	2	Adaptive Management Area	66	June1-Oct31
D24A	Cable	2	Adaptive Management Area	66	June1-Oct31
D24A	Cable	2	Adaptive Management Area	67	June1-Oct31
D24A	Cable	8	Adaptive Management Area	66	June1-Oct31
D24A	Cable	1	Both	66	June1-Oct31
D24A	Cable	5	Both	66	June1-Oct31
D24A	Ground based	3	Adaptive Management Area	66	June1-Oct31
D24A	Ground based	2	Adaptive Management Area	66	June1-Oct31
D24A	Ground based	6	Adaptive Management Area	66	June1-Oct31
D24A	Ground based	4	Adaptive Management Area	66	June1-Oct31
D24A	Ground based	4	Late-Successional Reserve	66	June1-Oct31

<b>Table DN-2. Treatment unit information.</b>					
<b>Unit Number</b>	<b>Logging System</b>	<b>Acres</b>	<b>Forest Plan Management Allocation</b>	<b>Stand Age in 2014</b>	<b>Season of Logging Operations</b>
D24A	Ground based	1	Late-Successional Reserve	66	June1-Oct31
D24A	Ground based	1	Late-Successional Reserve	66	June1-Oct31
D24B	Cable	48	Both	66	June1-Oct31
D24B	Cable	2	Both	66	June1-Oct31
D25	Cable	109	Adaptive Management Area	65	June1-Oct31
D25	Cable	4	Adaptive Management Area	65	June1-Oct31
D25	Cable	61	Adaptive Management Area	65	June1-Oct31
D25	Downhill Cable	19	Adaptive Management Area	65	June1-Oct31
D25	Ground based	27	Adaptive Management Area	65	June1-Oct31
D25	Ground based	4	Adaptive Management Area	67	June1-Oct31
D25	Ground based	21	Adaptive Management Area	65	June1-Oct31
D25	Ground based	4	Adaptive Management Area	65	June1-Oct31
D25	SKIP	2	Adaptive Management Area	65	Skip
D25A	Cable	18	Late-Successional Reserve	65	June1-Oct31
D25A	Ground based	41	Late-Successional Reserve	65	June1-Oct31
D28	Ground based	48	Adaptive Management Area	68	June1-Oct31
D29	Cable	5	Late-Successional Reserve	67	June1-Oct31
D29	Downhill Cable	14	Late-Successional Reserve	67	June1-Oct31
D29	Downhill Cable	8	Late-Successional Reserve	67	June1-Oct31
D29	Ground based	55	Late-Successional Reserve	67	June1-Oct31
D29	Ground based	6	Late-Successional Reserve	65	Sept24-Feb28
D29	SKIP	17	Late-Successional Reserve	67	Skip
D29	SKIP	10	Late-Successional Reserve	67	Skip
D29B	Downhill Cable	26	Late-Successional Reserve	65	June1-Oct31

<b>Table DN-2. Treatment unit information.</b>					
<b>Unit Number</b>	<b>Logging System</b>	<b>Acres</b>	<b>Forest Plan Management Allocation</b>	<b>Stand Age in 2014</b>	<b>Season of Logging Operations</b>
D29C	Downhill Cable	58	Late-Successional Reserve	65	June1-Oct31
D29D	Helicopter	39	Late-Successional Reserve	67	Sept24-Feb28
D29E	Helicopter	46	Late-Successional Reserve	65	Sept24-Feb28
D29E	Helicopter	13	Late-Successional Reserve	65	Sept24-Feb28
D30	Cable	13	Late-Successional Reserve	56	June1-Oct31
D30	Cable	10	Late-Successional Reserve	59	June1-Oct31
D30	Downhill Cable	5	Late-Successional Reserve	59	June1-Oct31
D30	Ground based	16	Late-Successional Reserve	58	June1-Oct31
D30	Ground based	61	Late-Successional Reserve	59	June1-Oct31
D30	Ground based	4	Late-Successional Reserve	56	June1-Oct31
D30	SKIP	12	Late-Successional Reserve	59	Skip
D30	SKIP	7	Late-Successional Reserve	59	Skip
D30	SKIP	4	Late-Successional Reserve	59	Skip
D30	SKIP	7	Late-Successional Reserve	56	Skip
D30	SKIP	3	Late-Successional Reserve	58	Skip
D3A-01	Ground based	8	Late-Successional Reserve	72	June1-Oct31
D3A-02	Ground based	4	Late-Successional Reserve	72	June1-Oct31
D3A-03	Ground based	9	Late-Successional Reserve	73	June1-Oct31
D3B-01	Cable	6	Late-Successional Reserve	73	June1-Oct31
D3B-02	Ground based	10	Late-Successional Reserve	73	June1-Oct31
D3B-03	Ground based	1	Late-Successional Reserve	73	June1-Oct31
D3B-04	Ground based	7	Late-Successional Reserve	73	June1-Oct31
D3B-05	Ground based	8	Late-Successional Reserve	73	June1-Oct31
D3C	Ground based	50	Late-Successional Reserve	73	Sept24-Feb28

