

Chapter 1 – Purpose and Need

Document Structure

The Forest Service has prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This EA discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives.

Additional documentation may be found in the project planning record located at the Olympic National Forest Headquarters in Olympia, WA. See Analysis File section at the end of Chapter 3 for more information.

Project Location

This action would occur between Mt. Walker and Seal Rock campground in Jefferson County within the following fifth field watersheds: Dosewallips River, Upper West Hood Canal Frontal, and Big Quilcene River. These watersheds are on the east-side of the Olympic Peninsula and drain into the Hood Canal. Within these watersheds the majority of the proposed project area units fall within the Lower Dosewallips River and Spencer Creek/Marple Creek sixth field subwatersheds, with only a small proportion of the proposed project area in the Lower Big Quilcene River sixth field subwatershed. Primary streams (which include the tributaries that flow into them) that have the potential to be affected are Rocky Brook, Jackson Creek, Marple Creek and Spencer Creek.

The land management allocations within the project area, as designated by the amended Olympic National Forest Land and Resource Management Plan (LRMP), include Adaptive Management Area (AMA), Late Successional Reserve (LSR), and Riparian Reserve. The AMA areas are also designated as A2 - Scenic and A3 - Developed Recreation Sites and Administration Sites Management Prescription by the LRMP. LSR lands in the project area have LRMP designations of E1- Timber Management and A2 - Scenic.

The legal location of the project is: T26N, R2W, Sections 2-3, 7-10, 14-18, and 20-23, and T27N, R2W, Sections 34-35. Please see the enclosed map.

Background

The forest in the project planning area has been significantly influenced by past logging activities and large, intense fires that left few trees, dead or alive.

According to the Olympic National Forest's Total Resource Inventory (TRI) database, 6,118 acres (58%) within the general 10,531 acre Jackson planning area were previously clearcut, mostly in the 1930s and 1940s. The current forest stands that originated after the previous

clearcuts range from 100+ foot-tall second growth Douglas-fir and hemlock to young forest plantations that still are in the process of closing their canopies.

Records also indicate that two wildfires burned the Mt. Walker area in 1701 and 1864, killing most of the large trees and consuming the majority of the snags and down logs that provide important habitat for cavity nesting animals, small mammals, mosses, and fungi. The forest stands that were burned by severe wildfires share similarities to clearcut logged areas in that there was little that remained of the previous habitat following the wildfires. As a result, whether replanted or naturally seeded in, the forest vegetation that regrew in previously clearcut areas and in the severely burned areas are still in relatively early successional stages and do not provide late-successional or old-growth forest habitat.

Across the planning area, approximately 64% of the stands are under 80 years old. Forest stands between 41 and 80 years of age comprise more than half of the planning area (approximately 5,483 of the 10,531 acres), compared to stands between the ages of 171 and 400 years old, which only make up approximately 7% of the planning area (about 733 acres).

Watershed analysis guidance documents cite general conditions found in the project area, which include:

- Limited suitable northern spotted owl and marbled murrelet habitat (USDA 1999);
- Fragmented habitat and limited quality, quantity, and distribution of mature and old-growth forest (USDA and WDNR 1994);
- Limited deciduous shrub and tree species diversity (USDA and WDNR 1994);
- Low number of snags (USDA and WDNR 1994); and
- Poor potential to provide coarse woody debris for fish habitat along approximately 71% of streams in the Lower Dosewallips River subwatershed within the National Forest boundary (USDA 1999).

Thus, much of the project area is in a structurally simple, and there is concern that biodiversity at the landscape scale will suffer for a long time from the lack of an adequate range of habitats. The documents recommend management activities to address such deficiencies that include restoring habitat for the northern spotted owl and marbled murrelet; thinning to improve horizontal and vertical diversity in forest stands; and creating new snags and coarse woody debris.

Thinning treatments are currently being used on the Olympic National Forest for the ecological objective of promoting the development of forest stand complexity that are in short supply on the landscape due to past logging practices and historic wildfire. Forest stands in the project area are still within the age range and stand condition that would respond to such thinning treatments. Features that could be enhanced through thinning include understory development, vertical canopy stratification, development of horizontal patchiness, and growth of large trees with complex crowns.

Figure 1. Vicinity map and map of project area with land allocations, roads, and locations of project units.

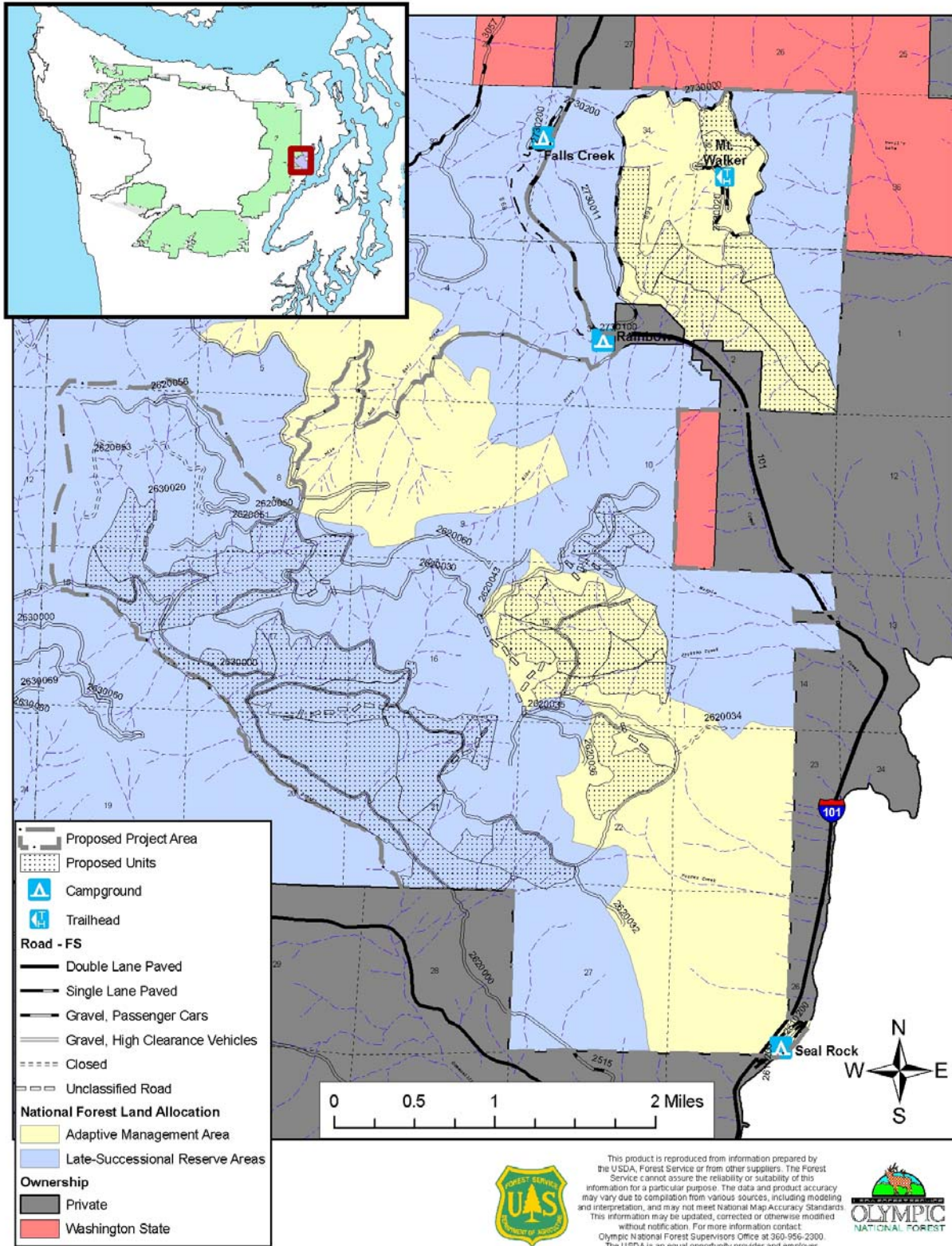
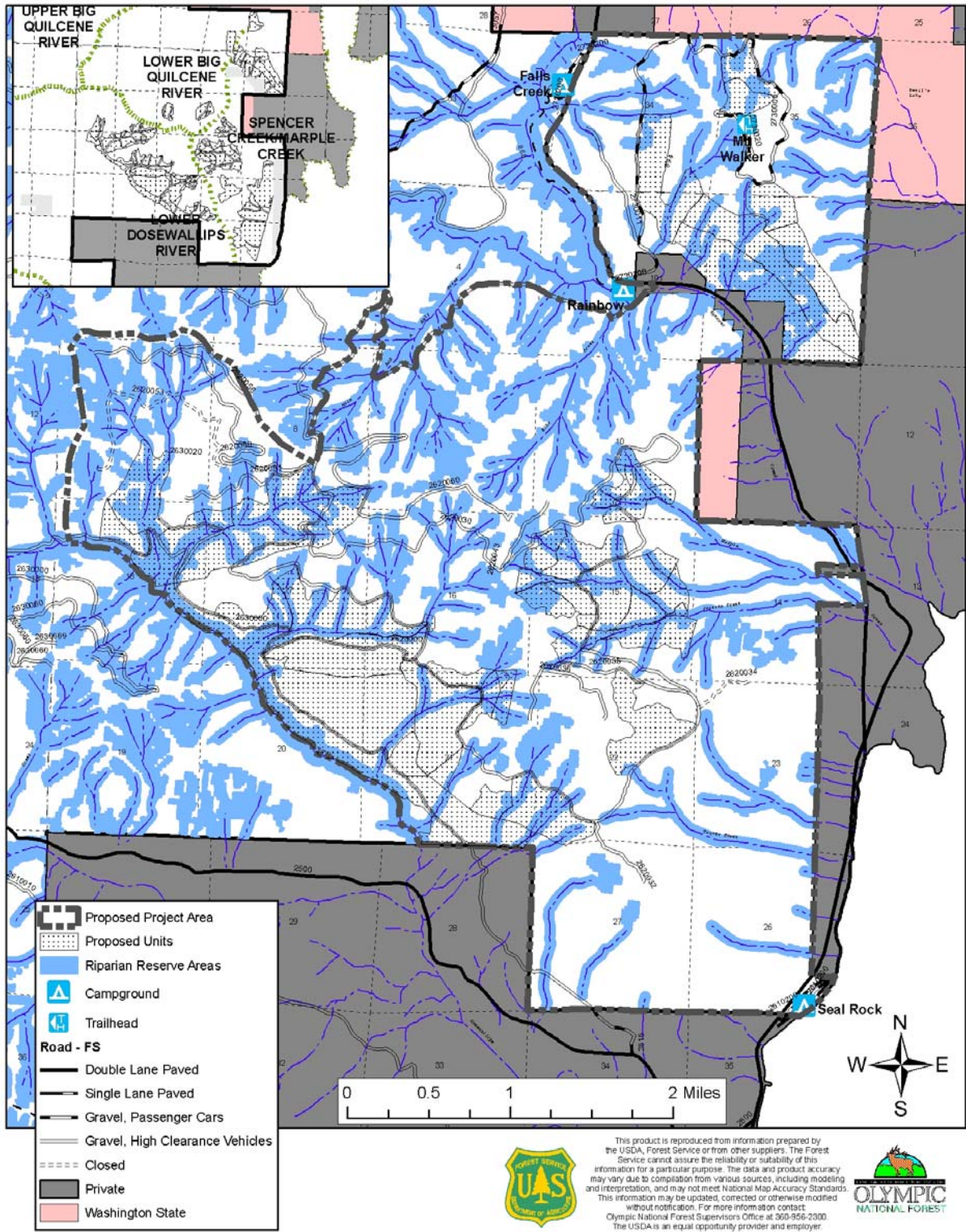


Figure 2. Watersheds and Riparian Reserve areas.