<b>Table DN-2. Treatment unit information.</b>					
<b>Unit Number</b>	<b>Logging System</b>	<b>Acres</b>	<b>Forest Plan Management Allocation</b>	<b>Stand Age in 2014</b>	<b>Season of Logging Operations</b>
D7	Ground based	227	Adaptive Management Area	0	June1-Oct31
D9	Cable	56	Adaptive Management Area	76	June1-Oct31
D9	Cable	41	Adaptive Management Area	76	June1-Oct31
D9	Ground based	6	Adaptive Management Area	76	June1-Oct31
D9	Ground based	17	Adaptive Management Area	76	June1-Oct31
D9	SKIP	3	Adaptive Management Area	76	Skip
R11	Cable	37	Late-Successional Reserve	57	Sept24-Feb28
R11	SKIP	7	Late-Successional Reserve	57	Skip
R12	Cable	20	Late-Successional Reserve	57	June1-Oct31
R12	SKIP	5	Late-Successional Reserve	57	Skip
R18	Cable	18	Late-Successional Reserve	55	June1-Oct31
R18	SKIP	4	Late-Successional Reserve	55	Skip
R23	Cable	37	Late-Successional Reserve	47	June1-Oct31
R23	SKIP	21	Late-Successional Reserve	47	Skip
R23	SKIP	5	Late-Successional Reserve	47	Skip
R5	Helicopter	14	Late-Successional Reserve	61	Sept24-Feb28
R7	Cable	30	Late-Successional Reserve	58	June1-Oct31
R8	Cable	55	Late-Successional Reserve	59	June1-Oct31
R9	Cable	23	Late-Successional Reserve	55	June1-Oct31
R9	SKIP	8	Late-Successional Reserve	55	Skip
S2	Helicopter	26	Late-Successional Reserve	61	Sept24-Feb28
V1	Cable	26	Late-Successional Reserve	61	Sept24-Feb28
V1	Downhill Cable	6	Late-Successional Reserve	61	Sept24-Feb28
V14	Cable	27	Both	57	June1-Oct31

<b>Table DN-2. Treatment unit information.</b>					
<b>Unit Number</b>	<b>Logging System</b>	<b>Acres</b>	<b>Forest Plan Management Allocation</b>	<b>Stand Age in 2014</b>	<b>Season of Logging Operations</b>
V14	Cable	31	Both	57	June1-Oct31
V22	Cable	34	Adaptive Management Area	54	June1-Oct31
V26	Cable	33	Adaptive Management Area	57	June1-Oct31
V26	SKIP	15	Adaptive Management Area	57	Skip
V33	Cable	45	Adaptive Management Area	44	June1-Oct31
V4	Cable	29	Late-Successional Reserve	61	Sept24-Feb28
V4	Downhill Cable	11	Late-Successional Reserve	61	Sept24-Feb28
V4	Ground based	5	Late-Successional Reserve	61	Sept24-Feb28
V5	Cable	33	Late-Successional Reserve	61	Sept24-Feb28
V5	Ground based	9	Late-Successional Reserve	61	Sept24-Feb28
V8	Cable	22	Both	59	June1-Oct31
V8	Cable	27	Both	59	June1-Oct31