Purpose and Need for Action

Desired Future Condition

The general desired condition for this area is diverse, multi-storied stands that provide improved habitat for late-successional and old-growth dependent species. Such stands would also contain openings that enhance herbaceous plants on the forest floor.

Late Successional Reserve

The purpose of Late Successional Reserves are to maintain and enhance late-successional forest as a network of existing old-growth forest ecosystems (USDA and USDI 1994b). Therefore, the desired future condition for conifer stands in Late Successional Reserve (LSR) is old-growth stands in the next 60-100 years that would provide habitat values within the stands and connectivity between existing old-growth habitat. As old-growth forest, the stands would exhibit the following characteristics (Old-Growth Definition Task Group 1986; Carey and Johnson 1995; Carey and Curtis 1996; Rapp 2003):

- a patchy, multilayered forest canopy with high crown closure and trees of several age classes;
- a variety of herbs, shrubs, and coniferous tree seedlings and saplings on the forest floor;
- overstory trees exceeding 36 inches in diameter at breast height (dbh) with large crowns, large branches, broken tops and other indications of old and decaying wood in some of them;
- understory trees with a range of diameters and ages;
- large standing dead trees (>4 per acre over 20 inches dbh and 15 feet tall, and as many as 12 per acre); and
- coarse woody debris (15-20% ground cover).

Adaptive Management Area

Given the Adaptive Management Areas' purpose to provide opportunities for development, demonstration, and testing of techniques that range from restoration of late-successional forest conditions and riparian zones to integration of commercial timber harvest with ecological objectives (USDA and USDI 1994b), the objective within Adaptive Management Area (AMA) is to add structural diversity to the stand, which includes many of the stand conditions described above.

Mt. Walker has been designated by the 1990 Forest Plan as being in "high" (full retention) and "moderate" (partial retention) scenic integrity categories where a key objective is to maintain the dominant landscape characteristic of unbroken conifer canopy when viewed from Highway 101 (USDA 1990a, USDA 1990b).

Riparian Reserves

Under the Aquatic Conservation Strategy, Riparian Reserves are used to maintain and restore riparian structures and functions of intermittent streams, confer benefits to riparian-dependent and associated species other than fish, enhance habitat conservation for organisms that are dependent on the transition zone between upslope and riparian areas, improve travel and dispersal corridors for many terrestrial animals and plants, and provide for greater connectivity of the watershed and among Late Successional Reserves (USDA and USDI 1994a). As such, the desired future condition for the portions of stands in Riparian Reserve is similar to that for stands in LSR, with the addition of a dense, shading canopy within 50 feet of the streams and wetlands.

Purpose and Need

Therefore, the purpose of this proposal is to:

- Increase structural diversity of forest stands, develop a multi-layered canopy, and enhance growth and coverage of herbaceous material on the forest floor.

The majority of the forest stands within the proposed project units are single- or two-storied, second-growth stands, some of which are in the competitive exclusion stage noted by a dense tree canopy of trees competing for water, light and nutrients, and a decline in understory trees, shrubs, and herbaceous plants. Other stands have elements of the understory reinitiation stage where the understory layer is becoming established, and in a few areas, there is a developed understory layer that still lacks a diverse plant community (USDA 1996a, USDA 1996b). All stands, however, are currently experiencing a slowing of growth due to overcrowding. Additionally, these stands do not provide adequate habitat for old-growth dependent species.

There is a need for forest stands that have elements characteristic of late-successional and old-growth habitats, such as structurally diverse with horizontal and vertical variation in forms and spatial arrangement of live and dead plant material; a range of tree sizes, including large trees with large and complex crowns; and a diverse understory light environment that promotes growth and coverage of herbaceous plants on the forest floor.

If no action is taken, this overstocked condition would result in stands with reduced vigor, increased mortality, and reduced diversity. As a result, these stands would not, for decades to come, develop and provide the multilayered stands with large trees and diverse plant species, and structures that may, in turn, maintain or enhance species diversity. If no action were taken in riparian reserves, stands would have reduced capability to produce the size and quantity of coarse woody debris sufficient to sustain physical complexity and stability of the riparian reserves and associated streams.

Figure 3. Unthinned, second growth stand.



Figure 4. Second growth stand immediately after commercial thinning.



Figure 5. Second growth stand one year after thinning.



Figure 6. Canopy and understory diversity after thinning

Because the only certain funding source to accomplish the implementation of this project is through the sale of wood products that would be removed as part of the treatment, a secondary need is to have economically viable commercial timber sales. Additional restoration work could be implemented with any excess revenue generated from the sales.

This action complies with the Forest Plan, as amended, which supports the protection and enhancement late-successional and old-growth forest ecosystems in designated Late Successional Reserves and Adaptive Management Areas (USDA, USDI 1994). This Environmental Assessment is tiered to the Final Environmental Impact Statement for the 1990 Olympic National Forest Land and Resource Management Plan (LRMP) (USDA 1990a, USDA 1990b). The LRMP was amended by the 1994 Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (USDA and USDI 1994b), commonly known as the Northwest Forest Plan, and its amendments. This document also tiers to the April 2005 Final Environmental Impact Statement (FEIS) for the Pacific Northwest Region Invasive Plant Program: Preventing and Managing Invasive Plants (USDA 2005a). This Environmental Assessment also utilizes information and recommendations from the Big Quilcene Watershed Analysis (USDA 1994), Dosewallips Watershed Analysis (USDA 1999), Hamma Hamma and West Hood Canal Tributaries Watershed Analysis (1997), the Olympic Adaptive Management Area Guide (USDA 1998), Hood Canal North Late Successional Reserve Analysis (USDA 1996b), and the Quilcene Late Successional Reserve Assessment (USDA 1996a).

Proposed Action

The Olympic National Forest proposes to commercially thin simplified, second growth stands to accelerate the development of some of the structural and compositional features of late-successional forests and accelerate the growth of forest stands in Late Successional Reserve, Adaptive Management Area, and Riparian Reserve land allocations in the planning area within the Lower Big Quilcene River, Lower Dosewallips River, and Spencer Creek/Marple Creek subwatersheds.

The approximately 10,500 acre planning area includes approximately 2,313 acres proposed for commercial thinning in forest stands that are approximately 52 to 71 years old in LSR and 101 to 112 years old in AMA, which still fall within the developmental stage of being overstocked and in competitive exclusion, but with elements of understory reinitiation and possibly the developed understory stage in a few spots (USDA 1996a, USDA 1996b). Proposed logging systems would include a combination of ground-based, cable, and helicopter logging. Access for this project would use current Forest system roads, unclassified/ abandoned road grades, new temporary roads, and short spur roads. Unclassified/abandoned roads would be more fully decommissioned after using them for access, and new temporary roads would also be decommissioned following project implementation. Opportunities may also exist to decommission additional system and nonsystem roads and implement other restoration work with funds generated from the project.

The Proposed Action is represented by Alternative A in Chapter 2. Please refer to page 18 for a more detailed description of the Proposed Action.

Decision Framework

As a result of this environmental analysis, the responsible official (Olympic National Forest Supervisor) will decide how much commercial thinning will be accomplished, what logging systems and associated road access is appropriate in the project area, and what management requirements and project design criteria are included in the project.

Selection of an alternative and project design criteria will be based, in part, on environmental effects, the ability to meet the project's Purpose and Need, and economic feasibility.

The decision will include a determination of the significance of the effects and a statement regarding consistency with the standards, guidelines, goals and objectives of the Forest Plan, and other laws and regulations.

Management Direction

This environmental assessment has been prepared in accordance with regulations established under the National Environmental Policy Act of 1969 and tiers to analysis in documents that are listed at the end of Chapter 3 on page 203.

The Forest Plan

The 1990 Olympic National Forest Land and Resource Management Plan (Forest Plan or LRMP), as amended¹, provides management direction for the National Forest System lands within the project analysis area. Direction is provided in the form of goals and objectives, and Forest-wide and Management Area standards and guidelines (S&Gs).

The 1994 ROD (USDA and USDI 1994) incorporates seven land allocations, which amend the allocations described in the 1990 Forest Plan. There is considerable overlay among some allocations, and more than one set of standards and guidelines may apply (such as Riparian Reserve requirements within a Late Successional Reserve). In addition, where the standards and guidelines of the 1990 Forest Plan are more restrictive or provide greater benefits to late-successional forest-related species than do those of the 1994 ROD, the existing S&Gs apply.

The 1994 amendment also includes additional forest-wide standards and guidelines, and an Aquatic Conservation Strategy, with four components—Riparian Reserves, key watersheds, watershed analysis, and watershed restoration—that are designed to help improve the health of the aquatic ecosystem.

Land Allocations Within the Project Area

The following are land allocations found within the project area:

Late Successional Reserve (LSR): Late Successional Reserve areas are designated to protect and enhance conditions of late successional and old-growth forest ecosystems, which serve as habitat for late successional and old-growth forest related species including the northern spotted owl (USDA and USDI 1994b). Forest stands over 80 years old, however, may not be thinned or cut. Road construction and maintenance in LSR are generally not recommended unless potential benefits exceed the costs of habitat impairment. The Quilcene LSR and Hood Canal North LSR are located within the analysis area. The original 1990 LRMP designation for LSRs in the project area was primarily E1 Timber Management, where the primary goal is to produce timber on a long-term sustained yield basis. A small portion of the proposed units

¹ Major amendments by the U.S. Department of Agriculture (USDA) and the U.S. Department of the Interior (USDI) to the 1990 Plan include: April 1994, Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl, and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (1994 ROD or Northwest Forest Plan); January 2001 Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (2001 ROD); 2005 Record of Decision for the Pacific Northwest Region Invasive Plant Program, Preventing and Managing Invasive Plants.

for thinning in LSR (Unit 8 and a small portion of Unit 11) fall under the LRMP designation of A2 Scenic for the management of scenery as viewed from Highway 101. Standards and guidelines for visual quality would also apply to areas designated as A2 Scenic.

Riparian Reserves: Riparian Reserves, a major component of the Aquatic Conservation Strategy (ACS), includes areas along all streams, wetlands, ponds, lakes, and unstable or potentially unstable areas (USDA and USDI 1994b). Riparian Reserves overlay all other management areas. Generally, standards and guidelines for Riparian Reserves prohibit or regulate activities that retard or prevent attainment of ACS objectives. The ROD standards and guidelines allow “silvicultural practices for Riparian Reserves to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives” (USDA and USDI 1994b). Road-related standards and guidelines include minimizing road and landing locations in Riparian Reserves, minimizing sediment delivery to streams, providing and maintaining fish passage, and developing and implementing a road management plan that meets ACS objectives.

Adaptive Management Area (AMA): AMAs have been assigned the primary goal of developing and implementing innovative management practices that integrate economic and ecological values. There is no age limit for forest stands that receive silvicultural treatment. The AMA land allocation in the project area is also designated by the 1990 LRMP as:

- A2 Scenic. The desired future condition for this management prescription is landscapes that provide pleasing scenery as viewed from major travel routes, use areas, or water bodies. These landscapes will accommodate management activities that are not evident, or are visually subordinate to the natural landscape when viewed by casual forest visitors. Standards and guidelines under this management prescription allow for timber harvesting when compatible with the desired future condition. Activities, however, should be designed to mitigate and rehabilitate unacceptable visual impacts due to past timber management activities that do not meet visual quality objectives.
- A3 Developed Recreation Sites and Administrative Sites. The desired future condition for this management prescription is for the design and construction of facilities to be evident, but harmonious with the color, shapes, and lines of the surrounding environment and consistent with relevant recreation management intensities. Openings usually exist or may be created to: 1) accommodate facilities, provide scenic views, or meet vegetative management goals within the developed site; and 2) accommodate facilities and space requirements for administrative sites. The standards and guidelines state that timber is not available for programmed harvest, but priorities for vegetation management will be to: a) reduce risk of public injury and facility damage from hazardous trees and other vegetation, and b) maintain or enhance the natural character associated with the recreational experience of developed sites and the landscape associated with administrative sites. The only developed recreation site or administrative site that may be affected by this project is the Mt. Walker summit.

Other guidance: The Olympic National Forest Strategic Plan

The Olympic National Forest Strategic Plan (USDA 2004b) is a tool to help prioritize limited resources to accomplish work in the areas with the greatest resource need and, where possible, satisfy multiple resource management objectives, based on aquatic, wildlife, and vegetation considerations. Fire prevention needs were also to be considered as opportunities allowed. While the development of the Jackson Thinning project preceded the Forest's Strategic Plan, the Strategic Plan provides the following priority ratings by resource area for the Lower Dosewallips, Lower Big Quilcene River, and Spencer/Marple Creek 6th field watersheds (see Table 1).

Table 1. Forest Strategic Plan ratings for planning area 6th field watersheds.

	Lower Dosewallips River	Lower Big Quilcene River	Spencer/Marple
Aquatic	Moderate	Moderate	(Not listed)
Wildlife	High	Moderate	Moderate
Commercial thinning opportunities			
LSR, 0-80 yrs (acres)	4,038	981	393
AMA 0-120 yrs (acres)	(not given)	1,629	2652
Precommercially thinned (acres)	1,632	1,144	516
Economic rating	Medium	Medium	High

These priority ratings for each resource area were developed based on the following criteria:

Aquatic: The priority for the aquatics resource area was based on three primary issues: maintaining and improving anadromous fish habitat, assisting in the recovery of listed threatened and endangered fish species, and maintaining water quality for municipal water supplies.

Wildlife: The priority for the wildlife ranking was based on the primary issues of maintaining and improving late-successional terrestrial wildlife species habitat and improving elk forage. Watersheds where the Olympic National Forest could have the greatest positive impact on listed threatened and endangered wildlife species – most notably the northern spotted owl and marbled murrelet – and forage availability were identified.

Vegetation Management: Commercial thinning opportunities were evaluated by identifying all managed forest stands currently between the age of 41 to 60 and 61 to 80 years of age in designated Late-Successional Reserves (LSR) or within Adaptive Management Areas (AMA). AMA stands between 81 and 120 years of age were also identified as potential opportunities. The potential for economically viable commercial thinning sales was also evaluated. Table 1 shows the acres by watershed and land allocation considered for potential commercial thinning along with economic rating.

Public Involvement

To help identify issues for this project, the Hood Canal District sent a scoping letter on March 18, 2005, to local Indian tribes and on March 22, 2005, to concerned publics, state, federal, and local government agencies describing the proposed action and requesting comments. The project was also listed in the Schedule of Proposed Actions which describes the proposed action and is posted on the Olympic National Forest internet website. Additionally a public field trip to the planning area took place on June 17, 2005, that was attended by 28 members of the public and other agencies. Thirty-eight letters and e-mails were received in response to scoping, along with petitions signed by 144 people opposing the project.

Summarized below are the issues identified through review of public comments, local experience, field reconnaissance, District resource maps, and Interdisciplinary Team discussions.

Issues

The Forest Service separated the issues into two groups: significant and non-significant issues. Significant issues were defined as those directly or indirectly caused by implementing the proposed action. Non-significant issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council for Environmental Quality (CEQ) National Environmental Policy Act (NEPA) regulations require this delineation in 40 CFR 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..." Indicators (or measures) follow each significant issue to allow for comparison of how each alternative addresses or impacts the resource concern. A list of non-significant issues and reasons regarding their categorization as non-significant may be found at the end of this section.

The Forest Service identified three significant issues raised during scoping. These issues noted below were considered and addressed in the project design criteria, development of alternatives, and evaluated in the environmental consequences (Chapter 3).

Issue 1: Thinning fire-regenerated stands that are over 80 years old may harm, rather than help, the natural development of those stands.

Indicator: Acres of fire-regenerated stands proposed for treatment

Issue 2: Thinning on Mt. Walker would negatively impact the recreation experience.

Indicator: Acres of stands proposed for treatment on Mt. Walker

Indicator: Amount of time estimated for public closure during project implementation, plus the amount of time before the vegetation does not show evidence of human disturbance.

Issue 3: The construction of temporary roads may negatively impact aquatic conditions by increasing sedimentation.

Indicator: Miles of new temporary road construction and reconstruction of existing and abandoned roads.

Indicator: Miles of new temporary road in Riparian Reserve

Indicator: Number of new stream crossings

Indicator: Post-harvest treatment of roads

Nonsignificant Issues

- **Road construction and reconstruction may spread and increase noxious weeds in the project area.** Noxious weed prevention and treatment would be included in the project design criteria.
- **Climate change may increase the risk of roads causing landslides and downstream flooding.** This issue is outside the scope of the Proposed Action. Project design criteria are included to mitigate potential road-related impacts to water quality and fish habitat (e.g., culverts that remain for more than 1 year must be able to accommodate 100-year peak flows, as required by Appendix A of the MOU between the Washington Department of Fish and Wildlife and USDA Forest Service, Pacific Northwest Region, Regarding Hydraulic Projects Conducted by the USDA Forest Service, Pacific Northwest Region). Most areas on unstable ground have also been dropped from further consideration. A brief assessment regarding potential impacts from climate change is included at the end of Chapter 3.
- **The Olympic National Forest's plans to increase its timber sale volume may be in violation with the Northwest Forest Plan.** Timber activities on the Olympic National Forest are well within the guidelines of the Northwest Forest Plan.
- **The size and controversy of this project may require documentation under an Environmental Impact Statement.** The Responsible Official did not determine that the activities proposed in this project automatically warranted that the project be

assessed under an EIS. If the environmental analysis conducted under an Environmental Assessment leads to the determination that impacts would be significant, an Environmental Impact Statement (EIS) for the project may be initiated.

- **Logging should not occur on public land for the short-term profits of timber companies and at the expense of natural stand diversification and old-growth characteristics.** Economics is not the primary intent of this project. There will, however, be indirect benefits to communities through jobs.
- **The fuel reduction activities proposed in Units 13 and 14 as proposed in the scoping letter would not be effective for the natural fire regime of the area and may create a greater fire hazard by replacing harder to burn larger fuels with smaller vegetation.** While the originally proposed shaded fuel breaks would have aided in initial attack of fires, the fuel reduction activities associated with Units 13 and 14 that were adjacent to private property and the Bonneville Power Administration power lines have been dropped from consideration under all alternatives. The only fuel reduction activity that remains as part of the project is the treatment of slash produced from implementing the project at landing areas and along Forest system roads and private boundaries. Fuel reduction activities dropped from further consideration in this project may be reconsidered at a later date under a separate analysis.
- **Thinning in stands with western hemlock may result in a proliferation of hemlock, thereby inhibiting growth of residual trees and affecting wildlife habitat.** The project does not propose to thin so heavily as to allow the development of continuous, dense hemlock understories.
- **Road construction on steep hillsides may cause landslides and impact the quality and integrity of an adjacent landowner's springs at the bottom of Mt. Walker.** No new roads will be constructed on Mt. Walker in any of the project alternatives.
- **This project may violate laws such as the Endangered Species Act and the Clean Water Act.** These issues are already decided by law and will be evaluated for compliance as part of this environmental assessment.